

ONLINE PROFESSIONAL DEVELOPMENT PROGRAM FOR SCIENCE
TEACHERS: A CASE STUDY

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TEACHERS: A CASE STUDY**

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ABSTRACT

ONLINE PROFESSIONAL DEVELOPMENT PROGRAM FOR SCIENCE TEACHERS: A CASE STUDY

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The aim of this study was to investigate science teachers' perceptions about the online teacher professional development (oTPD) program. The research study included two consecutive steps. The first step was related to the design of the oTPD program. With the help of related literature, examples of oTPD programs and expert opinions, an oTPD program was designed. In the second step, ten of the alumni of Bilkent University Graduate School of Education Biology Teacher Education Program participated in a ten week oTPD program. The program consisted of instructional activities such as reading case studies, self reflection, forum discussions, watching videos of a sample lesson, hands-on activity and WebQuest.

The study was mainly a qualitative study. The case was a professional development program for in-service science teachers that was offered online via learning management systems (LMS). The data were collected through pre- and post- interviews, online questionnaire, observations and documentation that include weekly assignments, forum discussions, e-mail correspondence, weekly e-journals, detailed notes of phone calls and

the researcher's journal. The data were analyzed according to qualitative data analysis techniques with the assistance of *Weft QDA* software.

Data gathered from the participants demonstrated that they were not satisfied with professional development programs that they got before this oTPD program because of the problems about content, process and organization connected with them. They preferred oTPD program, because of its flexibility and versatility, sharing information among colleagues from different parts of the country, and self-paced learning. Some obstacles were also identified, such as technical problems, not having face-to-face sessions and the timing of the program.

Keywords: Professional Development, Online Learning, Science Teacher, Online Professional Development.

ÖZ

FEN BİLİMLERİ ÖĞRETMENLERİ İÇİN ÇEVİRİMİÇİ MESLEKİ GELİŞİM PROGRAMI: BİR DURUM ÇALIŞMASI

Ateşkan, Armağan

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Bu çalışmanın amacı, fen bilimleri öğretmenlerinin çevrimiçi mesleki gelişim (ÇMG) programı hakkındaki algılarının tespit edilmesidir. Bu araştırma çalışması birbirini takip eden iki aşamadan oluşmaktadır. Birinci aşama ÇMG programının tasarımı ile ilgilidir. İlgili literatürün taranması, örnek ÇMG programlarının incelenmesi ve uzman görüşlerinin alınması ile ÇMG programı tasarlanmıştır. İkinci aşamada, Bilkent Üniversitesi Eğitim Bilimleri Enstitüsü Biyoloji Öğretmenliği Programının on mezunu on haftalık ÇMG programına katılmışlardır. ÇMG programı, durum çalışmalarının incelenmesi, öz değerlendirme, forum tartışmaları, örnek ders videolarının izlenip, analiz edilmesi, sınıf ortamında uygulama yapılması ve AğSoruşturması gibi öğrenme etkinliklerinden oluşmuştur.

Bu çalışma genel olarak nitel bir çalışmadır. Durum, öğrenme yönetim sistemleri ile hizmet içi fen bilimleri öğretmenleri için ÇMG programı olarak tanımlanmaktadır. Veriler, ön ve son görüşme, çevrimiçi anket, direkt gözlem ve haftalık ödevler, forum tartışmaları, e-postalar, haftalık çevrimiçi günlükler, detaylı telefon konuşma notları ve araştırmacının günlüğünü içeren dokümantasyon yolları ile toplanmıştır. Veriler nitel

arařtırma veri analiz etme tekniklerine uygun olarak, Weft QDA yazılımının yardımı ile yapılmıřtır.

Toplanan veriler, katılımcıların bu programdan önce katıldıkları mesleki gelişim programlarından, içerik, işlem ve organizasyonlarındaki problemlerden dolayı memnun olmadıklarını göstermektedir. Katılımcılar ÇMG programını, esnek ve çok yönlü olması, ülkenin değişik bölgelerinden olan öğretmenler ile bilgilerini paylaşabilmeleri ve kendi hızlarında eğitimi alabildikleri için tercih etmişlerdir. ÇMG programının avantajlarının yanı sıra dezavantajları da tespit edilmiştir. Bunlar: teknik problemler, yüz yüze oturumların olmaması ve programın zamanı olarak listelenmiştir.

Anahtar Kelimeler: Mesleki Gelişim, Çevrimiçi Öğrenme, Fen Bilimi Öğretmeni, Çevrimiçi Mesleki Gelişim.

In the memory of my beloved grandmother

Nezahat Cebeci

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CHAPTER 1

INTRODUCTION

This chapter will start with the background to the research. Next, the purpose of the study, statement of the research questions, and significance of the study will be given. Lastly, definition of the terms will be provided.

1.1 The background to the research

Education is crucial for the development of countries. The development of countries and changes in every aspect of life puts pressure on educational institutions to improve their quality. Since teachers have an effect on educational quality, the qualifications of teacher are very important. Teachers' quality depends on many factors including pre-service teacher education and in-service teacher training. This research covers in-service teacher training as a professional development model.

In-service teacher training was started in 1960s in Turkey by the In-service Teacher Training Department at the Ministry of National Education (MoNE). Now, as then, in-service teacher training programs are provided both centrally and locally and they are voluntary. The procedure starts with the application of teachers, and then committee members evaluate applications for programs. In-service teacher training is also called teacher professional development (TPD) by many educators (Guskey, 2000).

TPD is needed for every proposal for educational reform and school improvement plans (Guskey, 2000). Besides such proposals, in Turkey most teachers believe that they need TPD programs 'very much'. They said that they need it in terms of enriching their views and perceptions on general educational issues (Özer, 2001, cited in Özer, 2004). It is clearly stated by MoNE in a "Teachers' general competencies" booklet that teachers have to take care of TPD in different area.

Research (Borko, 2004; Boydak, Özkan & Dikici, 2001; Özyürek, 1981; Şen, 2003) in that area shows us that even though enormous human resources, money and time are spent in those programs, they are not as effective as expected. It is required to increase effectiveness of the in-service teacher training programs (İpek & Uçar, 2006).

For increasing effectiveness of TPD programs, it is better to look at the potential problems in traditional TPD programs. One of the important problems is not providing ongoing support to teachers (Barnett, 2002). Since it may be simply a one or two day seminar without follow-up activities, teachers do not benefit from it as an individual. In addition, timing is an important factor for teachers, meaning that they need a TPD program which can be easily inserted into their demanding, full-time timetable. Most TPD programs are arranged for weekends, the end of the school day, or during the summer holiday.

Teachers also stated that the topics advertised for TPD are unattractive and not familiar to them. Furthermore, at universities the courses are given by instructors who have never experienced teaching in schools. Giving real life examples from their context makes a big difference and teachers find it more meaningful. They also asked for practical information which can be applied in classroom not just theories (Baran & Çağltay, 2006). Since they are graduates of education faculties, they think that they know theories. It is also stated that the TPD programs are “one shot and one-size fits all workshops, use of transmission model from experts to teacher” (Lock, 2006, p. 665). The background of the participants and the context that they are in is important and should be considered by the person who will give the TPD program.

Based on teachers’ comments about traditional TPD programs and developments in information technologies online teacher professional development (oTPD) programs have been created. According to research, oTPD programs have advantages: they increase the time available and decrease cost, moreover they provide continuous support (Breit, Dede, Jass Ketelhut, McCloskey & Whitehouse, 2005).

The design of oTPD program should be carefully done. As a one point, learning theories including adult learning theory should be considered, which states that learners should be

able to select from choices and decide their own learning pace, the sequence of the activities, the mode of instruction and assess their own learning (Driscoll, 1998).

oTPD programs are encouraged in Turkey (Türkiye Bilişim Şurası, 2004). It is a new area and needs development in terms of design and implementation. MoNE started giving oTPD programs to teachers about basic computer skills. Özen (2008) carried out a research about that program with primary school teachers in Bolu. In his research, teachers stated that the needs analysis step is very important and enough care should be given during the design phase. Özen (2008) observed positive effects and changes in teachers' professional development compared to traditional TPD programs.

As given above, the literature provides many advantages of oTPD programs compared to traditional TPD program. However, there are also some obstacles which need to be considered such as:

- “knowledge about online technologies and programs;
- support from administrators;
- access to technologies;
- time, financial support, and parental support;
- materials;
- support from higher education;
- teachers' beliefs and practices.” (National Academy of Science, 2007, p.31)

1.2 Purpose of the study

With the ongoing development in the use of technology, institutions are encouraged to have online programs in their systems. TPD programs are one of these branches. Since there are not many oTPD programs for teachers in Turkey, it was decided to work on oTPD program. Firstly oTPD program was designed and then implemented.

The main purpose of this case study was to contribute to the development and implications of oTPD programs. To reach this aim, first science teachers' (participants)

background such as demographics, their experiences with TPD and oTPD programs and measurement and evaluation, and then their expectations from TPD and an oTPD program was obtained as information. This gave an idea of their perceptions for the remaining purposes of the research.

Second, how the teachers experienced oTPD program in terms of content, process, context and organization, as well as the outcomes of an oTPD program according to teachers' perceptions was aimed to be explored. This gave an insight about the oTPD program's success according to the participants, and provided a reference for other researchers.

1.3 Research questions

The following research questions were explored in this study.

1. What are the teachers' expectations from TPD programs?
 - 1.1. What are the teachers' expectations from the content of the TPD program?
 - 1.2. What are the teachers' expectations from the process of the TPD program?
 - 1.3. What are the teachers' expectations from the organization of the TPD program?
 - 1.4. What should be the outcomes of the TPD programs according to teachers' expectations?
2. What are the teachers' expectations from the oTPD program before the training?
3. How did the teachers experience the oTPD program?
 - 3.1. What are the teachers' perceptions about the content of the oTPD program?
 - 3.2. What are the teachers' perceptions about the process of oTPD program?
 - 3.3. What are the teachers' perceptions about the context of oTPD program?

- 3.4. What are the teachers' perceptions about the organization of the oTPD program?
 - 3.5. What are the outcomes of the oTPD program according to the teachers' perceptions?
 - 3.6. How do the teachers value oTPD program after the training?
4. What are the facilitator's experiences with the oTPD program?

1.4 Significance of the study

One important reason for this study is that, according to education development reports and research, teachers need professional development (PD). Since it is not easy to arrange face-to-face TPD in terms of time, cost and their own learning space, this study consists of design and conduction of oTPD. It provides a guideline for the design of an oTPD program. The teacher trainers or institutions which provide PD for teachers may benefit from the study and use the guidelines that the researcher provides directly or adopt it.

The perceptions of teachers about oTPD program are important, because they will be the users of this program. This research is useful for teachers, because they can get TPD program in a place and time of their choosing. They may also experience online learning which may encourage them to use online learning in their teaching since the new generation is very confident in the use of technology for their learning. Teachers also have a chance to form online communities, which is useful for keeping them up-to-date and aware of other teachers and schools. They may share comments and materials.

The schools may benefit from it since they will have an option to form their context-based oTPD programs. The guidelines, implication and participants' perceptions give an idea about the oTPD program from different perspectives, including content, context, organization, outcomes and value of the oTPD program.

Besides participants' perceptions, the researcher, who is also a facilitator of the oTPD program, included her experiences with the program. This gives other researchers an idea and can be a reference.

Little research has been carried out in Turkey about oTPD. There is research done in that area in other countries. This study is an inspiration for other researchers who want to work in the same area.

This oTPD is on student-involved assessment which is one of the new measurement and assessment approaches. As a part of educational improvements and projects in Turkey, new curricula in primary education was prepared, piloted and then applied. MoNE carried out a research and published a report about the new curricula. One of the sections was related to teachers' perceptions about measurement and assessment strategies that are emphasized in the new curriculum. In the report, it is clearly stated that, science teachers' need in-service training on all of the alternative assessment strategies that includes student-involved assessment (MoNE, 2006). So, this oTPD program is an opportunity for science teachers and guideline for MoNE about online in-service teacher training on alternative measurement and assessment.

1.5 Definition of the Key Terms

Professional development program: Processes and activities designed to enhance the professional knowledge, skills, and attitudes of educators so that they might, in turn, improve the learning of students (Guskey, 2000, p.16). It is also used as in-service training throughout the research.

Online professional development program: A program that provides professional development through online learning strategies.

Online learning: Learning that occurs at a distance in place and time from a learner and teacher. Interactions are conducted via more than one medium and the process utilizes a multiple set of course delivery, such as interactive lessons and written correspondence. Interactions can either be asynchronous (interaction is delayed over time) or synchronous (interaction happens simultaneously in real-time) (Mantyla, 1999).

Learning management system (LMS): A system that provides a creative and an effective online learning community. There are a number of features to lead students to achieve

their intended learning outcomes such as assignments, chats, forums, glossaries, videos, and lessons (Buchanan, 2005).

BeCampus Online Learning Platform: Online learning management system that is designed by *Meteksan* system.

Participant: The teachers assigned to the oTPD program.

Delivery method: Use of Be-Campus including discussions, built-in messaging, chatting, assignments, group management and performance tracking.

Synchronous learning: Having activities that let participants have a level of interaction at the same moment of time (Mason and Rennie, 2006).

Asynchronous learning: It is a learning that takes place at different times. It means it is not at the same moment of time.

CHAPTER 2

REVIEW OF LITERATURE

This chapter aims to review theories and research which form a base for the research questions and the study itself. It is composed of seven main sections: (1) TPD program models, (2) TPD program design, (3) evaluation of TPD programs, (4) TPD programs and research done in that area in Turkey, (5) web-based learning, including oTPD program design, (6) advantages and obstacles of oTPD programs, and (7) oTPD programs and research done in that area in Turkey.

2.1 TPD program models

In this section, first the general definitions and characteristics of PD were explained, and then TPD program models were discussed.

2.1.1 Definitions and characteristics of PD

PD is a way of both formal and informal learning that helps people to improve their own skills (Bubb & Earley, 2004). As Waters (1998) explains: “It is the development that can occur when teachers are construed first and foremost as people, and is predicted on the premise that people are always much more than the roles they play” (p. 30).

Guskey (2000) describes PD as an “intentional, ongoing and systemic process” (p. 16). According to him, real PD programs should have a clear image of purposes and organized targets. With clear goals and aims, it is easy to decide what type of data is needed for evaluating the program. Otherwise it is very hard to decide whether the program is successful or not (Branham, 1992; Todnem & Warner, 1994a). The second feature of PD is that it is a continuing process (Guskey, 2000). PD is not a three to four days, one shot mechanism. It should be an ongoing development and integrated with the profession. As a third characteristic, as Guskey (2000) stated “True professional development is a

systemic process that considers change over an extended period of time and takes into account all levels of the organization” (p.20).

Especially for science teachers, Loucks-Horsley, Hewson, Love and Stiles (1998) describes standards of effective PD programs as it

- 1) is determined by a successfully described picture of valuable learning and teaching in a classroom
- 2) gives teachers a chance of constructing their abilities and facts
- 3) should be used with the students by the teachers
- 4) helps to put up a community of learners
- 5) guides teachers for having roles as leaders
- 6) helps to connect different parts of education system
- 7) helps them to assess constantly

Other authors from different resources (Kennedy, 1999; Garet, M., et.al, 2001; Supovitz & Turner, 2000) also supported Loucks-Horsley, et.al (1998) about the principles of PD programs for science teachers.

2.1.2 TPD models

According to Sparks and Loucks-Horsley and Drago-Severson (as cited in Guskey, 2003 p. 22) there are seven different models of TPD. These are: “training, observation/assessment, involvement in development/improvement process, study groups, inquiry/action research, individually guided activities and mentoring”.

2.1.2.1 Training

Training is called TPD most of the time by educators, because they mostly have experience in this area. In this model, the trainer may form a group or groups and share experiences (Guskey, 2003). The training includes theory exploration, use of skills and discussing it, practicing and getting feedback regularly (Joyce & Showers, 1995).

The most important point in training sessions is setting up clear objectives with a good design and organization. “Training is the most efficient and cost-effective professional development model for sharing ideas and information with large groups of educators” (Guskey, 2003, p.23). The obstacles of trainings are not having enough choices of trainings, and not an individualized program most of the time.

2.1.2.2 Observation/Assessment

Observing others and giving feedback or being observed and getting feedback is one of the best ways of learning. Clinical supervision and coaching peers are examples of this model. The focus of the observations may be classroom management, interactions in a classroom, lesson design, practice of instructional techniques, or other points.

According to Joyce and Showers (1996) and Adams and Korckover (1997) it offers various advantages to the observer and the one who is observed. Since the observer makes a detailed observation and prepares a feedback report and shares experiences with the teacher, this experience helps her/him to improve professional skills. The observed one gets feedback and has a chance to see other professionals’ thoughts.

For getting benefits out of this experience time is needed by the observer and the one being observed (Guskey, 2000). Care should be given to feedback-giving skills. The observer should be careful about not discouraging the observed one.

2.1.2.3 Involvement in a development/ Improvement Process

From time to time, people from the education community come together to review or develop a new curriculum, program, materials, plan policies for improvement of education and find solutions to problems. Reading and research are essential for this process. This experience is very beneficial and useful form of PD.

As an advantage, the participants not only increase their knowledge of a specific topic or case, they also improve their skills in collaborative work, and take part in decision making. When representatives of the community from one area come together, they have a chance to see other people’s thoughts and become aware of individual differences. A problem of this process may be that few staff are involved, since working parties should be small (Guskey, 2000).

2.1.2.4 Study groups

This model includes all staff of the school, and the aim of this group is to find solutions to general problems. Groups are formed in fours or six and homogenous or mixed formats. The leadership position is rotated throughout the year and the group works together at least for one school year. Different groups select different pieces of the same problem. Mostly, study groups are used during implementation of new curricular and instructional approaches, the improvement of school and research on teaching and learning (Murphy, 1992, 1997).

When groups are carefully formed, trained and supervised, study groups are focused in the improvement process. Including all staff helps to form learning communities. As stated, it has to be well structured. If not, some members may get all the responsibilities and others may not be involved.

2.1.2.5 Inquiry/Action Research:

This model helps individuals to find problems in the classroom. According to Calhaun (1994), there are five steps of action research. These are: (1) the selection of a problem; (2) gather information related to the problem; (3) review related literature; (4) decide possible actions; and (5) take action and get results. O'Hanlon (1996) stated that it can be used by individuals, small group or the whole school community.

This model helps professionals to become more reflective, organized and attentive decision makers (Sparks & Simmons, 1989). However it needs serious commitment of the practitioner (Guskey, 2000). In addition, Pill (2005) stated that "there have been many criticism of the theory of action research; recurring themes are lack of groundedness within theory, and the denial of the importance of using systematic research methods" (p.178).

2.1.2.6 Individually guided activities

In this model, the individuals decide on their own PD goals and select the activities from which they will benefit according to them. It is supposed that the individuals can self assess themselves and decide on the area where they need development (Guskey, 2000). According to Sparks and Loucks-Horsley, (1989), there are four major steps in this type

of model. These are: (1) identify the interested or needed area, (2) form a plan based on the previous step, (3) learning activities, (4) assess whether the goals are achieved or not.

It is clear that the major advantage of this model is that it is individual based, so there is flexibility and decision making. An obstacle of the model is not including collaborative study, which means it is individuals' own decision (Guskey, 2000).

2.2.1.7 Mentoring

This model is based on having pairs from a successful, hardworking experienced professional with an inexperienced colleague. It includes discussion of professional goals, observations, critical reflections, feedback sessions and strategies for development. The relationship between mentor and mentee is important for the sake of the program. The qualifications of a mentor are important. She/he should be knowledgeable in the subject that she/he mentoring, respected by students.

It is an individualized program, and both members benefit from the process. On the other hand, unlike other programs, there is less collaborative study.

TPD is a term that means the same as in-service training most of the time. Until the mid-1990s professional development was something done voluntarily by individuals to help their career (Craft, 2000).

2.2 TPD program design

The design of a TPD program has close relationship with Instructional design (ID), since it is a type of instruction. ID is a process that helps planning in education and management of the systems (Hardré, 2003a; Reiser, 2002). According to Reigeluth (1999), the principles of ID are affected by learning theories and the settings, age, content needed and levels of the participants. "ID supports learning because it is comprised of organized, theoretically-anchored instructional events and strategies, which promote learning, retention, and performance" (Hardré, 2005, p.166). In the literature other researchers also support that structure (Smith & Ragan, 1999; Gagne & Medsker, 1996).

In ID, systematic approach is used for making the instruction more effective than the ones that are rigorous (Gustafson & Branch, 2002). According to Reiser (2002) this approach needs an organization of the entire activities relevant to instruction.

Different ID models and methods have evolved, and still new models are being formed. Davidson-Shievers and Rasmussen (2006) divided ID models into two sections which are the traditional and alternative models.

2.2.1 Traditional ID Models

Gagné's (1985) learning conditions, Dick and Carey (1996), Smith and Ragan (1999) models are classified in this category. These are called micro-level design which deals with developing a lesson, unit or course. Mostly they include the steps which are called analysis, design, development, implementation, and evaluation (ADDIE) (Gustafson & Branch, 2002). *Analysis* includes identification of the learning problem, the goals, the needs of the participants, their prior knowledge. In this step, the learning environment is considered and the timeline of the project is determined. The next step is *design*, which includes concentrating on specific learning outcomes and the content. Different prototypes are prepared at this stage including the media to be used. *Development* includes preparation of actual instructional materials as given in the previous step. *Implementation* is putting everything into action and the development of procedure for the participants and trainer. Materials are evaluated at the end of the training. *Evaluation* is the last step which includes two different types. One is formative evaluation, the other is summative evaluation. Formative evaluation is a continuous one that is present throughout the program. Summative evaluation is that tests criterion referenced items and obtains feedback from the participants (Dick & Carey, 1996; Leshin, Pollock & Reigeluth, 1992).

2.2.2 Alternative ID Models

According to Davidson-Shivers and Rasmussen (2006), alternative models which deal with macro level design are Elaboration Theory (Reigeluth, 1999), Instructional system

Design/Systems Approach to Training, Morrison, Ross and Kemp(2004)'s model and rapid prototyping (Tripp & Bicklemeyer, 1990). Davidson-Shivers and Rasmussen (2006) states "Macro-level design involves entire training or educational programs or curricula rather than course or lesson design" (p.55).

2.2.3 ID model for science teachers

The above given traditional and alternative ID models and their steps. In the following section specific PD designs for science and mathematics teachers is presented. Loucks-Horsley et al. (1998) prepared a framework for designing PD programs. The framework includes elements such as setting goals, planning, doing, reflecting, critical issues, context, knowledge & beliefs and fifteen strategies. The interactions of elements are given in Figure 2.1.

Based on the recent changes in PD programs design, Loucks-Horsley et al. decided to make some changes to the model they designed. As a major difference, they included student learning in the model. The revised one is given in Figure 2.2. According to their PD design model, the rectangles in this figure connected with horizontal arrows, provide a general planning chain. It includes steps that are: "committing to vision & standards, analyzing student learning & other data, setting goals, planning, doing and evaluating" (p.3).

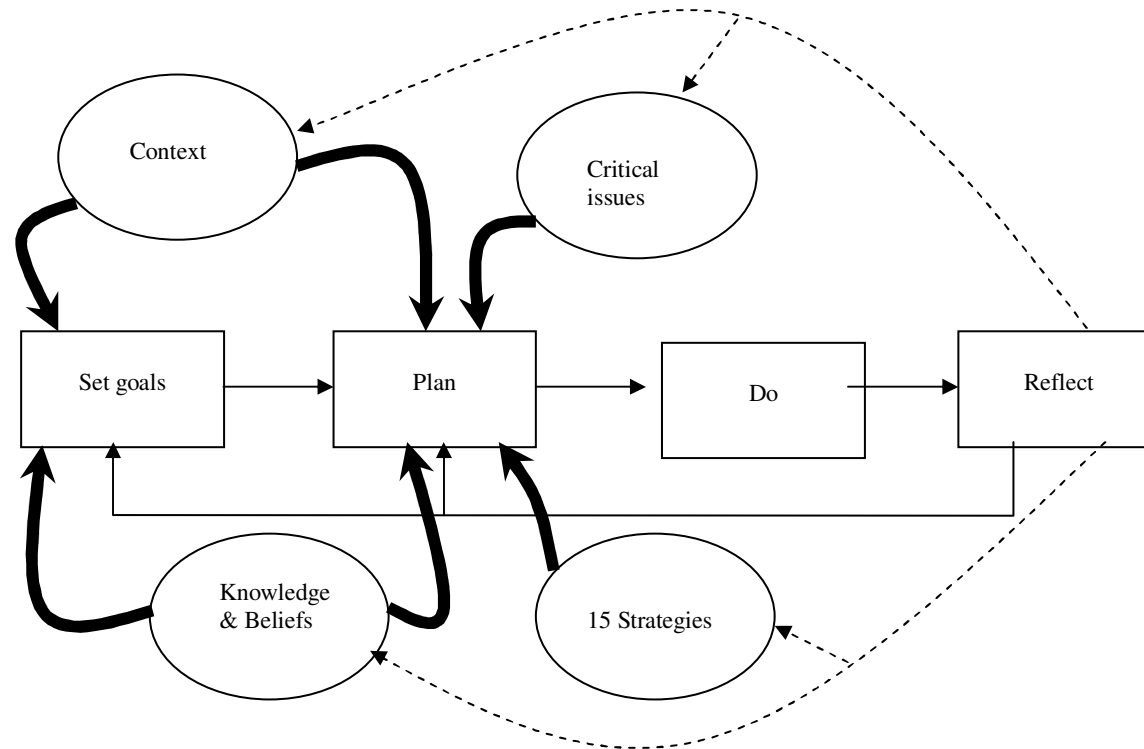


Figure 2.1 Loucks-Horsley, Hewson, Love and Stiles (1998) PD model for science teachers

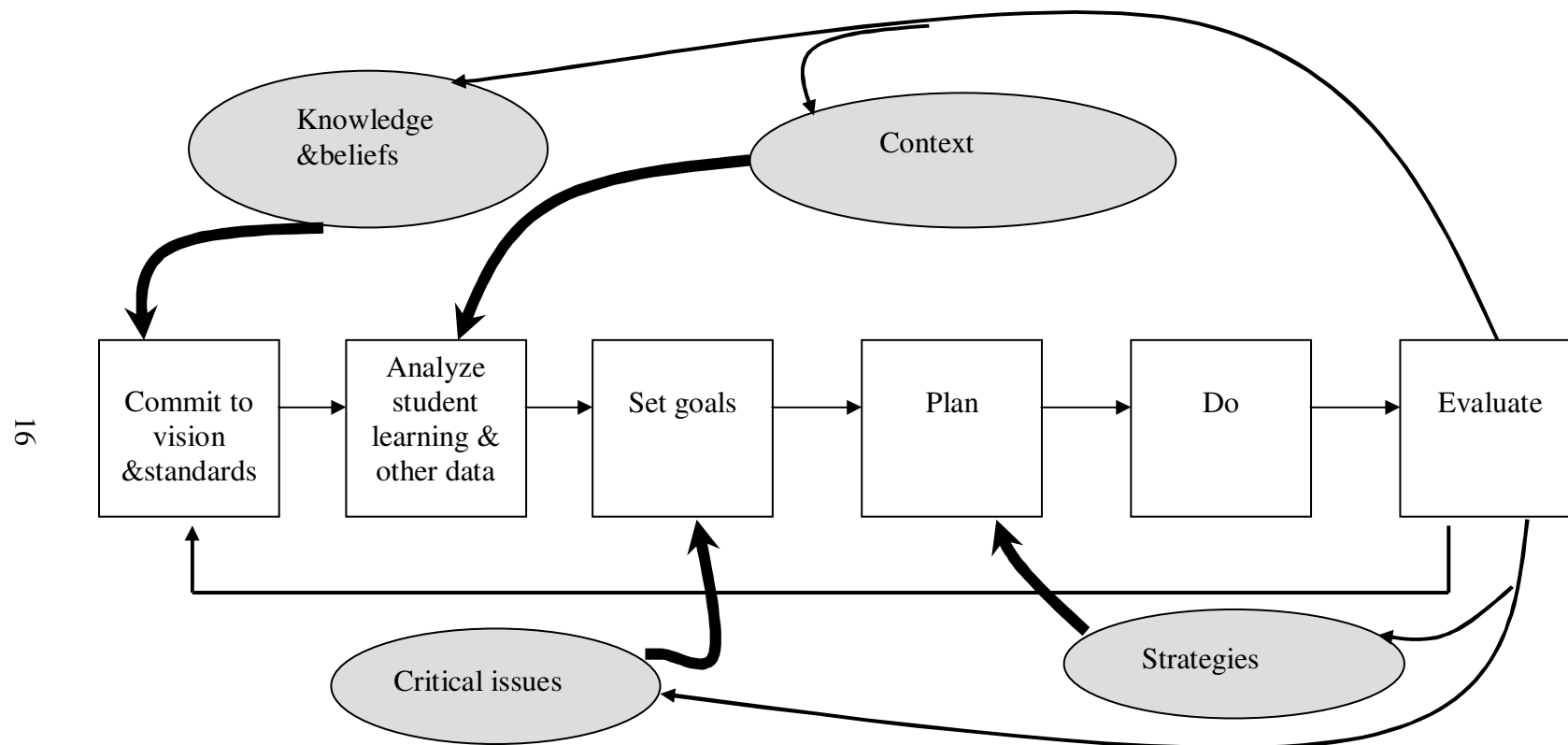


Figure 2.2 Loucks-Horsley et al. (2003) revised PD model for science

The four ellipses given in the figure represent important inputs that may help the PD organizer in decision making. Between each member of the main chain, an arrow from the ellipse means that between rectangles, the ellipse should be taken into consideration (Loucks-Horsley, Hewson, Love, Mundry & Stiles, 2003).

Below, each member of the PD design is explained briefly.

2.2.3.1 Knowledge and Beliefs

This section includes “learners and learning, teachers and teaching, the nature of science and mathematics, professional development and the change process” (p.6) which according to Loucks-Horsley et al. (2003) are the main steps.

2.2.3.2 Context

Loucks-Horsley et al. (2003) stated that, this section is composed of

- students, standards, and learning results
- teachers and teachers’ learning needs
- curriculum, instruction, assessment practices and the learning environment
- organizational culture
- organizational structure and leadership
- national, state and local policies
- available resources
- history of PD
- parents and the community (p. 8)

2.2.3.3 Critical issues

The designers are faced with critical issues when they try to plan a PD program. They are timing of the PD program, resistance of participants, and being consistent throughout the program.

2.2.3.4 Strategies

After deciding the goals of the program, strategies have a big input into the chain. Loucks-Horsley et al. (2003) determined six categories: “aligning and implementing curriculum, collaborative structures, examining teaching and learning, immersion experiences, practicing teaching, vehicles and mechanism (p.12).”

The implementation period includes steps that are: *commit to vision & standards, analyze student learning & other data, set goals, plan, do and evaluate*. These are very similar to ADDIE model's design steps.

2.3 Evaluation of PD programs

The efficiency of PD programs and their impact need multi-dimensional approach (Belzer, 2003; Guskey, 2003; Smith, 1995). According to Glaser and Strauss (1967) and Shaha and Sudweeks (1997), there are two dimensions. They are impacts and level of impacts (Shaha, Lewis, O'Donnell & Brown, 2004). The two dimensions of program are given in Table 2.1.

Table 2.1 Shaha et al (2004) two dimension of PD evaluation: Impacts and Level of Impacts (p. 2)

LEVELS OF IMPACT	IMPACTS		
	Learning Impacts	Attitudinal Impacts	Resource Impacts
Teacher Impacts			
Student Impacts			

2.3.1 Impacts

There are three types of impact that PD programs provided. These are: learning impacts, attitudinal impacts and resource impacts. Learning impacts, consists of the conceptual gain, and the skills that are achieved (Smith, 1995; Killion, 2002). Attitudinal impacts include focusing on the contribution of the PD program to the participants attitudes. Most of the time the evaluators concentrate on learning alone, they should not forget that teachers' main aim is improving students' attitudes (Fishel, 1998; Guskey, 2003). The third one is resource impact which is related to the cost-effectiveness of the program.

2.3.2 Levels of Impact

There are two types of impact: teacher impact and student impact. The first one relates to the impacts of the teacher since most of the time PD programs are designed for them. The second one is the students who are affected by the quality of the teaching.

Guskey (2000) stated that there are five levels which are very important in evaluation of PD programs. These are:

- participants' reactions
- participants' learning
- organization support and change
- participants' use of new knowledge and skills
- student learning outcomes (pp. 79-80)

The components of each level are easy to find since it is very explicitly written. There are data collection methods that can be used for collecting information about the success of a PD program based on the five levels given above. The data collection methods are; questionnaires, interviews, personal learning logs, participants' reflections, their portfolios, case study analyses, observations, student records. The fifth level is not easy to handle since there are many factors around effecting students' learning outcomes such as being ill, having a bad day.

2.4 TPD in Turkey

In-service training of teachers was started in Turkey by the Bureau of Teacher Training on the Job (1960) which became the In-service Teacher Training Department (1975). According to regulations set in 1994 by MoNE, the aims of this department include the adjustment of pre-service teachers to new institutions, provide practicing of the National Turkish Education aims and principles in harmony, covering missing points of pre-service education important for professional expertise, acquisition of skills and knowledge for educational development, promotion of willing and talented personnel,

and helping to develop the education system. The personnel, time, place, trainer, length of the training will be decided by MoNE (MoNE, 1994).

Nowadays TPD is a hot topic. A school-based TPD program was developed by the MoNE in 2005 and piloted in 2006 as part of the support to the Basic Education Project. TPD of teachers is also given as strategic objective D to Turkey in the World Bank 2005 report: “Develop an integrated program for teacher education and professional development”. Besides initial training, induction and support, the continuous professional development of teachers is mentioned and the need for it is underlined (World Bank, 2005).

In 2007, 19,339 activities were organized both locally and centrally by MoNE, and a total of 460,490 teachers were trained (MoNE, 2007). As a result of good relationships between MoNE and universities, the numbers, variety and quality of in-service training courses are increasing, because MoNE relies on academics to run training.

Besides the increase in the number of in-service training courses, there are some problems in traditional in-service training. They include organizational problems, the selection of teachers, the motivation of teachers, and administrators’ negative attitudes towards in-service training (Özer, 2004). In addition, the other important handicaps are time, cost and quality of training (Beduk; 1997, Taymaz, Sunay & Aytaç, 1997). Problems are crowded classrooms, not enough course materials, not qualified and prepared instructors, no information about the goals of the in-service training, unsatisfactory selection of the place of the training and not enough time (Yalın, 2001). In terms of cost of the in-service training program, the Minister of National Education, Hüseyin Çelik, said that 90% of the 2004 in-service training budget was spent on accommodation and travel costs of the participants.

There are some suggestions, both from participants and some researchers. According to Yalın (2001), in-service training courses have to be planned systematically and organized in detail. Also, participants have to be selected based on their needs. An effective learning environment has to be provided and focus groups have to be determined. Besides the subject area specialty of the instructor, the facilitating capacity of the instructor has to be taken into account. Özer (2004) suggested a distance in-service teacher training, which can reach more people with better quality and support. A distance in-service training of teachers can be made by using different tools. One of them is web-based training.

2.5 Online (Web-based) TPD programs

Advances in new technology create an opportunity for learners to reach information and communication. Solman and Wiederhorn (2000) state that because of giving an equal chance in reaching information and knowledge, technology has a positive effect in education.

This improvement in technology encourages distance education as well. Distance education started with the invention of posting printed materials to learners. In the 1920s schools started to use radio and TVs for distance education (broadcasting systems). Later, in the 1990s, teleconferencing systems and communication networks began to be used. Even though computers were present in the 1940s, they did not feature in education until 1980s. Since the early 1990s the internet and the World Wide Web have been used. Davidson-Shivers and Rasmussen (2006) illustrated the types of distance education system as given in Figure 2.3.

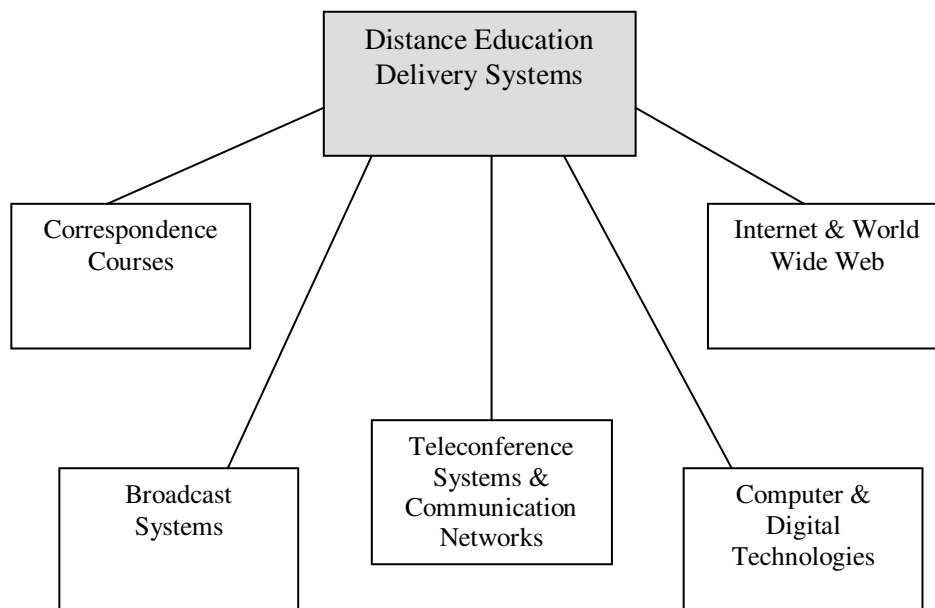


Figure 2.3 Types of distance education systems (p.12)

Web delivery for distance education increases because of having it everywhere in daily life such as at homes, working places and schools. Also with recent developments people

can use the Web while walking on the street using a mobile phone with internet access. According to Wagner (2001), it is growing because even these with low-level computer skills access web-based learning environments.

Web-based instruction used as *e-learning* or *online learning* is defined as “learners are at a distance from the instructor but all are connected via the Internet and Web” (Davidson-Shivers & Rasmussen, 2006, p. 10).

Online learning is one type of distance education which is used in the PD of teachers. Teachers need PD for improving themselves and filling in gaps from their previous experiences. As Corcoran (1995) states, TPD programs are effective when there is a continuity in support during the application of what they learned. Continuing TPD programs allows the teacher to develop lessons, apply them and critically analyze what they do (Treacy, Kleinman & Peterson, 2002). The oTPD program allows them to discuss many issues by forming learning communities; there is also a possibility of reaching experts from the area and getting help from them (Treacy et al., 2002).

There are different goals of oTPD program such as “introducing new curricula, altering teachers’ beliefs and instructional and assessment practices, changing school organization and culture, and enhancing relationship between school and community” (Breit et al., 2005, p. 4). The design of the program is affected by the goals of the program as well.

2.5.1 The design of oTPD programs

The design of the course is the most important thing about its delivery and evaluation (Ascough, 2002). In an oTPD program design, the learner and the learning process have to be at the center of the goals and technology has to be a cognitive tool for critical thinking (Jonassen, 2000). Online instruction design model includes different areas. They are: *learning theories*, *systems theory*, *communication theory*, *ID models* and *distance education*, (Davidson-Shivers & Rasmussen, 2006) presented their interaction in a diagram, reproduced in Figure 2.4.

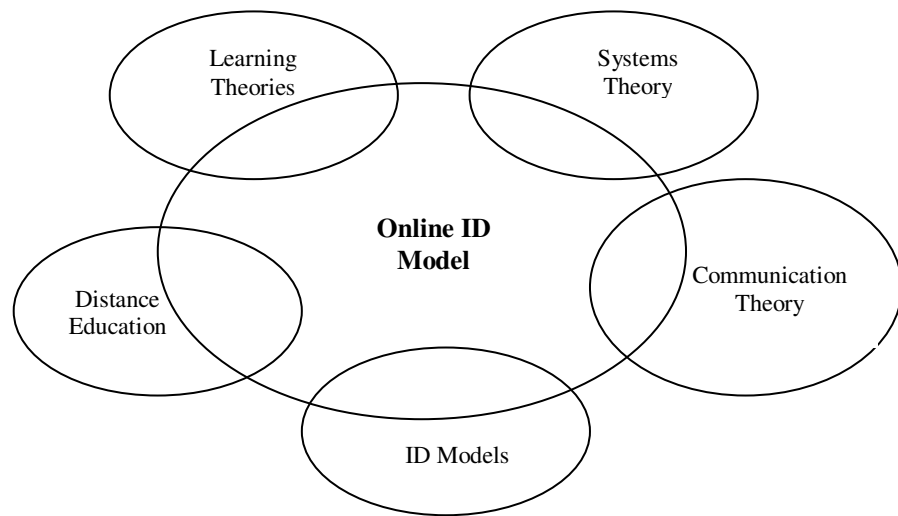


Figure 2.4 Foundational areas of the online ID Model (p.39)

2.5.1.1 Learning theories

There are three main learning theories: behaviorism, cognitivism and constructivism. Deciding on which approach to use depends on the learners' characteristics such as age and experiences, expectations. These affect the content and context of the training program. PD program is designed for teachers who are adults, which is discussed in the following paragraphs.

Adults learn differently than children, so the PD designed for teachers should meet the needs of adult learners. Malcolm Knowles defined a learning theory called the Theory of Andragogy as the "art and science of helping adults learn" (Knowles, 1980, p.43). The theory is composed of statements on how adults learn and the base of the theory points out that adult learners are unique because of their prior experiences. According to Knowles (1980), there are six assumptions that need definition of an adult learner. These are:

1. The adult learner must know how learning will be conducted, what learning will occur, and why learning is important before they undertake learning. One of the first tasks of the facilitator is to help learners become aware of the need to know.

2. Self-directed learning is necessary in order for learners to take control of the techniques and the purposes of learning. They need to be responsible for their own decisions. Learners will resist if they feel others are imposing their own will upon them.
3. The role of prior learning and experiences impact learning. Experiences identify individual differences, provide resources to the learning environment, and create self-identity and biases. The richest learning experiences reside within the adult learner.
4. Adults are ready to learn when their life situations create a need to learn to cope with real-life situations. Timing learning experiences to coincide with tasks is beneficial.
5. Adults prefer a problem-centered and life-centered orientation to learning, not subject-centered. Adults focus on learning when they perceive that it will help them perform a task or deal with a problem they will confront.
6. Adults have a high motivation to learn when they can gain new knowledge that will aid them in solving important problems in their life. External motivators, such as finding a better job or receiving a promotion are important, but internal pressures are more potent motivators, such as job satisfaction and quality of life (p.57).

Based on his studies, Knowles (1990), suggested hints for instructional designers. These are: (1) the learning environment should be collaborative and relaxed, (2) the learner and facilitator should work together on the needs of the learner and formulate objectives accordingly, (3) the willingness of the learners should be taken into consideration during the design of the phases, (4) inquiry-based learning and experiential learning approaches should be used, (5) evaluation of the program should be done collaboratively among the learners and the facilitator.

2.5.1.2 Systems theory

Davidson-Shivers and Rasmussen (2006) stated that there are two terms used in ID area: systematic and systemic. “Systematic refers to an organized approach to developing instructional innovation (product or process). Systemic relates to the idea that the innovation, whether it is a product, policy, or process, is disseminated and diffused throughout the organization” (p. 52). The systems theory both systematically and systemically affect online ID models in the design and implication phases.

2.5.1.3 Communication theory

Communication theory should be considered during the design of the online instruction. According to Richey (1986), “communication theory explains the process of transmitting

information, the form and structure of the information and the functions and effects of the information” (p.43).

Communication theory is related to message design. Message design deals with the visual features of the online environment that includes the text and the graphics. The environment should be appealing and facilitate the interaction among learners and between learners and facilitator.

The other two areas, *Distance education* and *ID models* have already been discussed in previous sections.

2.6 Advantages and obstacles to oTPD programs based on the research done in that area

oTPD programs have both positive and negative sides. The following section examines advantages of and obstacles to oTPD programs based on the research done in that part.

2.6.1 Advantages of oTPD programs

oTPD programs have benefits for teachers, schools and the country. One of the most important advantages is improving students’ learning as happens in all of the good quality PD programs. It is stated in the report of a workshop called “Enhancing PD for teachers: Potential uses of information technology”, that the other advantages are:

- Flexibility and adaptability,
- Potential to build community among teachers and across groups,
- New possibilities for accountability, (National Middle School Association, 2004, p.10)

2.6.1.1 Flexibility and adaptability

Tucker (n.d.) stated that the ones who would get online PD program are those who “have jobs, families, and civic responsibilities”. Based on the previous sentence, choosing the time and the place of PD program was attractive for participants (Brown, 2000).

Teachers have different backgrounds and their needs are diverse. oTPD programs offer a huge amount of data that they can access and take from it whatever they need. It provides possible up-to-date relevant data for teachers. The number of teachers is not limited since many can access information at the same time (Adsit, 2004).

It can be accessed seven days a week and 24 hours a day (Hilmann, Bowan & Abraham, 2000; Barkley & Bianco, 2002; McKenzie, 1998; Bintrim, 2002; Kenser, 2001).

2.6.1.2 Community of teachers

Teaching is one of the jobs that need high social interaction. Treacy et al. (2002) highlighted the importance of learning communities in online learning. Teachers may come together and speak through the same language about learning and teaching (Barkley & Bianco, 2002). The groups might be the same or different in terms of subject area, years of experience, age, sex, or nationality. oTPD programs create an opportunity to connect schools and teachers from different parts of the country or the city.

2.6.1.3 Accountability

oTPD programs give an opportunity to facilitator for monitoring and assessing participants in a detailed way. Based on the system used, the facilitator can monitor all the details such as the time and place of participants logging on.

The quality of participants' learning can be checked from the beginning of the program to the end. Since the facilitator can track the individuals, s/he is aware of their participation in the learning platform. It is easier for the facilitator to encourage and bring non attendants into the discussion (McKenzie, 1998).

Since the system allows the facilitator to collect and capture data about the performance of the participants, the assessment items can be varied and more reliable.

2.6.2 Obstacles to oTPD programs

Besides the advantages listed above, oTPD programs have hindrances which affect the implication of oTPD programs. In the report of a workshop called "Enhancing PD for

teachers: Potential uses of information technology”, it is stated that problems may be caused because of inadequacies in the areas given below:

- knowledge about online technologies and programs
- support from administrators
- access to technologies
- time, financial support
- materials, and
- teachers’ beliefs and practices (National Academy of Science, 2007, p.31).

2.6.2.1 Lack of knowledge about online technologies and programs

Most teachers do not have experience in oTPD programs, neither do they know about the opportunities that they have for PD. Research shows that educators give importance to peer reviews while deciding on a PD program (Deal, 2002; Hara & Kling, 1999). Since not many experienced people are around, they could not suggest oTPD programs. More research has to be carried out about oTPD programs and should be disseminated.

2.6.2.2 Lack of support from school administrators

Most of the time school administrators are the authority for decision making about PD programs. Since they are not experienced like teachers, they may not be able to decide on the use oTPD programs. It is very important to encourage administrators to attend oTPD programs (NMSA, 2004).

2.6.2.3 Lack of access to technologies

Some teachers do not have access to technology at home and even at school. If they have, in some places they need a technical person for fixing or getting the right application (Belanger & Jordan, 2000).

2.6.2.4 Lack of time and financial support

Most of the time administrators think that teachers can attend oTPD programs in their own time. This puts teachers into a problematic situation, since their timetables are busy. oTPD is not free and includes different budget items such as the training of teachers, facilitators, mentors, developing of course module and materials. There are some hidden costs as stated above (Killon, 2000).

2.6.2.5 Lack of materials

Even though there are huge amount of online materials, still some areas need improvement, such as science and mathematics.

2.6.2.6 Teachers' beliefs and practices

This is one of the most important obstacles of oTPD programs. To be effective in an oTPD program, teachers' beliefs and values have to be changed. Teachers have beliefs, and have been practicing their own methods for some time. When they watch a case on a video and try to use it in their own settings as a part of oTPD program, it causes problems, since their practice is different. Their students and context are different than what they have observed in the case study. Understanding and applying a case study may take some time and effort (Oelrich, 2001).

2.7 oTPD programs and research done in that area in Turkey

In Turkey, there are not many online professional development programs designed for teachers. That is why limited research has been done on oTPD programs throughout the country. In 2nd National Informatics Congress in 2004, one of the projects suggested was about the online training of in-service teachers and school administrators. Based on these recommendations, in 2005, MoNE, jointly with Microsoft, prepared a project called the teacher education academy. As the first step of this project, teachers:

- learn basic skills that will guide them in using computers in education as a tool
- learn Microsoft Windows, Microsoft Office and Internet
- explore how informational technologies promote their professional development (MoNE, 2005).

Teachers who finish the program and pass the exam get a certificate which is valid for them to improve their teaching status. The in-service training is held with CDs and in a web-based learning environment. So far MoNE has provided training to 573,382 teachers.

Besides this program, MoNE has a portal which is called as teacher education. It has different modules for students, teachers, administrators and parents. In the teachers' module there is a section called "online teacher training and distance education", but this link is not working.

One of the models of oTPD is portals where teachers share materials and thoughts about specific topics. There are different online communities that educators form in Turkey. One of them is designed by MoNE which is called "teachers' portal". It includes details of primary and secondary schools' curricula, program files, weekly lesson plans, examples of learning activities, yearly plans and e-books.

In addition to oTPD programs, distance education via television broadcasting is used in the professional development of teachers and parents. During the holidays, Turkish Radio and Television Channel 4 (TRT 4) provide programs as a part of project called "The future comes with education". The programs can be accessed from the internet as well. At the end of the series of programs, public school teachers have to prepare a report and submit it to their schools.

Some online PD programs for teachers that are carried out by MoNE were explained above. Some of the higher education institutions provide oTPD programs as well.

Studies have been carried out by researchers on the effectiveness of traditional PD programs in relation to oTPD programs, oTPD programs design models and the effectiveness of oTPD programs.

MİRİCİ (2006) suggested an oTPD program model for English teachers on new National English as a Foreign Language (EFL) curriculum. He reported the failures of traditional PD programs and proposed an online model which is shown in Figure 2.5.

In discussing the support of school administration for oTPD program, such as providing internet room for teachers, he highlighted a very sensitive issue.

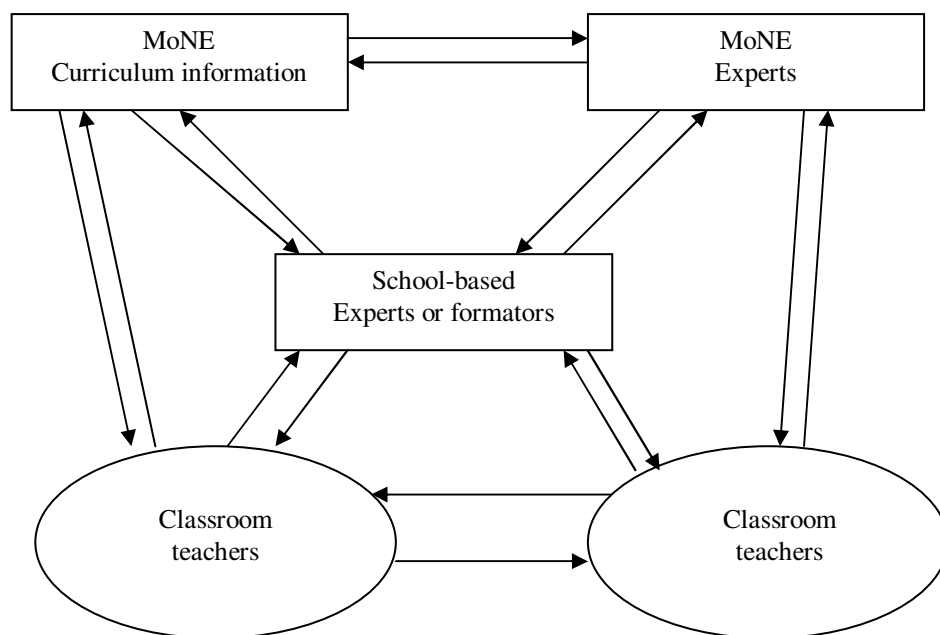


Figure 2.5 A proposed model for oTPD for English teachers (p. 159)

Özen (2008) did a research on oTPD program that was designed by MoNE about a project that was prepared jointly with Microsoft Company. The research was carried out in the center of Bolu with primary school teachers who attended oTPD program in the spring semester of the 2006-2007 academic year. The aim of the research was to find out teachers' opinions about the design, implementation and evaluation of the program. The participants pointed out the importance of:

- participants' needs assessment during the design of the program
- active participation of the learners by experiencing and observing the theories in action
- interaction and communication with colleagues
- evaluation at the end of the program, to see whether the program achieved its objectives or not.

Another study was carried out by Kabakçı and Odabaşı (2007), providing an oTPD program for computer teachers in their first year of teaching. The aim of the program was

supporting them in three different areas: job description, their personal rights, and the structure of a school. These three areas were decided after the research done as a part of the needs' analysis. The model has not been used yet.

Baran and Çağıltay (2006) conducted a research on an oTPD program that was designed and applied with teachers from different subject area groups. The teachers' highlighted the flexibility of time and setting as their main point. They also had problems with the content and concepts in the program. They had difficulties since the examples were not context based. They stated that their expectations were important and if they are met, they prefer oTPD programs. According to them, the design of the program should be done by a committee that is composed of academicians and experienced teachers. They had technical problems and sometimes had nobody to get help from.

As seen above, in Turkey, the studies cover the design of the program and also the perceptions of the teachers who practiced oTPD programs. There is a need for further research into oTPD program design and their evaluation.

CHAPTER 3

METHODS

This section presents a full account of research design and implementation. Within this perspective, it gives details of research questions, overall research design, online learning environment, sample selection and participants, implementation of oTPD program, data collection methods and instruments, data analysis procedures, researcher's role, trustworthiness, researcher's background and biases. Lastly limitations and delimitations of the study are presented.

3.1 Research questions

The purpose of this study is to contribute to the development of an online professional development program for teachers. For input to this area, the experiences, expectations, and perceptions of participants were examined. The research questions with subsidiary questions are:

1. What are the teachers' expectations from TPD programs?
 - 1.1 What are the teachers' expectations from the content of the TPD program?
 - 1.2 What are the teachers' expectations from the process of the TPD program?
 - 1.3 What are the teachers' expectations from the organization of the TPD program?
 - 1.4 What should be the outcomes of the TPD programs according to teachers' expectations?
- 2 What are the teachers' expectations from the oTPD program before the training?
- 3 How did the teachers experience the oTPD program?

- 3.1 What are the teachers' perceptions about the content of the oTPD program?
 - 3.2 What are the teachers' perceptions about the process of oTPD program?
 - 3.3 What are the teachers' perceptions about the context of oTPD program?
 - 3.4 What are the teachers' perceptions about the organization of the oTPD program?
 - 3.5 What are the outcomes of the oTPD program according to the teachers' perceptions?
 - 3.6 How do the teachers value oTPD program after the training?
4. What are the facilitator's experiences with the oTPD program?

3.2 Design of the study

The study aims to develop a new understanding of professional development programs for teachers by using online learning facilities. Having this purpose in mind, a case study was carried out within the qualitative research paradigm. The research described therefore, focuses on a single case: a professional development program for in-service science teachers that was offered online via learning management system.

Denzin and Lincoln (2000, p.8) define the word 'qualitative' as follows: "It implies an emphasis on the qualities of entities and on processes and meanings that are not experimentally examined or measured in terms of quantity, amount, intensity or frequency."

Qualitative studies deal with in-depth analysis of facts, the quality of interactions, materials and activities through a holistic description (Fraenkel & Wallen, 2003). As stated by Bogdan and Biklen (1992), there are five general characteristics of qualitative research. They are: (1) data is gathered in a natural setting and the researcher takes the primary part in the study, (2) the data is composed of words and pictures not numbers, (3) rather than concentrating on just the result, the qualitative researcher deals with process, (4) data is analyzed by a bottom-up approach, (5) the researcher is concerned with the participants' perceptions.

Rossman and Rallis (1998, p.9), stated

qualitative research

- takes place in the natural world
- uses multiple methods that are interactive and humanistic
- is emergent rather than tightly prefigured
- is fundamentally interpretive

The qualitative researcher

- views social phenomena holistically
- systematically reflects on who she is in the inquiry
- be sensitive to her personal biography and how it shapes the study
- uses complex reasoning that is multifaceted and iterative

Based on these characteristics, qualitative research has an advantage in addressing three functional points:

“(1) Generating results and theories that are understandable and experientially credible, both to the people you are studying to others. (2) Conducting formative evaluations, ones that are intended to help improve existing practice rather than to simply assess the value of the program or product being evaluated. (3) Engaging in collaborative or action research with practitioners or research participants.” (Maxwell, 1996, p.21)

As a summary, based on the literature (Bogdan & Biklen, 1992; Patton, 1990) and work done in that area, Yıldırım and Şimşek (1999) defined six features of qualitative research. These are: sensitivity to natural settings, the participatory role of researcher, holistic approach, exhibition of perceptions, flexibility in research design and inductive analysis.

Considering the features of qualitative research given above, this study demonstrates most of them. Firstly, this research was held in a natural setting which is oTPD program that can be accessed from anywhere with an internet connection. No manipulation was done to the environment and participants. The researcher was the facilitator of the program, so she was in the system all the time. Observations were made throughout the program in the participants natural settings. Both pre-interview and post-interview were carried in the participants' typical environment by the researcher. Therefore, the researcher was the collector of the data.

It is a descriptive research. The data were collected through interviews, observations, online questionnaire and documents which are weekly tasks, journals, forums, e-mail correspondence, students' comments of model lesson, phone call records and the researcher's journal. This means that the data were words rather than numbers. To capture the meaning, during interviews the data were recorded verbatim. Some notes were taken and compared with audio recordings for reliability. A lot of the data at the beginning of data analysis stage became specific by the end of the study.

This study was therefore concerned with the process and trying to identify teachers and facilitators experiences of oTPD program.

Case study

Since this research is "an intensive, holistic description and analysis of a single instance, phenomenon, or social unit" (Merriam, 1988, p.21), it is a case study. Hence, it focuses on a single case-oTPD program offered to in-service science teachers by using LMS.

Yin (2003) defines case study as follows:

A case study is an empirical inquiry that

- investigates a contemporary phenomenon within its real-life context, especially when
- the boundaries between phenomenon and context are not clearly evident

The case study inquiry

- copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result
- relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result (pp.13, 14).

Merriam (1998) defined case study by using its special features which are "*particularistic, descriptive, and heuristic*" (p.29). This study is particularistic, because it focuses on a particular program which is oTPD for science teachers. The reader will know what to do in a similar case. It is descriptive, since there is a full description of the phenomenon. There is a complete and factual description of the oTPD program. The findings are not given as numerical data; they are given as detailed descriptions of the phenomenon. This study presents documentation of actions, quotes, examples and pieces of work from the study. The data were collected via interviews, observations and

documents in almost 8 months which gave the researcher a chance of collecting data from different resources. The information is presented from each individual's point of view. This study is heuristic, because it mentions both why oTPD worked and did not work at some points. It was discussed why some of the steps in research has not been chosen (Merriam, 1998).

3.3 Overall design and implementation of the oTPD program

This study includes three consecutive steps: (1) design of the oTPD program, (2) implementation of the oTPD program and (3) data gathering & evaluation.

3.3.1 Design of the oTPD program

The design of the oTPD program was completed in nine months. Traditional ADDIE approach was used throughout the design period. This period includes the starting point of oTPD program, reviewing related literature and examples of oTPD programs, selection of samples, decision making about the topic and context of the oTPD and deciding weekly learning modules of the program. The timeline of the first period is given in Figure 3.1.

3.3.1.1 Starting point of oTPD program

In June 2006, Bilkent University Graduate School of Education (GSE) had its first alumni conference. Graduate from the previous five years and 2nd year master- without-thesis students were invited to it. The subject areas were biology, Turkish language and literature, English, mathematics and history education. The main purpose of the conference was sharing experiences among alumni: projects, lesson plans and materials. Since the researcher is one of the alumni and has been working at GSE for four years, she had an acting role such as invitation of members, organization of activities and presentations in the conference. At one part of the assembly, subject area groups met separately. During this meeting several points were discussed. One of the comments was the need for a professional development program. After this conference, the researcher continued to keep in touch with alumni and tried to find ways of giving PD to them.

While the researcher was working on online education, she decided to design an oTPD program for them which seem feasible for teachers. In July the notes were gathered from the conference and also were checked by colleagues so as not to miss any comments.

3.3.1.2 Review of related literature and examples of oTPD programs

The developments in technology in the last ten years have affected education as well as many other areas. Online learning is popular, as is research done in that area. One of the tools that can be used in online learning is LMS. Firstly, the literature on the use of LMS was reviewed. Breit et al. (2005) reviewed 400 articles about online, face to face, and hybrid teacher TPD programs. In their study, one of the points mentioned is about how hard it is to observe measurable change in students' learning process. Therefore it was decided not to research on the effectiveness of oTPD on students' success but also to integrate social constructivist approach into the study, which is strongly encouraged in the research study given above.

The examples of oTPD programs were checked. Some of them are: WIDE World, PBS TeacherLine, EMentoring, LTTS, Ogretmen Egitim Akademisi. These websites were checked because of trying to be familiar with the scope of these programs and deciding modules of the program. Some of them include different pathways not just for teachers and also for other school staff as well. There were restrictions for the researcher while checking these oTPD programs. They all need password and username. But like WIDE World, some includes tours of the program and details of course syllabuses.

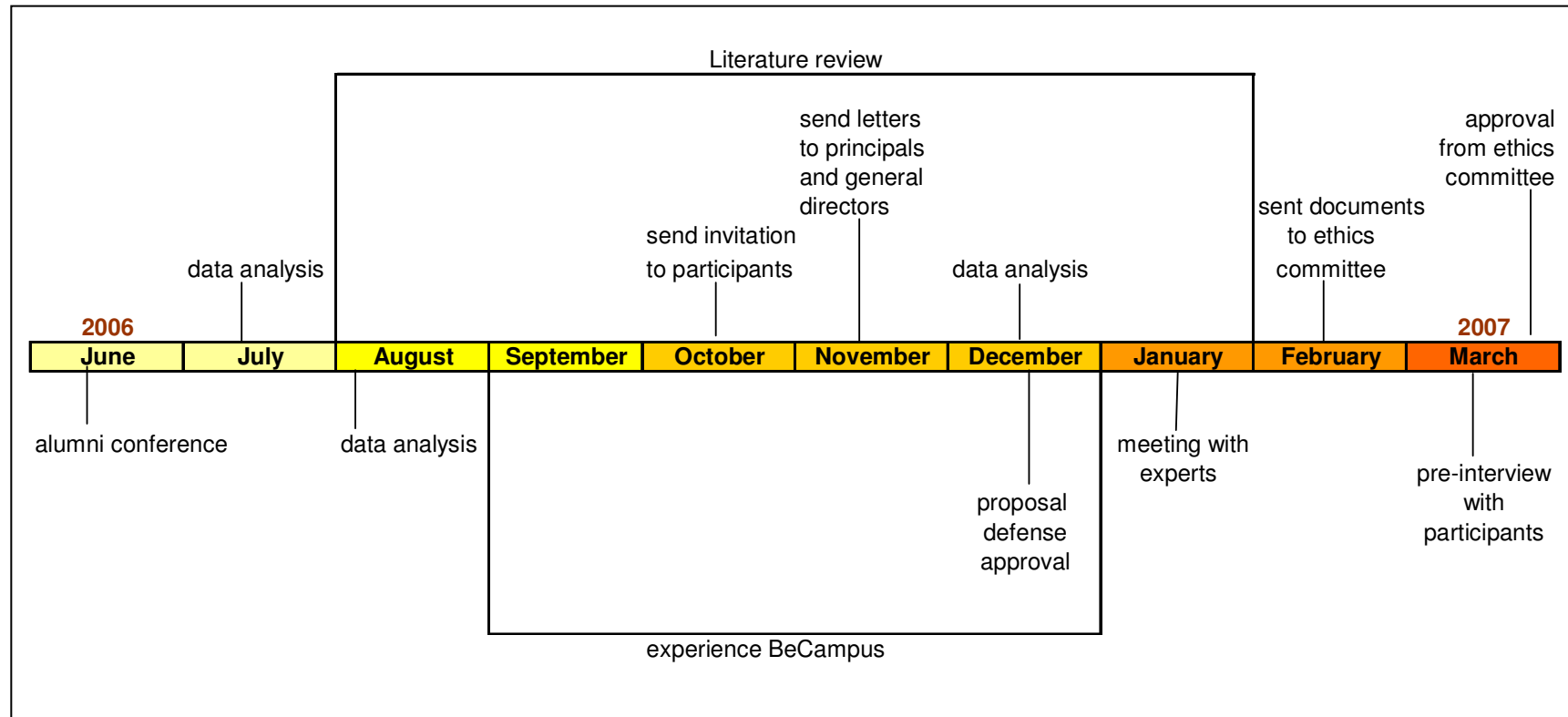


Figure 3.1 The timeline of design process of oTPD program

In order to determine the learning modules of the program, a meeting was conducted with an expert, the director of Bilkent University School of English Language (BUSEL) and a coordinator of Özel Bilkent Schools. He has expertise in in-service teacher training and the use of LMS in it. He suggested using different learning activities every week, including a practical session where learners can reflect on what they do.

Based on these comments and review of the related literature and oTPD programs, the course learning modules were designed.

3.3.1.3 Decision making about the topic

In Turkey, as a part of “Support to Basic Education” project, new primary school curriculum was prepared, piloted and applied all around the Turkey. After the implementation of new curriculum, several issues were raised in a report, which was prepared by MoNE research department. One of the area was the science teachers’ need about in-service training on alternative assessment strategies (MoNE, 2006) such as involvement of students through self-, peer- and group-assessment. Since the participants are science teachers in Turkey, it is their need. Besides the research data, as a needs analysis, an e-mail was sent to 21 private school directors, principals and vice principals. Since they are experts in this area, their opinion about the topic of in-service training was asked. The data was analyzed by the researcher. According to the analysis they mentioned different areas for having PD programs, such as classroom management, leadership, learning by doing, integration of technology, practical work, differentiation of instruction, classroom management, questioning skills, reducing teacher talk, and assessment. The most cited one was assessment which was supported by a research (MoNE, 2006) carried out in Turkey, so the decision was given accordingly.

3.3.2 Online learning environment

Based on the literature review, the researcher decided to use LMS for oTPD program. Because of its features and cost-effectiveness, it was determined to be used BeCampus which is Bilkent University’s virtual campus. Since the participants of the program are graduates of Bilkent University, Meteksan Sistem kindly accepted to the use of the system.

In order to become familiar with the LMS and learn more about it, BeCampus was used for one semester (4 months) in a different course. A meeting was held with one of the designers of BeCampus about the advantages, disadvantages and potential problems of it. Besides that, another meeting was conducted with an academic who has great experience in using BeCampus as a blended teaching environment.

BeCampus was designed by Meteksan Sistem in 2005. It has had different versions and addresses throughout the years. The latest version is 1.0.5.1 and the web address is <http://ecampus.bilkent.edu.tr>

Figure 3.2 shows the welcoming page of BeCampus.

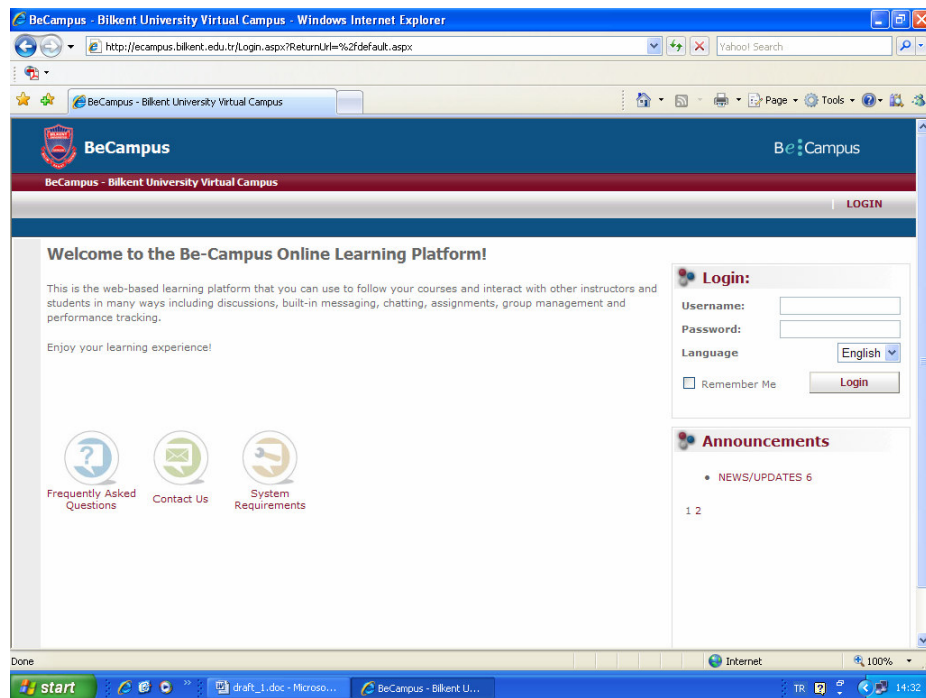


Figure 3.2 The screen shot from the welcoming page of BeCampus

After the participant logged in to the system, *My Home* page is seen on the screen. As given in Figure 3.3., it includes information such as “courses given (the semester can be selected from pull-down menu), announcements, messages, FAQ, help, search, log out from the system”. Help and contact us sections are for solving urgent technical problems.

There are e-mail addresses of technical staff from Meteksan system that participants can consult.

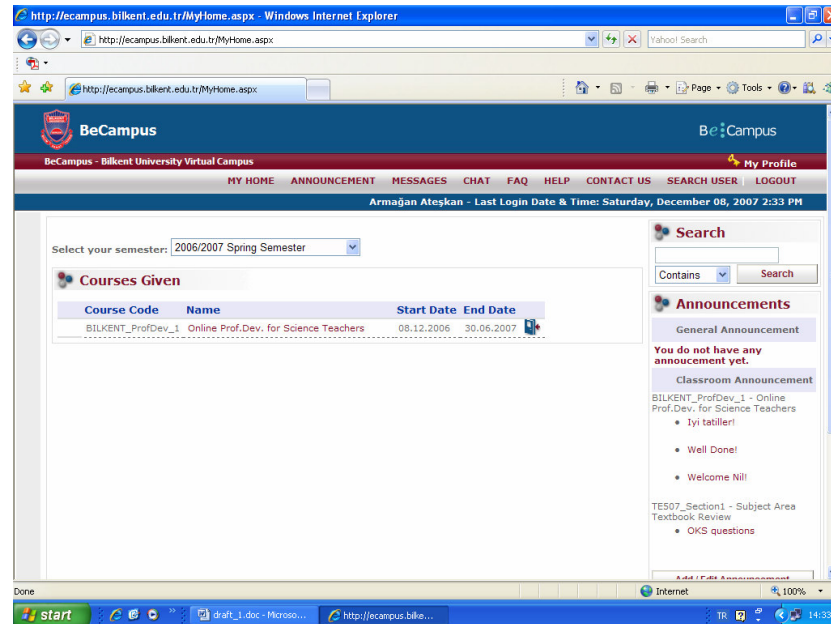


Figure 3.3 The screen shot from My Home page

After the course selection, then *Classroom Home* page is displayed, shown in Figures 3.4 and 3.5.

It provides general information about the course. The main menu is still at the top of the page. And also the course main menu is on the left side of the page. It includes many tools. These are:

- Course information
 - Syllabus
 - Resources
 - Student list
- Course tools
 - Assignments
 - Grade book
 - Course contents
 - Forum

- WebQuest
- Attendance
- Personal study tools
 - My bookmarks
- Activity reports
 - Student activity reports
- Group management
- Send mail
- Classroom management

3.3.2.1 Classroom Home

Classroom Home page is just a welcoming page of the course. It includes links to 1st week and 5th week videos.

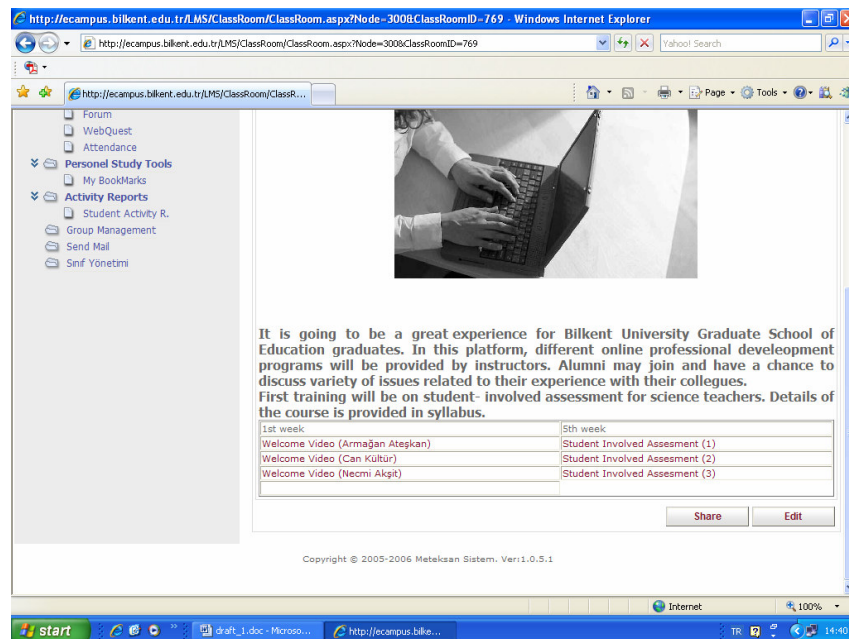


Figure 3.4 The view of Classroom Home page I

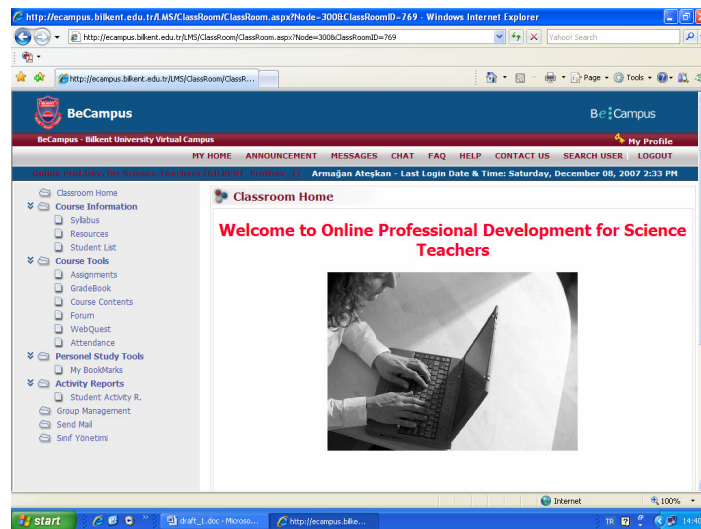


Figure 3.5 The view of Classroom Page II

3.3.2.2 Course information- Syllabus

It includes the course description, objectives, weekly schedule, assessment and course textbook. A detail of syllabus is given as Appendix A. Contact information of the facilitator was given at the top of the syllabus in case participants wanted to reach her.



Figure 3.6 The screen shot of Syllabus

3.3.2.3 Course information - Resources

This page is used for putting some materials related to the course. It was not used much, since course contents section was used more. The view from this section is given in Figure 3.7.

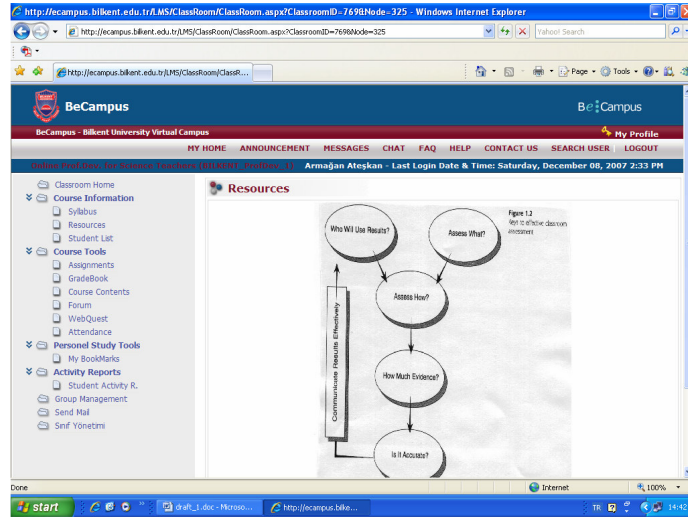


Figure 3.7 The screenshot from Course information- Resources

3.3.2.4 Course information - Student list

Participant names and surnames, and e-mail addresses are given in this page. The facilitator can send an e-mail to the participants directly from this page (Figure 3.8). There was also one fake participant account which the facilitator formed during the design of the course phase because, participant and the facilitator views were not the same.

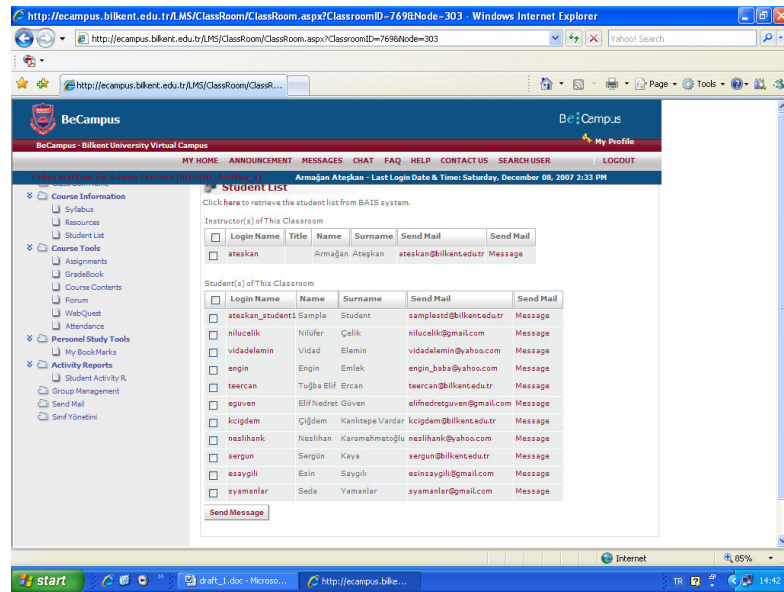


Figure 3.8 The screenshot from Student list.

3.3.2.5 Course Tools - Assignments

The “Course Tools” page includes lists of assignments (Figure 3.9) for participants. The facilitator can see the topic assigned, the due date, on the same page it can be evaluated, viewed, edited deleted, and new one can be assigned.

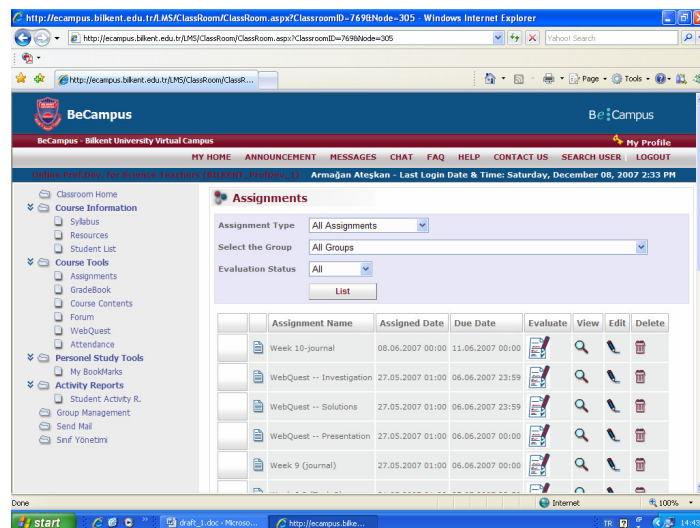


Figure 3.9 View from Assignments

3.3.2.6 Grade Book

All of the grading process is done in this section (Figure 3.10). The name of the item, possible points and weight is given as a table. There is also another column called actions. When the facilitator looks at this column, s/he may see the grade of each participant including feedback of the facilitator. Participants can only see their own grade and feedback.

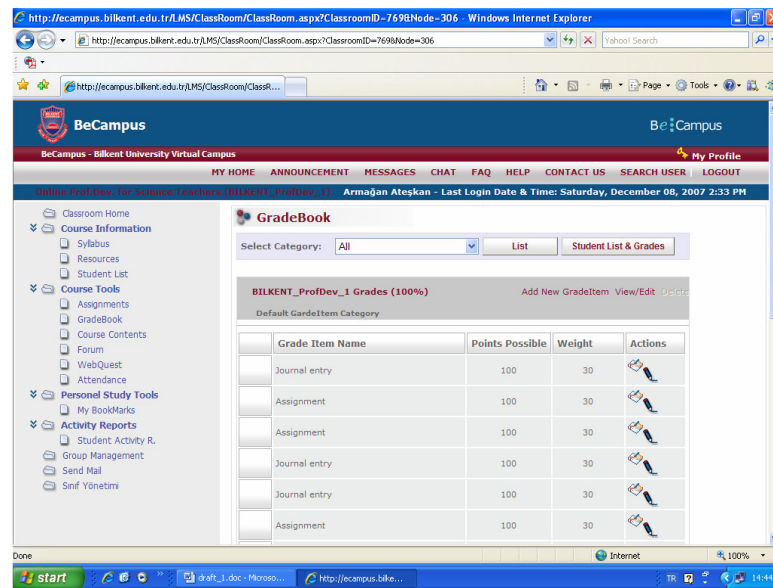


Figure 3.10 The screenshot from GradeBook

3.3.2.7 The course content

The course content (Figure 3.11) is a tool that allows the facilitator to put different types of resources, up to 2 MB. The researcher put reading materials for 3 sessions. It can be downloaded by the participants as well.

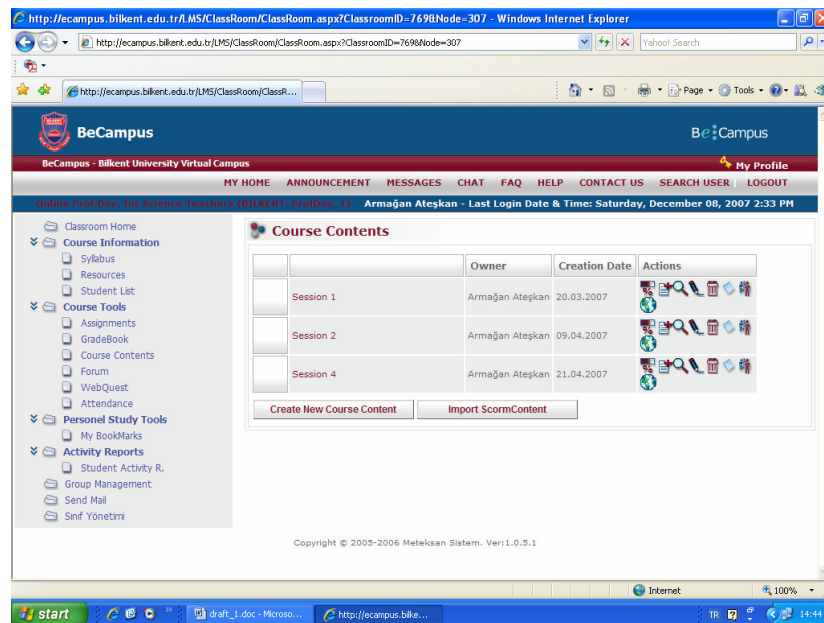


Figure 3.11 The view of Course Contents

3.3.2.8 Forum

Forum is an asynchronous platform that users can use for communication (Figure 3.12). The facilitator designed the forum topics in three different categories. The topics that used as follows:

- General issues
 - Planet café
 - About BeCampus
 - Technical problems
 - Chat sessions
 - Teaching science and/or biology
 - Forum rubric
- Weekly discussion board
 - Weekly discussion
 - Weekly feedback about assignments
- Classroom assessment scenarios
 - Case 1
 - Case 2
 - Case 3

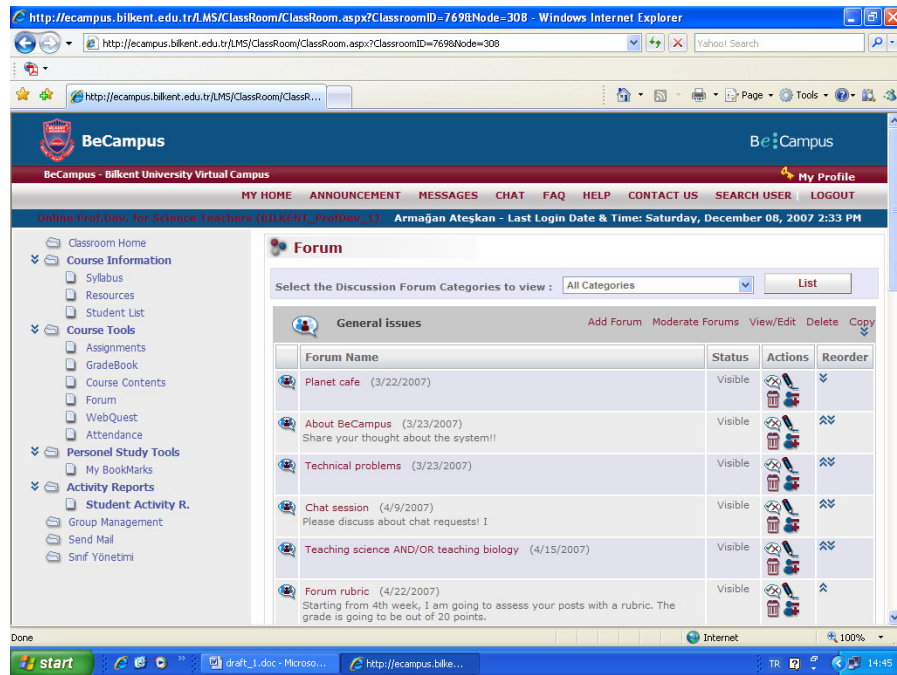


Figure 3.12 The screenshot from Forum

3.3.2.9 WebQuest

WebQuest is a tool for encouraging participants to use their higher order thinking skills by using internet. Besides encouraging use of higher order thinking skills, it was aimed to remind participants the use of WebQuests in education. It was used for the last week of the study. It has introduction, task, process and conclusion steps to follow by the participants. The view is given as Figure 3.13.

3.3.2.10 Activity reports

Activity reports page is a useful tool for checking the detailed summary of participants' activities including grade, success rate and overall rate. Also, the facilitator can see details of each participant's connection time and the time that they spent in the system.

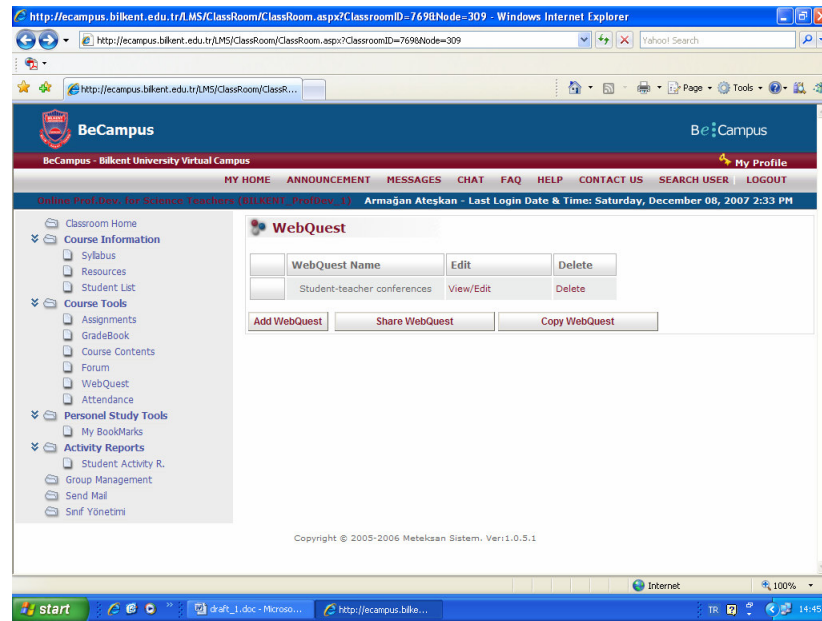


Figure 3.13 The screenshot from WebQuest

3.4 Sample selection and participants

Selection of a sample is a very important step in research. There are two general samplings in qualitative research: random sampling and purposive sampling (Yıldırım & Şimşek, 1999). Most qualitative researchers are likely to select purposive sample (Fraenkel & Wallen, 2003). Purposive sampling also divided into nine main groups (Fraenkel & Wallen, 2003; Patton, 2002): *extreme case sampling*, *intensity sampling*, *maximum variation*, *homogeneous samples*, *typical case sampling*, *critical case sampling*, *snowball or chain sampling*, *criterion sampling* and *convenient sampling*.

In this research, which focuses in depth on a small sample selected on purpose, maximum variation, convenience and criterion sampling strategies were used for purposive sampling. There were some criteria for inclusion in this research. These are:

- being a graduate of Bilkent University Graduate School of Education Biology teacher education program
- still teaching science or biology in Turkey

Patton (2002) said that “criterion sampling also can be used to identify cases from standardized questionnaires for in-depth follow up”. As written in the previous section, the oTPD program idea started with the data analysis of alumni group interviews. Based on the analysis, it was desired to do a study in this area in-depth.

There were 32 Bilkent University Graduate School of Education Biology Teacher Education program alumni in 2006. 23 of them who meet the criteria given above were invited for the oTPD program by e-mail. 13 of them accepted. When the dates were announced three of them dropped out because of the personal problems. The remaining ten are teaching science and biology in Ankara, İstanbul, Gaziantep, Antalya and Afyon. The details of the sample are given in Table 3.1.

Table 3.1 The information about sample

No	Subject area (teaching)	Experience	City	School
P 1	Biology	3 years	Antalya	Ozel Antalya College
P 2	Biology	3 years	Ankara	Ozel Buyuk College
P 3	Science	5 years	Ankara	TED Ankara College
P 4	Biology	8 months	Ankara	Ozel Yuce College
P 5	Science	2 years	Istanbul	Ozel HEV Schools
P 6	Biology	2 years	İstanbul	Ozel HEV Schools
P 7	Science	4 years	Afyon	TED Afyon College
P 8	Biology	8 months	İstanbul	Istek Foundation School
P 9	Biology	3 years	Ankara	Gazi University School
P 10	Biology	8 months	Gaziantep	Ozel Gaziantep College

Since they were working in different types of schools in different cities of Turkey, and have different backgrounds, the sample was heterogeneous. Glaser and Strauss (1967) firstly used *maximum variation* sampling. According to Patton (1987), there are two advantages of this type of sampling which are: (1) in depth definition of the sample, (2) finding out common themes and their values among the heterogeneous samples.

On the other hand, in terms of having same settings and courses in teacher education program, they were familiar with the same terminology. This is very important in terms of accuracy of the course implementation.

Even though there were ten participants at the beginning of the oTPD programs P 8 could not start the program because of serious health problems. Also P 5 left the program at the 4th week because of workload, saying that she couldn't manage to finish it. So eight participants finished the program.

The facilitator of the oTPD program is the researcher. Since she has assisted in the teaching of the "Planning and Assessment" course in the same university for 2 years, she is experienced in this area.

3.5. Implementation of oTPD program

The program was composed of 10 weeks of training. It started on April 2, 2007 and ended with June 10, 2007. It included different tasks each week. The information about weekly tasks are given at Table 3.2 The detailed information can be found in Appendix B.

Table 3.2 Information about weekly tasks

Duration	Activities
April 2 to April 8	Task 1- Visit different sections of the course (orientation) Task 2- Getting started to use forum <ul style="list-style-type: none"> visit planet café and write some information about themselves (since they are not classmates, they don't know each other) read others as well Task 3- Welcoming messages <ul style="list-style-type: none"> read welcoming messages by <ul style="list-style-type: none"> An assessment expert A system expert A program facilitator-researcher Task 4- Info about BeCampus <ul style="list-style-type: none"> PPT presentation prepared by system expert Task 5-Weekly discussion <ul style="list-style-type: none"> Analysis of own use of assessment in class Task 6-Weekly journal
Orientation	
April 9 To April 15	Task 1- Weekly discussion <ul style="list-style-type: none"> Based on a reading Replying to a friend's query is must
Student Involved Assessment	Task 2-Case study-forum discussion Task 3- Weekly journal
April 16 To April 22	Recovery week
Recovery	

Table 3.2 (continued)

Duration	Activities
April 23 To April 29	Task 1- Assessment types <ul style="list-style-type: none"> • Reading and answering some questions • Discussion with other teachers in the department Task 2- Weekly journal
Revision of assessment methods	Task 3- Weekly discussion <ul style="list-style-type: none"> • Submit questions related to this week topic • Answer other participants questions
April 30 To May 6	Task 1-Watching video <ul style="list-style-type: none"> • Watch 3 sections of the recorded lesson (Appendix C) • Write an essay by answering some questions Task 2-Weekly journal
Video on student- involved assessment	
May 7 To May 13	Task 1- Lesson plan <ul style="list-style-type: none"> • Lesson plan which includes student involved assessment • Include all of the materials that will be used
Preparation of lesson plan	Task 2- Weekly journal The researcher gave feedback and checked revised documents as well.
May 14 To May 20	Task 1- Applying learning activities <ul style="list-style-type: none"> • After getting feedback and revising lesson plan with materials, apply your lesson plan in class
Application of lesson plan in class	Task 2- Weekly journal

Table 3.2 (continued)

Duration	Activities
May 21 To May 27	Task 1- Devise a tool <ul style="list-style-type: none"> • Devise a tool for getting info from students • Analysis of the data (very simply) • Prepare a report
Critical analysis of the lesson	Task 2- Critical analysis <ul style="list-style-type: none"> • By using a form evaluating the lesson Task 3- Weekly journal Task 4- Weekly forum discussion <ul style="list-style-type: none"> • Share experience with one sentence
May 28 To June 3	Task 1- WebQuest <ul style="list-style-type: none"> • Includes different steps –Investigation, solution, presentation
Communicating assessment results	Task 2- Weekly journal
June 4 To June 10	Task 1- Questionnaire <ul style="list-style-type: none"> • Submitting questionnaires Task 2- Weekly journal
Evaluation	

3.6 Data Collection Methods and Instruments

Merriam (1998) defines interviews, observation and document analysis as data collection methods. In this study following data sources were used:

- Face-to-face interview with all participants both before and after the program

- Documentation which included: weekly assignments, weekly forum discussions, e-mail correspondence, weekly journal entries, detailed notes of phone calls, researcher's journal
- Online questionnaire administrated immediately after the oTPD program
- Observation of 3 classrooms in Ankara
- Comments by the students of participants

Different data collection methods were used, because in qualitative research validity and reliability issues are very sensitive. For triangulation purposes, the data was gathered from different resources (Yin, 2003).

3.6.1 Interviews

The interview is the most common form of data collection in qualitative studies. The main purpose of interviews is “to find out what is in and on someone else's mind” (Patton, 1990, p.278). By interview, non-observable matters will be highlighted such as feelings or their analysis of events. According to Merriam (1998), it is possible to search for events that occurred in the past and are impossible to repeat.

Marshall and Rossman (1999) stated that interviews have strengths such as getting a large amount of data quickly, allowing the researcher to understand the sense that people hold for their daily actions. Yıldırım and Şimşek (1999) highlighted nine advantages of an interview which are: flexibility, response rate, non-verbal behaviors, control over the environment, the order of the questions, instant response, checking data source, accuracy and in-depth information (p. 97-99).

According to Patton (2002, p.349), there are four types of interview. These are: (1) informal conversational interview, (2) interview guide approach, (3) standardized open-ended interview, (4) closed, fixed-response interview. A standardized open-ended interview was conducted with each participant. It has strengths such as answering the same questions so making it easy to compare responses and help organization of the data analysis.

In this study face-to-face interviews were conducted both at the beginning and at the end of the oTPD program. That at the start was used to get information about participants' previous experiences about TPD, oTPD and measurement and evaluation. That at the end of the program was for learning about their perceptions about the oTPD program.

3.6.1.1 Pre-interview

The pre-interview was held before the oTPD program started which was in March 2007. A standardized open-ended interview schedule was used (Appendix D). Special care was given about not asking leading, multiple and yes/no questions. The framework was formed for interview based on research questions and literature review done in TPD programs and measurement and assessment. There were 24 questions that were about gathering in-depth data about their previous TPD, oTPD and assessment and measurement experiences which form the main themes of the interview. Before interviewing the participants, the questions were piloted with alumni who would not participate in the oTPD. Based on the feedback that was gathered, changes were made in three questions. All of the participants were interviewed. The details of interview are given in Table 3.3. All interviews were done face to face. The data was audio recorded. Also some notes were taken about the environment and interview. After transcription of data, the transcriptions were sent to interviewees for getting their approval.

3.6.1.2 Post-interview

The post-interview was done after the end of the oTPD program. A standardized open-ended interview schedule was used (Appendix E). The framework was formed for interview based on research questions and literature review. There were 56 questions. The themes of the questionnaire were content, process, context, and organization of the oTPD program and also the value of oTPD.

After the questions were prepared, an expert, who is giving educational research course at METU, stated his opinion about the questions. That resulted in making changes to the interview schedule. All of eight participants were interviewed face-to-face by the researcher. The details of the interview are given in Table 3.4. Post- interview duration was longer than pre-interview duration. All of the procedures were the same with pre-interview procedures.

Table 3.3 The pre-interview data

No	Subject area (teaching)	School	Interview Place	Interview date/ time	Interview duration	Transcribed word numbers
P 1	Biology	Ozel Antalya College	Ozel Antalya College laboratory	23/03/2007-16.05	30 min 10 sec	1230
P 2	Biology	Ozel Buyuk College	Café in Ankara	25/03/2007-14.30	33 min 20 sec	1274
P 3	Science	TED Ankara College	Cafe in Ankara	20/03/2007-18.00	35 min 15 sec	1351
P 4	Biology	Ozel Yuce College	Ozel Yuce College biology laboratory	13/03/2007-14.30	31 min 10 sec	1205
P 5	Science	Ozel HEV Schools	Ozel HEV Schools library meeting room	15/03/2007-09.40	45 min 10 sec	1538
P 6	Biology	Ozel HEV Schools	Her home at İstanbul	14/03/2007-18.10	40 min 25 sec	1325
P 7	Science	TED Afyon College	Café at Afyon	24/03/2007-12.10	46 min 35 sec	1549
P 8	Biology	Istek Foundation School	Her office at school	15/03/2007-15.30	28min 15 sec	1109
P 9	Biology	Gazi University School	The researcher's office	07/03/2007-15.45	32 min 30 sec	1492

Table 3.4 The post-interview data

No	Subject area (teaching)	School	Interview Place	Interview date/ time	Interview duration	Transcribed word numbers
P 1	Biology	Ozel Antalya College	Café in Ankara	23/06/2007-21.00	36 min 15 sec	1627
P 2	Biology	Ozel Buyuk College	Café in Ankara	27/06/2007-16.00	35 min 25 sec	1738
P 3	Science	TED Ankara College	Her home at Ankara	02/07/2007-14.00	47 min 10 sec	2047
P 4	Biology	Ozel Yuce College	The researcher's office	25/06/2007-15.35	45 min 50 sec	1953
P 5*	Science	Ozel HEV Schools	NO INTERVIEW	-	-	-
P 6	Biology	Ozel HEV Schools	Café in Ankara	04/07/2007-14.30	55 min 10 sec	2261
P 7	Science	TED Afyon College	His home at Afyon	30/06/2007-11.50	50 min 25 sec	2215
P 8*	Biology	Istek Foundation School	NO INTERVIEW	-	-	-
P 9	Biology	Gazi University School	The researcher's office	05/07/2007-15.00	45 min 35 sec	1851
P 10	Biology	Ozel Gaziantep College	Ozel Gaziantep College Biology laboratory	28/06/2007-14.20	47 min 10 sec	1991

* P 8 could not start to the program, P 5 left the program after the 4th week of the program

3.6.2 Document analysis

The documents consist of written materials containing information about targeted fact or facts. There are different types of documents. They are: written materials, film, video and photographs. There are advantages to document analysis: (1) they allow approach to subjects which are not easy to reach, (2) there are no physical, behavioral and emotional interactions, (3) they allow longitudinal analysis, (4) they increase the size of the sample, (5) they are individualistic and authentic, (6) they are cost effectiveness and (7) quality. Therefore, the documents which were related to the research was gathered (Bailey, 1987).

In this study, following documents were collected

- Before the oTPD program started: alumni conference notes, e-mail correspondence with the schools' general directors for decision of an oTPD program topic.
- During the oTPD program: weekly assignments, weekly forum discussions, e-mail correspondence, weekly e-journal of participants, phone call records.
- Before, during, and after the oTPD program: researcher's journal.

3.6.3 Online questionnaire

The questionnaire is a tool for collecting quick written responses. In this study an online questionnaire was used in the last week of the oTPD program. Since *SurveyMonkey* was used as an online questionnaire provider for another study and had had a positive experience, it was used for this research as well. It is a free program for basic account users. Basic account is restricted in some points i.e. you cannot put more than 10 questions into the questionnaire. Therefore it was divided into two sections (Appendix F). Eight of the participants submitted questionnaires.

3.6.4 Observations

Observation is "the systematic noting and recording of events, behaviors, and artifacts (objects) in the social setting chosen for the study," (Marshall & Rossman, 1999, p.107).

Observations have strong points. These are: (1) Non-verbal behaviors, (2) Natural environment, (3) Longitudinal analysis (Yıldırım & Şimşek, 1999, p.127). Accordingly, the researcher decided to use observations in her study.

Depending on the researcher's role there are different types of observations. These are: participant, non-participant, naturalistic observation and simulations (Fraenkel & Wallen, 2003). In this study non-participant observation was used. Observations were made in participants' schools and classrooms. Nothing was done to change the variables and participants' behavior. The lesson was observed by using the observation schedule for noting comments on the lesson.

Before the observations, information about the students was gathered from the participants, but of course that was not enough. It was researcher's first time in the classroom with the students. So there was a novelty effect in observations. That's why it was decided to be used as a secondary data resource.

The researcher is experienced in making observations in real time without recording the environment. She has been supervising School Experience II and Teaching Practice courses in the Graduate School of Education for five years. This supervising post includes in-depth observation of biology and science lessons both in English and Turkish.

This study included observation of three lessons which was an important part of online training activity. The details of the observation are given in Table 3.5.

Table 3.5 Observation details

	Subject area (teaching)	Grade	Observation day	Observation duration
P 2	Biology	9 th grade	16.05.2006	45 min
P 3	Science	6 th grade	17.05.2006	45 min
P 9	Biology	9 th grade	17.05.2006	45 min

Finally, the observations facilitated the researcher's job in terms of gathering data about the content and hands-on part of the program, which is not possible to gather by other data collection instruments.

3.6.5 Students' comments about the model lesson

At the end of application of a model lesson by participants, participants used different instruments to get information about the lesson from the class. Three of them applied a short questionnaire and five of them asked quick questions to the whole class. Participants sent students' responses as a document as part of their reflection report.

3.7 Data Analysis

In this study, lots of data were gathered, since different instruments were used for collecting data. According to Bogdan and Biklen (1992, p.153), "data analysis is the process of systematically searching and arranging the interview transcripts, field notes, and other materials that you accumulate to increase your own understanding of them and to enable you to present what you have discovered to others". Data was tried to be analyzed simultaneously with data collection as Merriam (1998) suggested.

The data analysis started with data gathered from different sessions of the alumni conference. It was written down as a MS Word document. After this step it was followed by the analysis of 21 e-mails from the general directors about the topic of oTPD program. Categories were formed and then the percentages of each category were found.

Before the oTPD program, 10 possible participants of the program were interviewed, and the data recorded were transcribed. It was typed by using MS Word program and also the documents were saved as notepad. Then it was sent to participants for getting their approval.

Qualitative data analysis software called *Weft QDA* was used. Before starting to use this software, other software was searched for: *NUDIST* and *ATLAS.ti*. Trial versions of them

were downloaded and explored. They were not easy to use and handle. Also they were not free and the trial versions did not have all the features. While she was searching for others, she found user friendly free open-source software for qualitative data analysis called *Weft QDA*. She used that software for all of the data analysis. All the data was converted to MS Word, and saved as notepad for transfer of data to *Weft QDA*.

Strauss and Corbin (1990) give three coding strategies which are (1) codes, defined before the analysis, (2) codes gathered from the data, (3) coding in a general frame. The researcher developed a coding scheme based on the framework of the pre-and post-interview questions. The first level coding scheme is given in Table 3.6.

Themes included in this “provisional start list” were given meaningful tags or labels by the researcher (Miles & Huberman, 1994). These themes and their codes were then transformed into sub-codes for more differentiation. Later, the researcher classified these under certain guides, each of which was also given a distinctive code in order to facilitate analysis and interpretation of the data collected.

Table 3.6 First level coding scheme of pre-interview data

TPD	Teacher professional development
TPD-EXP	Experience
TPD-EXPCT	Expectations
oTPD	Online teacher professional development
oTPD-EXP	Experience
oTPD-EXPCT	Expectations
MA	Measurement and evaluation
MA-TECH	Techniques
MA-POWR	Powerful
MA-WEAK	Weak

This coding scheme was used as a key tool for the data analysis and interpretation of the 1st part of the data. These categories were formed in *Weft QDA* data analysis software and texts were marked. Later the data was transferred as an html document and printed out. The researcher worked on data, including the researcher’s journal and e-mail

correspondence, and also revisited and revised the coding scheme to produce a more detailed one which is given in Table 3.7.

Table 3.7 Revised coding scheme

TPD	Teacher Professional Development		
	TPD-EXP		
		TPD-EXPCONT	Content
		TPD-EXPPRC	Process
		TPD-EXPORG	Organization
		TPD-EXPCTXT	Context
		TPD-EXPPOSTV	Positive
		TPD-EXPNEGTV	Negative
	TPD-EXPCT		
		TPD-EXPCTCONT	Content
		TPD-EXPCTPRCS	Process
		TPD-EXPCTORG	Organization
		TPD-EXPCTOUT	Outcomes
oTPD	Online Teacher Professional Development		
	oTPD-EXP	oTPD-EXPTOPC	Topic
		OTPD-EXPTME	Time
		OTPD-EXPDRATION	Duration
	oTPD-EXPCT	OTPD-EXPCTPOST	Positive
		OTPD-EXPCTNEGTV	Negative
MA	Measurement and evaluation		
	MA-TECH	MA-TECHFORM	Formative
		MA-TECHSUM	Summative
		MA-TECHSLF	Self-assessment
		MA-TECHFDBK	Feedback
	MA-POWR	MA-POWRQST	Questioning
		MA-POWRTW	Teamwork
		MA-POWRRBC	Rubric
		MA-POWRMRK	Marking
		MA-POWRQPRP	Question preparing
	MA-WEAK	MA-WEAKASSTY	Assessment types
		MA-WEAKFDBK	Feedback
		MA-WEAKBHV	Behavior

The researcher interviewed 8 participants at the end of the program. She followed the same steps as in the pre-interview.

Besides interviews, she did document analysis which included. 61 weekly assignments and 57 journal entries, 189 forum posts, 60 e-mail messages, 5 phone call notes, and the researcher's journal. She also analyzed students' comments about the model lesson which was submitted to the researcher. For analysis of the questionnaire: the percentages were calculated for closed questions and codes were formed for open-ended questions.

Like the first step of data analysis, the initial coding scheme (Table 3.8) is formed based on the frame of the post-interview questions.

Table 3.8 Initial coding scheme

EXPoTPD	Experienced Online Teacher Professional Development Program
EXPoTPD-GNRL	General
EXPoTPD-CONT	Content
EXPoTPD-PRCS	Process
EXPoTPD-CTXT	Context
EXPoTPD-ORG	Organization
EXPoTPD-OUT	Outcomes
EXPoTPD-VAL	Value of Online Professional Development Program

After forming this key coding scheme, the researcher marked the texts by using *Weft QDA* software and then saved the document as html document. She did one more level of coding, revisited whole documents and revised the coding scheme (Table 3.9) as follows.

Table 3.9 Revised coding scheme

EXPoTPD	Experienced Online Teacher Professional Development Program
EXPoTPD-GNRL	Positive Negative
EXPoTPD-CONT	Relevance Usefulness Level
EXPoTPD-PRCS	Facilitator Plan
EXPoTPD-ORG	Organization
EXPoTPD-CTXT	General impressions Advantages Disadvantages
EXPoTPD-OUT	Outcomes
EXPoTPD-VAL	Value
EXPoTPD-VALRSN	Reason
EXPoTPD-VALLRN	New application learned
EXPoTPD-VALSUG	Suggestions

3.8 Researcher's role

In a qualitative study, the researcher is the crucial tool for gathering, analyzing and interpreting data (Merriam, 1998). The presence of the researcher in the participant's life is essential according to the paradigm (Marshall & Rossman, 1999). Goetz and LeCompte (1982) pointed out the importance of reporting the researcher's position in research. So, this part of the study will therefore state the researcher's role throughout the study.

As Merriam (1998) stated "the qualitative researcher must have an enormous tolerance for ambiguity, be sensitive to the context, all variables within it and biases, be a good communicator" (p.20-23).

The main role of the researcher is being a facilitator of the program and also an observer all the time. At the beginning of the study, she had puzzles in her mind. These were:

- the objectivity of participants. Since she knew oTPD program participants through working with them for two years and being in contact with them during their teaching years, she was suspicious of not being objective. In order to solve

this puzzle, she used some strategies. She made it voluntary so as not to force them, also she made a speech during the pre-interview in which she highlighted the importance of being objective for the goodwill of this oTPD program. The participants were objective throughout the study in terms of mentioning both positive and negative points about the oTPD program.

- the steps of design. It was not easy to handle all of the steps of study. The researcher had difficulties in both the design and the implication stage. Since she was the facilitator of the program she obtained expert opinion from different areas throughout the study. This caused many unknown in the study. Because of some technical problems, she could not started the program as she planned. She has a *tolerance for ambiguity* (Merriam, 1998).
- gather documents. The researcher knows that being a teacher is very hard in many aspects. One is that teachers do not have enough time for themselves. She had queries at some parts of the study, especially in the 3rd week and at the last weeks of the oTPD program. She followed some steps for avoid this problem. She gave them break and some time for catching up in the 3rd week. Also, in the last weeks of the program she gave them 1 or 2 days extension to increase their participation. Besides assignments, the other problem was participation in forum sections. It was not a fully structured platform for them, because of feeling themselves comfortable. Since there were adaptation and user problems, she sent a rubric for use of the forum, making it less flexible but more structured which encouraged them to use it effectively. In order to gather enough and reliable documents, she provided detailed feedback about their performance in the 6th week of the program which encouraged them to complete

The researcher was sensitive in data collection procedures. She allowed silence from time to time and changed the direction of the interview whenever needed. She was a good listener in every step of the study. As explained above, since she knew the participants before, there were no communication problems.

3.9 Trustworthiness

Validity and reliability issues are very important in order to have a valuable study which can result in realistic outputs. There are three areas (Merriam, 1998; Yin, 2003; Patton, 2002) which need attention. These are:

3.9.1 Internal validity

To maintain internal validity Merriam (1998) suggested basic strategies:

- *Triangulation* One of the strengths of case studies is the possibility of gathering multiple sources of data, called triangulation (Yin, 2003). Multiple sources of evidence are gathered for the same facts. Patton (2002, p.556) discusses four different types of triangulation: (1) Methods triangulation, (2) Triangulation of sources, (3) Analyst triangulation, (4) Theory/perspective triangulation. In this research, triangulation of qualitative data sources was used. Observations were compared with interviews. What participants said in the forum area (general) was compared with what they said in private interviews. The consistency of the answer of the participants was checked throughout the study. The researcher checked interviews against weekly assignments, journals, forums, e-mail correspondence and the researcher's journal that are gathered from the study.
- *Member checks* The researcher sent pre- and post-interview data to interviewees in order to get their approval. In addition, right after collecting weekly assignments and giving feedback, she published them in the forum area which everybody could see and check.
- *Long term observation* The researcher tried to gather the documents over a period of time. Data collection started in June 2006 and ended in June 2007.
- *Peer examination* She asked her colleagues, members of Graduate School of Education, to comment on findings as they came out.
- *Researcher's biases* This is explicitly stated in the following section.

3.9.2 Reliability

Reliability is the term which “refers to the extent to which research findings can be replicated”(Merriam, 1998, p.205). There is a connection between internal validity and reliability, since the study is more valid if the results of the replicated study will be same. As suggested in Merriam (1998), the researcher used the following strategies for reliability

- *The investigator's position* The researcher clearly stated the assumptions of the study including her role in the previous section.
- *Triangulation* As mentioned in the internal validity section, triangulation of different sources of data was used in the study. The data were gathered from interviews, observations various documents.
- *Audit trial* The researcher tried to explain the collection, analysis of data and the interpretation of results in a report for other who may like to replicate the study.

3.9.3 External validity

External validity is related to the generalizability of the study. It is the weakest part of qualitative research design. Many people claim that it is not possible to generalize from the results of case studies. That is correct for a statistical approach, but in case studies “analytical generalization” (Yin, 2003) can be done. It means that the results will not be generalized based on population; they will be generalized based on the theory (Miles & Huberman, 1994).

As Merriam (1998) suggested, the researcher used several strategies for enhancing external validity:

- *Rich, thick description* The researcher explicitly described all of the stages of the research design in detail
- *Typicality or modal category* The researcher described the program in detail and explained why it is different than other programs in Turkey. (Since oTPD is not very common in Turkey)

3.10 The researcher's background and biases

The researcher got her B.S. from the Food Engineering department at İstanbul Technical University (İTÜ) in İstanbul. Her B.S. thesis is about frozen foods and she used quantitative methods. After she worked for three years in different private companies, she decided to change her career. She took an M.A in Biology Teacher Education program at Bilkent University in Ankara with full scholarship. She did teaching practice in different schools: Ozel Bilkent High School, Ozel Bilkent Primary School, Bilkent University Preparatory School (BUPS), Ozel TED Ankara College, Robert College. She also had two months teaching experience at Ames High School in Iowa, U.S. During the American internship she was able to observe different uses of technology in classrooms as she was based at Iowa State University Instructional Technology Department. She used for the first time wireless notebooks in high school biology lessons in Ames High School, U.S. It was a great experience for her.

After graduating from her Master program, she obtained a post at Bilkent University Graduate School of Education. There was one condition which is very important for the Director of the Graduate School of Education. The Director, wanted her to teach in a school for at least for two years while working at Bilkent as an instructor. This is because of the vision of the department which is “it is not possible to help learners to be a teacher without experience”. She taught biology and science lessons for two years. As she had the constructivist approach in mind, she tried to use it in her lessons. At the same time, she started teaching Biology Curriculum I and II, Subject Area Textbook Review, School Experience II in Biology Teaching lessons by herself. She also gave Biology Teaching Methods I and II, Classroom Management, Teaching Practice in Biology Teaching and Planning and Assessment Courses jointly. She assisted Educational Technology and Materials Development Courses for two years. Besides teaching in the university, she has been giving PD courses (Biology teaching methods, mentoring, and assessment approaches) for Turkish teachers living in other countries (Macedonia, Northern Iraq, Northern Cyprus) and teaching Biology in Turkish.

During that time, she thought about PhD and possible areas of research. Since she had a background in Biology Education, she definitely decided to do something related to that field. On the other hand, she loves technology and believes in the importance of using it

in different perspectives. She had meetings with different departments. Before giving a final decision, she took one course from Computer Education and Instructional Technology (CEIT) Department at Middle East Technical University (METU) in Ankara. After succeeding in that course, she decided to apply that program. Now she is a PhD candidate in CEIT department at METU.

Throughout the program, she was interested in the use of technology in both pre- service and in-service teacher education. She encouraged her students in the methodology course to use technology in the classroom. She highlighted the importance of student use of technology, rather than the teacher.

She was very interested in LMS when she observed a thesis of a METU assistant on her supervisor's computer. It was almost the beginning of the PhD program. She searched about it and found different studies done in that area. A few years later, the university where she worked had its own LMS and one of the designers of this program was her classmate the from PhD program. After having long discussions with him, she decided to use LMS in courses at Bilkent University. She was faced with technical problems, which she was able to overcome.

Since she was one of the graduates of the Bilkent University teacher education program, she was the contact person of the department with alumni. After the alumni conference held in 2006, she decided to work with in service teachers, because of their feedback at the conference. They all worked in different cities of Turkey, so she believes that LMS is a good tool for in-service teachers who have very busy schedules.

3.11 Limitations and delimitations of the study

The study will be limited by the following factors:

1. The data used are the participants' own views. The researcher trusted participants' reports which are assumed to be true and accurate.
2. The data is the perceptions of the participants. It may or may not show that real learning occurs. Their perceptions were supported with observations and documents.

3. As it is an accepted result of qualitative research, it cannot be generalized in terms of statistical approach.
4. The sample is limited to teachers who are teaching at private schools.
5. The oTPD program was applied almost at the end of the semester because of limitations of time. The participants were busy with exam marking and end of semester jobs. It limited the creativity of participants at some of the tasks.

3.12 Summary of the chapter

Third chapter overviewed the methodology used in the study that aimed to find out perceptions of teachers' about oTPD program. The overall design of the research is given in Figure 3.14.

Besides the chart of overall research design, research questions, sub-research questions, data collection methods and data analysis is provided as a summary in Table 3.10.

Table 3.10 A brief look to research questions, data collection methods and data analysis

Research question	Sub-research question	Data Collection	Data Analysis
What are teachers' expectations from oTPD program?	What are the teachers' expectations about the content of the TPD program?	Mainly from pre-interview	Qualitative methods
	What are the teachers' expectations about the process of the TPD program?		
	What are the teachers' expectations about the organization of the TPD program?	Triangulation with journals and forum discussions	By citation from the participants
	What should be the outcomes of the TPD programs according to teachers' expectations?		Demographic data with numbers

Table 3.10 (continued)

Research question	Sub-research question	Data Collection	Data Analysis
What are the teachers' expectations from the oTPD program before the training?		Mainly from pre-interview	Qualitative methods By citation from the participants Demographic data with numbers
How did the teachers experience oTPD program?	What are teachers' perceptions about content of oTPD program?	Post-interview Forum discussions	Qualitative methods By citation from the participants Frequency of codes that were reported Percentages
	What are teachers' perceptions about the process of oTPD program?	Online questionnaire Journals	
	What are teachers' perceptions about the context of oTPD program?	Weekly reflections	
	What are teachers' perceptions about the organization of oTPD program?	Observations Students' comments	
	What are the outcomes of the oTPD program according to teachers' perceptions?	Researcher's journal	
	How do the teachers value oTPD program?	E-mail correspondence Phone call records	
What are the facilitator's experiences with oTPD program?		The researcher's journal	Qualitative methods Quotes from the researcher

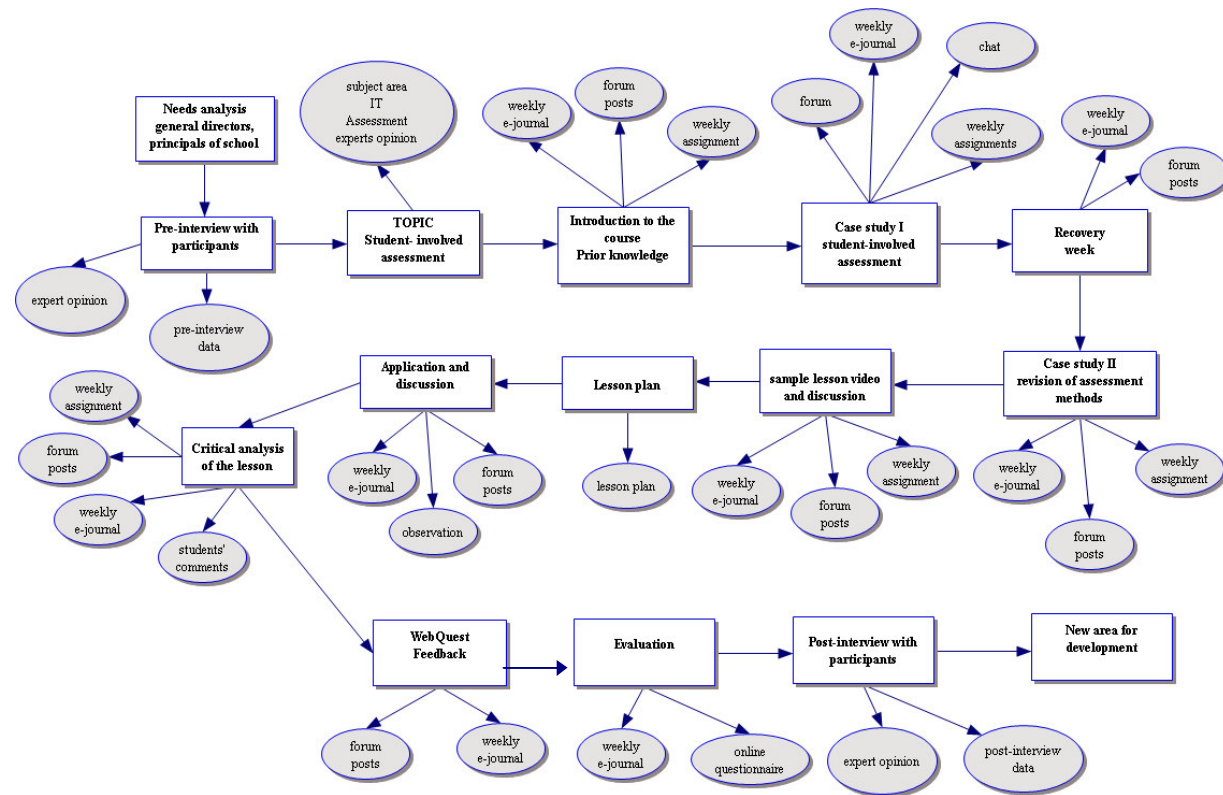


Figure 3.14 Overall research design

CHAPTER 4

RESULTS

This chapter presents findings of the research questions which were stated in Chapter 1. First, the demographic data of the participants are given in detail. Second, the previous experiences of participants about TPD, oTPD and measurement and evaluation are described as background information about the research. Then, the participants' expectations from the oTPD program in terms of its content, process, and organization, experiences of oTPD in terms of its content, context, process and organization are presented. Later, the outcomes of oTPD according to participants and the value that oTPD added to them are presented. At the end, the experiences of the facilitator are discussed.

4.1. Participants

Descriptive information about participants is important for the results of the study. The gender, age, years of teaching experience of participants, the schools where they worked, and their access to BeCampus were investigated. The data (Table 4.1) were collected through survey and pre-interview.

Nine of the ten participants are female. The ages of the participants range from 25 to 29. Seven of them were teaching biology at high schools and three were teaching science at elementary schools. Their years of experience ranged from eight months to five years. All were working at private schools. Their previous jobs were both in private and public schools. The cities where they were working were Afyon, Ankara, Antalya, İstanbul and Gaziantep.

Even though the oTPD program started with ten participants, two could not manage to complete the oTPD program. P-8 could not start the program after pre-interview because of serious health problems. P-5 left the program after five weeks because of personal problems. So eight of the participants completed the program successfully.

Their access to internet is important because of the structure of oTPD. Four of the participants (P-3, P-7, P-6 and P-10) accessed BeCampus from home as a first choice, and four of them (P-2, P-9, P-1 and P-4) accessed BeCampus from school. Three of them (P-9, P-1 and P-4) accessed BeCampus from home, one (P-2) accessed the system from a friend's home and four of them (P-3, P-7, P-6 and P-10) accessed BeCampus from school as a second choice.

Table 4.1 Information about participants

	Age	Gender	Subject area (teaching)	Experience	City	School	Access to BeCampus 1 st choice	Access to BeCampus 2 nd choice
P 1	26	Female	Biology	3 years	Antalya	Ozel Antalya College	School	Home
P 2	26	Female	Biology	3 years	Ankara	Ozel Buyuk College	School	Friend's home
P 3	29	Female	Science	5 years	Ankara	TED Ankara College	Home	School
P 4	26	Female	Biology	8 months	Ankara	Ozel Yuce College	School	Home
P 5	25	Female	Science	2 years	Istanbul	Ozel HEV Schools	Left the oTPD program after 4 weeks	
P 6	25	Female	Biology	2 years	İstanbul	Ozel HEV Schools	Home	School
P 7	28	Male	Science	4 years	Afyon	TED Afyon College	Home	School
P 8	25	Female	Biology	8 months	İstanbul	Istek Foundation School	Not start to the oTPD program	
P 9	27	Female	Biology	3 years	Ankara	Gazi University School	School	Home
P 10	26	Female	Biology	8 months	Gaziantep	Ozel Gaziantep College	Home	School

4.2. Background information about the study

In this section, participants' previous experiences about

- TPD program
- oTPD program
- measurement & evaluation

is presented to understand their perceptions about the oTPD program that researcher designed and applied by the researcher.

4.2.1. Participants' previous experiences about TPD programs

Participants' previous experiences about TPD programs were interpreted through different perspectives. They are: content, process, organization and context of the TPD programs. Besides these, the participants' positive and negative comments were added. The data were gathered from pre-interview and weekly e-journals.

4.2.1.1 Participants' previous experiences about the content of the TPD programs

Topics of the TPD programs

The participants experienced eight categories as TPD program topics summarized below and in Table 4.2. These are:

- inter-personal and intra-personal development
- methodology
- measurement and evaluation
- curriculum
- instructional technologies (IT)
- classroom management
- subject area
- psychology

The inter-personal and intra-personal development programs they experienced are about: reflective use of voice, thinking methods, Neuro Linguistic Programming (NLP) and total quality management. Three out of ten participants experienced TPD topics given above.

The TPD methodology programs experienced are discussion and use of case studies in teaching, peer education, efficient teaching methods. Four out of ten participants had experienced the topics given above.

Four out of ten had a TPD program about general measurement and evaluation topics.

Two of them mentioned TPD programs concentrated on curriculum studies such as the new curriculum in Turkey and also International Baccalaureate (IB) programs.

Three out of ten said that they had a TPD program on IT. The topics they concentrated on are use of computers in teaching, integration of technology into curriculum, and learning how to use some computer programs.

As a classroom management TPD program, three of the participants reported that they had training in time management in classroom, general classroom management techniques, and conflict management techniques.

Four of the participants reported that they had subject area related TPD programs such as astronauts, space and ecology.

The last category is psychology, which was stated by three of the participants. The specific topics are personal development of school kids, school, parents and adolescence, and learning psychology.

Table 4.2 Experiences of participants in terms of topics

Topics	Frequency
inter and intra personal development	3
methodology	4
measurement and evaluation	4
curriculum	2
instructional technologies (IT)	3
classroom management	3
subject area	4
psychology	3

4.2.1.2 Participants' previous experiences about process of the TPD programs

The process of the TPD programs consists of instructional activities.

Instructional activities

It was stated that participants experienced five different instructional activities. These are:

- Use of hands-on activities
- Presentation
- Whole group discussion
- Group work
- Lecturing

The frequencies of each are given in Table 4.3.

Table 4.3 TPD experiences of participants in terms of instructional activities

Instructional activity	Frequency
Use of hands-on activities	2
Presentation	7
Whole group discussion	5
Group work	2
Lecturing	8

As given at Table 4.3, lecturing was the most experienced method since eight out of ten participants mentioned it. Group work and use of hands-on activities were the least experienced ones, since only two out of ten mentioned them. Whole group discussion was stated by five participants.

4.2.1.3 Participants' previous experiences about the organization of the TPD programs

This section consists of the timing and duration of the TPD programs.

Timing of the TPD programs

The timing of the TPD programs was different from one participant to another. They had TPD programs during seminar period which is the last week of August and first week of September and the last two weeks of June right after schools closed; school days, weekends and summer holiday.

Six out of ten had TPD program during seminar period. Three of them had it before school starts and two after the school closed for the summer holiday.

Three of them experienced TPD programs during school days, but after the end of school at 16.00.

One participant stated that she had it at weekend, and one during the summer holiday.

Table 4.4 Experiences of participants in terms of time

Time of the TPD program	Frequency
Seminar period	6
School days	3
Weekend	1
Summer holiday	1

Duration of the TPD programs

Participants experienced TPD programs in the long term and the short term. Two of them pointed out that they had a long term TPD program: every day for two weeks, every other day for six weeks. Seven stated that they had short term TPD programs which lasted for one to four days and two to five hours. And just one participant experienced both long and short term TPD programs.

4.2.1.4 Participants' previous experiences about the context of the TPD programs

Three out of ten participants said that they had TPD programs out of school. The places where they went were schools' outside facilities, university campuses and hotels. Six participants experienced TPD programs in school. One of the participants experienced both places.

4.2.1.5 Participants' positive comments on TPD programs

All participants stated positive comments about TPD programs. They described their positive experiences as

- sharing ideas among people and departments
- learning new information
- discussion platform
- self assessment and revision of the topics.

One of the participants explicitly stated positive comments as follows

It was useful in terms of looking at myself and evaluating my current status. As a second point, it was useful for revision of the topics that I experience at school. I remembered whether I used them or not. I had a chance to see other people's point of view. I shared my friends' ideas [P-9, Interview (I)-1].

Another participant touched on a different point and stated, "You are learning new information. Or you are considering something that you know but you have not tried yet" [P-3, I-2].

Different issues were raised by the following participant, who also stressed some of the previous comments. She stated

It forces us to give importance to the relationship among departments. In one of the TPD programs, we assessed the homework that we did as teachers. It was different to see other teachers' perspectives. For example, I found Physical Education teacher's perspectives towards my lesson different than I was thinking of.

It helped me to find out my weak points. We shared daily life issues [P-6, I-3].

4.2.1.6 Participants' negative comments on TPD programs

All of the participants commented on negative points that they experienced during TPD programs.

Instructional activities

Five of the participants mentioned about the instructional activities of the TPD programs. One stated that

I was not personally happy with the presentations. More care could have been given. It seems like the trainer prepared it at last minute. If the TPD program was provided with the support of visual materials, I will enjoy it better” [P-9, I-4]. Another participant commented on instructional activity as “Just the presenter is speaking for too long and it is very boring. It does not matter how interesting it is, after some time the concentration decreases” [P-8, I-5].

Trainer

Three of the participants commented on the qualifications of the trainers. One of them stated that

For example, they are coming and starting talking and going on. They are telling us about use of voice, etc., but they are not doing it by themselves. The trainers are always academicians, so theoretical information is super, but some of them do not know how to apply it in real classroom [P-10, I-6].

Another comment which supports the previous one is “Some of the trainers have unnecessarily elongated topics. Again and again same topics, it is too boring. If it is shorter, it will be more effective” [P-8, I-7].

Expectations

Just one of the participants mentioned about not meeting the expectations of the audience. He said, “My expectations are really high from the TPD programs, if not met by the trainer, it is really discouraging” [P-7, I-8].

Timing

Four out of ten made comments on timing of the TPD programs. They do not like after school or weekend trainings due to their restricted time. One of them reported

Timing of the TPD program is a problem. The school finishes at three o’clock. The school administration announced that there is going to be a TPD program at five o’clock which may end at seven. Teachers are thinking of going home and thinking of the other responsibilities such as kids and spouses [P-10, I-9].

Duration

Duration of the TPD programs is a concern for eight of the participants. They think that just one or two hours a seminar in one week is not enough. One of them stated that “It is not good to have TPD programs just in 2 weeks. You asked about the topics that I had

TPD program, I can hardly remember them. I wish that it is a longitudinal program” [P-4, I-10].

Feedback

Related with the duration, they were not happy at the end of the TPD programs because of not having feedback about their performance. They thought that without personal continuous feedback, it is not possible to improve themselves.

Topics

Five of the participants commented on the topics of the TPD programs. The topics should be different and interesting and also it should not be too general. One of the participants reported that

I want TPD programs to be more specific. Some of them are too general. For example, they talked about students and their life, but not touched teacher student interaction in details. They should definitely and specifically mention that area [P-3, I-11].

Level

One of the participants mentioned about the levels and interests of the audience. According to her, the levels of the audience should be similar to each other. Also the level of the TPD program is very important. It should not be too high or too low level. That's why the trainer should search audience background while preparing the TPD program.

4.2.2 Participants' previous experiences about oTPD programs

Except for one of the participants, none of them had experienced an oTPD program before. The one experienced was not like that designed by the researcher. It was more like an open source which was prepared by *Massachusetts Institute of Technology (MIT)*. She observed “Introductory Biology” course at that site. The participant commented on oTPD as follows

At weekend, when I was reading newspaper, I found out that MIT let people access courses online from all over the world. I checked it. The course I checked was about general biology lesson. There were lesson handouts and videos of the instruction. Moreover, there is a section where you can find questions about the topic [P-4, I-12].

The participant spent just two weeks in this program. There was only one-way interaction. It was not possible to make contact with the trainer and also individual feedback was not provided. She continued to comment on this program

The courses are limited and not easy to download because it is not fast. The videos are slow and because of language sometimes it is not possible to catch every word of the instructor. Lecturing is very good. But you need to listen to it two or three times. Examples are very satisfied. For example, while he was teaching the structure of the brain, he brought a real brain to the class [P-4, I-13].

This is the only experience with a program which is similar to oTPD program in some aspects.

4.2.3. Participants' previous experiences about measurement and evaluation

The data is split into three sections. These sections are:

- Measurement and evaluation techniques that participants used
- Strong points in measurement and evaluation
- Weak points in measurement and evaluation

4.2.3.1 Measurement and evaluation techniques that participants used

The participants used both formative and summative assessment in teaching. The most common one was written exams at some intervals. They also used performance-based assessment, portfolio checks, experiment reports, oral exams, presentations, worksheets, quizzes and models. The frequencies of measurement of assessment techniques that participants used are given in Table 4.5.

Table 4.5 The frequencies of measurement and evaluation techniques that participants use

Measurement and evaluation techniques	Frequency
Written exams	10
Oral exams (questioning-answer)	2
Portfolio	7
Presentations	6
Laboratory reports	8
Quiz	4
Projects	5
Notebook/File	3
Models	2

One of the participants summarized what she used with an example as follows

Traditionally, we have three written exams per semester. Other than that we have performance assessment. We assess students' laboratory reports. With the new education system, we made some changes. For example, last semester we gave homework related to germination, and students observed it for two weeks and wrote a report and we marked them [P-3, I-14].

Participants also raised important issues such as self-assessment which is used in teaching for different purposes. One of them stated that

We are using self-assessment especially in their laboratory reports. While they are submitting it, they also assessed their own report by using a rubric. It is very useful for students to see what they did or missed. There are still some problems that we have to work on in self –assessment [P-3, I-15].

Another participant stated, “Besides us, students are also assessing their own portfolio. This gives them a chance of seeing their missing points and understanding the position of a teacher” [P-7, I-16].

Three of the participants reported the importance of feedback when talking about assessment. One of them stated, “I prefer written feedback. I tried oral feedback, even though it is more useful, it is taking a lot of time” [P-6, I-17]. They think that feedback is important; and every individual should see her/his own performance with a relevant comment from the participant. Here is a comment from one of them

After marking students' exam papers, I am surely distributing their papers with my written feedback on them and also I am giving marking scheme. The students are checking their papers against marking scheme and looking at my feedback. We are also answering each question one by one by questioning. If there is any point that they do not understand, they are coming and asking me during break time [P-4, I-18].

After discussing general issues, participants mentioned measurement and evaluation departments in schools. One of them stated, “Even though there is a measurement and evaluation specialist at school, the teacher should be knowledgeable and improve herself” [P-6, I-19]. They also shared their strong and weak points in measurement and evaluation.

4.2.3.2 Strong points in measurement & evaluation

All of the participants feel powerful in different areas of measurement & evaluation. They find themselves strong in the following areas:

- Question preparation (different types of questions, different levels of questions)
- Teamwork in measurement and evaluation (preparation, decision making, standardization meetings for exam markings)
- Rubric preparation and use
- Marking students' work (marking question by questions, standardization meeting within the department) and feedback
- Questioning skills (distribution of question, recording students' performance afterwards)

The frequency of strong points in measurement and evaluation is given in Table 4.6.

One of them stated

As a department we are working together and deciding measurement and evaluation policies of the department. We are good at preparing rubrics. We are using it and having difficulties from time to time. Based on these difficulties, we are improving the one that we prepared.

I think that I am good at questioning skills. Furthermore, I am comfortable with marking exam papers. It takes 4 hour per class, since I am marking paper question by question [P-6, I-20].

Table 4.6 The frequencies of powerful points of participants in measurement and evaluation

Powerful points	Frequency
Question preparation	3
Teamwork in measurement and evaluation	2
Rubric preparation and use of them	2
Marking students work	5
Questioning skills	2
Feedback	2

As stated above, most of them felt themselves strong at marking of students' work. It is partly related with good marking scheme and criteria that they defined as rubrics.

4.2.3.3 Weak points in measurement and evaluation

Eight of the participants made comments in this section. They found themselves weak in the following areas:

- Measurement and evaluation types (peer assessment, self assessment, question types, in class assessment)
- Feedback

One of them stated, “I am not good at using peer and self-assessment in class. I should improve it and use it effectively” [P-3, I-21].

There was one comment about class evaluation: “I should improve my dialogues in class assessment. Sometimes I ask very complicated questions, that students even could not understand... So in that case it is not fair to assess them” [P-8, I-22].

Feedback was the other area that they need to improve according to three of the participants. One of them stated:

I tried to give students feedback but I could not find time. That’s one of the problems. The other one is when we are checking questions one by one during feedback session, the class discussed questions among themselves. It makes chaos in class [P-7, I-23].

They all stated that they wanted to improve weak points, learn and work on new assessment techniques.

4.3 Research Question 1: Participants’ expectations from TPD program

The participants stated their expectations from oTPD through the pre-interview that the researcher did. Their expectations from oTPD program were related to their expectations from TPD programs. Because of that, participants’ expectations from TPD in terms of its content, process, organization and outcomes were explored. Later, how they value the oTPD before the training was investigated.

As a summary, participants were expecting a useful and relevant program, which may concentrate on methods, measurement and assessment, classroom management, foreign language or guidance. They were expecting to have TPD program at weekend or seminar period. They wanted to have case study, hands-on activity, online program and discussions as instructional activities. As a facilitator, they stated that they need well organized, feedback provider, accessible expert who can use variety of activities. They were expecting to have a long term program, not a one-shot training.

4.3.1 Research Question 1.1: Teachers expectations from the content of the TPD program

The participants mentioned about the importance of usefulness and relevancy of the content. Based on their expectations, teachers need TPD programs in classroom management, measurement and evaluation, teaching methods, instructional technology, foreign language, guidance. The details of each topic with frequencies are given below.

Table 4.7 The frequencies of contents that participants need TPD

Content	Frequency
Classroom management	4
Measurement and evaluation	6
• Exam preparation	
• Peer and self assessment	
• Marking	
Teaching methods	6
Instructional technology	5
• Web based learning	
• Animations	
Foreign language	2
Guidance	2

One of the participants made a comment about the different needs of teachers because of different backgrounds and added her need as follows:

Every teacher is equipped with different tools, so their needs are different. For example, I need TPD in instructional technology. I wanted to make my own animations. Also I want to provide online support to my students. I want them to get course materials online before I distributed to them [P-6, I-24].

Also they highlighted that they need TPD program in measurement and evaluation. P-1 reported:

I need TPD program about measurement and evaluation, but not a general one. It has to be specific. For example, it may be about assessment of performance based assessment. These questions can be answered: How am I going to mark that type of work? What are the points that I have to be careful while marking? [P-1, I-25]

4.3.2 Research Question 1.2: Teachers expectations from the process of the TPD program

Participants highlighted expected instructional activities and the qualifications of the expected facilitator.

4.3.2.1 Expected instructional activities

In the pre-interview, participants stated instructional activities that they would like to have in TPD programs as

- Case study
- Hands on work
- Online program
- Discussion

The frequencies of them are given in Table 4.8.

One of the participants reported, “I would definitely like to see concrete examples. Case studies are very useful according to me” [P-4, I-26].

Another comment was about hands-on work. “I am hoping to do things hands-on. Prepare material, get feedback from the trainer and then use it in class like an experiment” [P-3, I-27].

Table 4.8 TPD experiences of participants' in terms of instructional activities

Instructional activity	Frequency
Case studies	3
Hands on work	6
Online program	7
Discussion	8

Participants did not like lecturing alone. One of them stated, “Definitely not just lecturing. The TPD should include videos, and sharing should be used in an enjoyable way” [P-6, I-28].

There were some comments about the use of Power Point Presentations (PPT) in TPD programs. One of them stated, “PPT is effective up to one point. Always using the same instructional activity is boring. I should wonder about the next step. The trainer should use different methods throughout the TPD program. I also believe that hands-on activities are very effective” [P-8, I-29].

The last quotation is from P-10 who reported and highlighted the importance of hands-on work in TPD programs.

When hands-on activities are used by the trainer as an instructional activity, the information is more permanent. When it is trainer centered, I could not remember when a trainer comes and gives lectures. On the other hand, I can remember what I learn and who gives training when I do it with practical [P-10, I-30].

4.3.2.2 Expected facilitator

The participants were expecting to have a trainer who is an expert in that area. They wanted to have access to the trainer whenever they need. According to them the trainer should use different types of instructional activities in different sessions. S/he should give appropriate feedback for their improvement.

4.3.3 Research Question 1.3: Teachers expectations from the organization of the TPD program

In the pre-interview the teachers commented on time and duration of the expected TPD program.

The participants were expecting to have TPD programs at weekends or seminar times. P-1 stated “It can be at weekends, from morning to lunch time” [P-1, I-31]. They did not want to have it after school. One of them commented as follows:

It was so good to have TPD programs during seminar time after schools are closed Teachers have already finished whatever they have to do. Instead of sitting and doing nothing, it was very useful to have TPD program. I personally do not like TPD programs which are after school. You are already tired at the end of the school day, and you have millions of things in your mind and at top of these it is not effective to have TPD program [P-10, I-32].

All of the participants wanted to have an ongoing TPD programs. They stated that there has to be continuity. They did not prefer two or three hour sessions. They would rather have one semester TPD programs through which they can progress slowly and permanently. One of them reported “It is not logical to have it in just one week. You are learning something new in the session, but later there is discontinuity and you forget to apply what you have learned” [P-8, I-33].

Based on continuous TPD programs in terms of duration, one of the participants mentioned a different type of TPD program. She stated:

There has to be a prior step in TPD programs and has to be specific to the teacher. The trainer should observe first 20 minutes of the teacher’s lesson and take some notes. After observation, s/he may discuss it with the teacher. And decide on further steps which should be followed by both the trainer and the teacher. This interaction has to be continuous at least for a semester [P-4, I-34].

4.3.4 Research Question 1.4: Teachers' expectations from the outcomes of the TPD program

The aim of TPD program: according to participants was divided in to three categories. These are: (1) for teachers, (2) for students, and (3) for the school.

For teachers, TPD programs should

- improve teachers' abilities
- improve qualifications of the teacher
- help to get maximum capacity from the teacher
- help new teachers in induction period
- motivate teachers
- follow up new regulations and follow up changes in school community

According to participants, with the list given above, it helps students

- to improve themselves
- to be motivated
- to learn in a better way

For the school, by providing TPD programs to the teachers, the school gives importance to its teachers and students. It also enhances the reputation of the school.

4.3.5. Research Question 2: Participants' expectations from the oTPD program about the advantages and obstacles of it

When participants were asked about their expectations from oTPD program, they commented on both the positive and the negative sides of oTPD program. The following sections describe both views about oTPD program. The data was gathered from pre-interviews conducted before the program started.

As a summary, before attending oTPD program, participants were thinking that flexibility and versatility, possibility of building teachers community and self-paced timing are

advantages of oTPD program. Where as, lack of face-to-face interaction, technical problems and having more flexibility are obstacles of oTPD program.

4.3.5.1 Participants' positive views about oTPD program

Participants commented on three headings that cover the advantages of oTPD program. These are: having flexibility and versatility, building community among teachers, having self-paced training. The frequencies of each are given in Table 4.9.

Flexibility and versatility

The first point raised by 8 of the participants is flexibility. They mentioned flexibility of place. One of them stated, “You do not need complicated physical conditions. If you have a computer and an internet access, you are in the system” [P-3, I-35].

The participants mentioned lack of time since they are all working as full time teachers. Flexibility in terms of study time and access time is the most commented one. P-1 reported that

You do not have to be somewhere at a specific time. You can study whenever you want and whenever you are ready to study. At some days I am very tired and I do not want to do it, so I am not doing it. I have the flexibility of completing my work in a given period of time [P-1, I-36].

Building community among teachers

The second point they highlighted was about building community among teachers. One of the participants stated, “Since it is an oTPD program, I am hoping to have different classmates from different schools and parts of Turkey. I want to share information by discussions with these teachers” [P-8, I-37].

Self-paced training

The third point, mentioned was about learning by themselves in a given time. P-7 said:

I am very slow at reading course materials and commenting on them. I do not like to pass to the second task without finishing the first one properly. oTPD program will give me a chance to decide when to go to the further step. Thus, I am the one who decides the timing of tasks to complete according to my pace. I really like it [P-7, I-38].

Table 4.9 Frequencies of participants' positive views about oTPD program

Positive views	Frequency
flexibility and versatility	8
<ul style="list-style-type: none"> • Place • Time 	
building community among teachers	5
having self-paced training	3

4.3.5.2 Participants' negative views about oTPD program

Participants commented on the disadvantages of oTPD program as having more flexibility, not having face-to-face sessions, technical problems. The frequencies of each are given in Table 4.10.

More flexibility

One of the participants stated, "For some people, that much flexibility may cause a problem. We may try to skip some parts of the oTPD program" [P-3, I-39].

No face-to-face sessions

Another comment was about just online interaction. P-5 reported, "Sometimes I am afraid of having just online interaction. It is not possible to see people's facial expressions and reactions in an online environment. Also it is not possible to discuss everything online" [P-5, I-40].

Technical problems

The third point that participants mentioned is about possible technical problems. They thought that downloading documents may take some time, and internet access may be a problem.

Table 4.10 Frequencies of participants' negative views about oTPD program

Positive views	Frequency
having more flexibility	2
not having face-to-face sessions	2
technical problems	7

4.4 Research Question 3: Participants' experiences of the oTPD program

This section focuses on participants' perceptions about the oTPD program in relation to general issues, its content, process, organization, context, outcomes and values. The data may contribute to the development of new oTPD programs for participants. Several data sources were analyzed in order to find participants' views. These data sources were post-interviews, forum discussions, online questionnaire, weekly e-journals, weekly reflections, observations, students' comments, e-mail correspondences and phone call records.

The views of participants were organized according to the themes that the researcher formed as a frame and then she updated it throughout the data analysis stages. These themes were content, process, organization, context, outcomes and suggestions.

In the following section, all of these themes were elaborated separately with sub-headings. Section given below, which is, general impressions about oTPD program summarizes this research question.

4.4.1 Participants' general impressions about oTPD program

At the beginning of the post-interview, participants stated their positive and negative comments about the oTPD program. All of the participants had positive statements. Besides positive comments, three of the participants had negative views. This information was checked against their weekly e-journal, and it was seen that there was a consistency between two different data sources.

4.4.1.1 Positive statements

The participants stated that oTPD was motivating, entertaining, time saving, successful, a feedback supplier, helpful to improve self, very well organized, beneficial, supporting exchange of views. For example one of the participants reported:

Generally, it was not time consuming. That's why I really liked it. I studied whenever I wanted to study. It helped me to improve myself. I have a chance to

see other people's views. In other words, I incorporate my development in a good period of time [P-9, I-41].

Besides improving participants' professional view, it helped students to improve themselves.

Especially, the hands-on part added a value to the oTPD program. When I gave responsibility to students, I observed unexpected behaviors from the unexpected students in a good way. I got very good feedback from students. I think that it was a very good experience for students in terms of their development. At the beginning I had negative feelings about student-involved assessment, but later I saw that it is very useful [P-6, I-42].

The participants also mentioned about getting feedback from the oTPD program. One of them stated:

As human beings, we like doing the same things regularly. This causes lack of having different perspectives. This oTPD program gave me a chance to look at myself and see what I am doing as a teacher. That's why it was very useful. I checked what I am doing in measurement & evaluation. In some parts, I see that I am doing more than I thought. In some areas, I was surprised that I forgot to use some of the techniques that I learned. It was very beneficial, because it provides me feedback as I explained above [P-3, I-43].

Since it was an oTPD program, there were comments about online training. They liked online training since some of them were familiar with computers. One of them stated that: "I had fun when I was using the system. Besides learning new things about teaching, I learned about use of computers in education. It helped me to improve my computer skills as well" [P-4, I-44].

Participants commented on an advantage of oTPD program as having people from different parts of the country at the same program. One of them reported that

I had a chance to see other participants' ideas about topics. Also good to see what other schools are doing. Sometimes I felt that we are missing some points as a school, so I used it as a feedback. It was not easy to collect teachers from different parts of the country. Online environment facilitated it [P-10, I-45].

4.4.1.2 Negative statements

The participants who had negative views stated three reasons: timing of the program, not having face to face discussions and technical problems. Two of the participants stated there were technical problems and one of them commented on not having face-to-face sessions. Three participants claimed wrong timing of the oTPD program.

One of them said, “This was my first oTPD program experience. I had fun, but at the same time I should confess that I had difficulties in accessing to the system. It was not because of the program itself. It was because of connection problems” [P-2, I-46].

Another comment was about not having face-to-face interactions. She said, “It was an online program. We did not see each other throughout the program, so we did not have a face-to-face discussion environment” [P-2, I-47].

As a third issue, they commented on timing of the oTPD program. It was given in April, May and first two weeks of June. Three of the participants stated that especially the last two weeks of the program were the busiest weeks of them.

4.4.2 Research Question 3.1: Participants’ perceptions about the content of the oTPD program

Participants answered general questions about the content of the oTPD program immediately after the program in an online questionnaire. The summary of participants’ general perceptions about the content of the oTPD program is given in Table 4.11.

Table 4.11 Participants’ general perceptions about the content of oTPD program

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. The content of this program was clear and easy to understand.	87.5% (7)	12.5% (1)	0.0% (0)	0.0% (0)	0.0% (0)

Table 4.11 (continued)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
2. The content in the program followed logical order.	87.5% (7)	12.5% (1)	0.0% (0)	0.0% (0)	0.0% (0)
3. The program contributed to my knowledge and understanding in the topic area.	62.5% (5)	37.5% (3)	0.0% (0)	0.0% (0)	0.0% (0)
4. The amount of information and work contained in the program was reasonable.	100.0% (8)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
5. This program was a useful professional development tool.	87.5% (7)	12.5% (1)	0.0% (0)	0.0% (0)	0.0% (0)

Seven of the participants strongly agreed that the content of this program was clear and easy to understand and the content in the program followed logical order. One of them also agreed but not strongly. Five strongly agreed that the program contributed to their knowledge and understanding in the topic area. Three of them agreed with it. All of the participants stated that the amount of information and work contained in the program was reasonable. Seven of them strongly agreed that this program was a useful professional development tool. One of them just agreed with the other seven.

This was the general information about participants' view. In the following section, participants' detailed comments were presented.

Participants expressed their opinions about the content of the program in terms of relevance and level of the topics.

4.4.2.1 Relevance

The participants mentioned about two points under relevance section. They stated whether oTPD program's content is suitable for their TPD or not and whether it is meaningful or not.

All of the participants thought that the content is meaningful and relevant to their professional development. One of them said, "Of course the content was relevant to my TPD. One of the major jobs of the teacher is measurement & evaluation" [P-6, I-48]. It was consistent with this participant's e-journal entry which is, "Actually, I am really wondering how students can be involved in assessment. You know, it is teachers' responsibility. It seems that I can approach this issue from different perspectives. This will be a good experience for me" [P-6, Journal (J)-1].

Another participant mentioned about the use of assessment in each lesson. She stated, "As teachers, we are using assessment strategies in every lesson" [P-1, I-49].

Specifically, one of them highlighted that student-involved assessment was an important part of assessment to which schools are giving value. She said, "By the way, I participated 9th IB Day in TED Bursa. One of the sessions was completely related with self assessment of students. I was proud of sharing my thoughts that I learned from your articles with the other colleagues in IB Day" [P-4, J-2].

The participants also stated that it was meaningful because all of the content was designed step by step. There were different learning activities throughout the oTPD program. According to all of the participants, it was good to have hands-on activity in the oTPD program. One of them said, "The best part is the hands-on activity. It makes the oTPD program meaningful. Without applying what you learned in the real classroom with real students it is meaningless" [P-6, I-50].

4.4.2.2 Usefulness

oTPD program's content was useful according to participants. Because:

- participants learned a new assessment technique which affects their instructional method

- as well as the participants, their colleagues in the department also benefited from it by checking oTPD program content
- it effected positively participants' future plans about assessment
- it facilitated cooperation to share documents such as worksheets, handouts, etc. other than course related materials
- it helped them to think about other issues related to teaching while watching a lesson as a course material
- they shared their idea in an online environment
- changed participants' perceptions on student-involved assessment
- participants remembered assessment techniques that they have already known
- it promoted use of English

Four of the participants stated that student-involved assessment was a new assessment strategy. One of them stated, "I learned a new assessment technique. As I said at the beginning, this is something that I will never think of. I tried it and it was a great success" [P-10, I-51]. There were comments from participants in their e-journals as well. One of them wrote, "Second week, we discussed advantages or disadvantages of involving students in assessment. I can say that I start to consider different things by the help of this course because I have not thought of this issue up to now" [P-1, J-3].

There were some activities in the oTPD program which engaged participants' colleague who were not in the oTPD program. P-2 wrote in her e-journal:

This week my colleagues were engaged in my online lesson. We discussed many issues about student involvement. Class activities, assessment techniques, written and oral exams etc...They shared their ideas but they were surprised of my tasks and questions. They said that, they were analyzing a very different issue. According to colleagues, they have already been applying all tasks in the assessment methods table without awareness. They evaluated all titles and commented on them [P-2, J-4].

The participants claimed that it was very useful in terms of sharing what they learned with their colleagues. So the departments where they work also benefited from it. One of the participants said

The sample lesson that we watched was very useful. I used the technique that she used. I showed materials and the videos of the lesson to my colleagues, they all liked it. I also prepared a lesson similar to the sample lesson and used it. It was not just useful to me. It was also beneficial for my colleagues who wanted to learn something new [P-9, I-52]”

Participants said that they are planning to use what they learned in this oTPD program in the future. One of them said, “I will make some changes and use it next semester. Students asked whether we will do it one more time or not after we practiced it. I may use it for poster marking” [P-10, I-53]. Besides commenting at interview, they also mentioned the future use of this technique in their e-journal. One of them wrote:

I am planning to enlarge its use in the future in my lessons. Most probably a combination of student involvement in assessment and portfolio will be used as a future experience [P-6, J-5].

They stated that with the help of oTPD program they have a chance to share documents such as worksheets, handouts, and lesson plans. One of them said, “The lesson plans that we shared among us were very effective. We did not use it directly but we inspired from them” [P-10, I-54].

Participants benefited from the content of the program not just for measurement and evaluation and also for other teaching related topics. One of them stated, “While I was watching the sample lesson, different points got my attention. I not only concentrated on the assessment techniques, but also observed the teacher’s relationship with students, her classroom management and even use of board” [P-2, J-6].

All of the participants stated that oTPD programs’ content helped them to share their ideas in specific topics. It was stated, “The content of this week is more enjoyable. We can share our ideas with each other more actively. We can ask questions and we can answer each other. By this way, we can benefit our experiences and our knowledge which enhance our mind about teachings and techniques” [P-3, J-7].

Some of the participants said that they have negative views about the involvement of students in the assessment process. But after having such step by step sessions they were convinced and started to think in an opposite way of their initial thought.

All of the participants stated that they had a chance to remember what they learned in the university about measurement and evaluation. One of them reported:

At the beginning of this week's assignment, I opened my old files that I made in Bilkent, I realized I did very useful things but now I do not apply them. So I think by using this web site and assignments I can apply them as much as I can [P-1, J-8].

Use of English was the last comment about the usefulness of content according to participants. Since it was English medium oTPD program, participants reported that they had to use English even when sending e-mails to each other. So it was very useful, in terms of using academic and daily life English. P-10 stated:

Somehow we were forced us to use English in every part of the oTPD program. If I would not have been in such program, I will never use English in that period of time in my daily life. It was very useful, because I was about to forget some of the terms [P-10, I-55].

4.4.2.3 Level

Six of the participants thought that the content was at correct level. Two of them said that generally it was easy. However, one of them had problems while writing comments for some of the case studies, since she could not understand them. The other one had a problem in the first two weeks of the oTPD program as she was new to it.

4.4.3 Research Question 3.2: Participants' perceptions about the process of the oTPD program

Participants commented on qualities of facilitator and the planning of the oTPD program as a process of the program. The data were gathered through post-interview, online questionnaire and participants' weekly e-journal.

4.4.3.1 Facilitator

In this section, participants stated characteristics, preparation and credibility of the facilitator. According to them, the facilitator of the oTPD program was determined, hardworking, modest, patient, helpful and a guide.

According to them, helping the participants was a crucial feature of the facilitator. One of the participants stated:

According to me she was so sufficient in every aspect. Whenever I had a problem, I sent an e-mail to her and she instantly replied my e-mail. Sometimes, I sent an e-mail to her and then disconnected from internet to wait for her reply. Two days after sending an e-mail to her I connected to internet and checked my e-mail, I see that she has already replied my e-mail two days ago [P-2, I-56].

Another participants share his comments in his e-journal. He wrote:

One week, I had a problem while submitting my assignment. I sent an-e-mail, but could not get response in an hour. I had to leave home and before leaving, I have to submit my assignment. I called her by phone. She answered the phone and after discussion on the phone, we found a solution and my problem was over [P-7, J-9].

Participants also mentioned about the preparation of the facilitator. They all highlighted that the oTPD was very well organized and planned. “According to me, every detail was considered. All of the activities we completed were well organized and planned” [P-1, I-57]. Another comment was from P-9: “The course was prepared in advance. Whenever you were checking first week, you got a chance to see what you are going to do in tenth week. The order of the topics and assignments were satisfied” [P-9, I-58].

They also commented on their weekly e-journal. One of them wrote, “The instructions that the facilitator provided were very clear. They helped me very much. It is very nice to see the tasks separately. I could do them step by step” [P-4, J-10].

While the participants were discussing the credibility of the facilitator, they highlighted the feedback that they got from the facilitator. One of them expressed her feelings as

I found the feedback that I got very useful. Every week we got feedback, based on our assignments. Sometimes she was writing it as a general feedback as a forum discussion, sometimes detailed individual feedback. The facilitator provided full feedback in the middle of the program as a chart and a written comment to each of us. It showed our performance from the beginning to the middle of the program. It was so nice to have it in the middle of the program, instead of at the end of the program [P-10, J-11].

4.4.3.2 Planning of the oTPD program

Participants commented on the general planning of the program, consisting of instructional activities including materials and techniques, objectives of the program, and the order and balance of the coursework.

Instructional activities

Participants stated that different learning strategies were experienced by them throughout the program. These are

- reading case studies and notes about the topic
- forum discussions on different issues on weekly basis
- writing assignments, self reflection and forum
- watching a sample lesson
- hands-on activity in class
- WebQuest

Participants' general views of these activities, gathered from the online questionnaire, are given as Table 4. 12.

Table 4.12 General views of participants about the learning activities

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The "reading assignments" contributed to my knowledge and understanding.	62.5% (5)	37.5% (3)	0.0% (0)	0.0% (0)	0.0% (0)
The "forum discussion" section helped me to understand others' views.	62.5% (5)	25.0% (2)	12.5% (1)	0.0% (0)	0.0% (0)
The "writing activities" contributed to my knowledge and understanding	75% (6)	25% (2)	0.0% (0)	0.0% (0)	0.0% (0)
The "watching a sample lesson" activity appears to be appropriate and useful.	100% (8)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

Table 4.12 (continued)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The "hands-on activity" appears to be appropriate and useful.	75% (6)	25% (2)	0.0% (0)	0.0% (0)	0.0% (0)
The "WebQuest" contributed to my knowledge and understanding	87.5% (7)	12.5% (1)	0.0% (0)	0.0% (0)	0.0% (0)

From the post-interview, their views asked about the most and the least useful activity. Their responses are given at Table 4.13. Three of them stated that the most useful activity was “watching a sample” lesson. Two of them said, “the hands-on activity was the most useful one”. The other two thought that the “forum” discussions were the most useful activities. Just one of the participants gave “WebQuest” as the most useful.

As a least useful activity, three of the participants stated that all of the activities were useful and they could not decide on the least useful one.

Table 4.13 Participants’ views about the most and the least useful activity in the oTPD program

	The most useful	The least useful
The "reading assignments"		
The "forum discussion"	2	
The "writing activities"		4
The "watching a sample lesson"	3	
The "hands on activity"	2	
The "WebQuest"	1	1

Reading assignments

The participants mostly enjoyed the weekly readings. The readings were more effective at the beginning of the program according to participants, because later they concentrated on the application of what they have read. They stated that they did their reading almost

every week, because they have to do reading even for forum discussions. One of them stated, “It was good to see what people working in that area are doing. I enjoyed doing reading about student-involved assessment from a textbook. Other than that I did reading almost every week, like reading my friends comments at forum section” [P-7, I-59].

Another comment was about reading that participants did on a case at a high school. One stated, “I like reading the story of Emily. I put myself into her teacher’s and parents’ situation. I dreamed the school environment that I read” [P-6, I-60].

P-3 shared her comments in her journal. “The readings we are provided with were well chosen. Both the "story" and the "Flower". Thank you for your creativity. I liked the idea of putting a flower as a frame; I may adapt it in my own classroom” [P-3, J-12].

Forum discussions

Most of the comments about forum discussions were positive. They mostly liked the way of interaction among themselves. One of them stated, “When I was reading others comments, I feel like I did not think about it before. I also have a chance to write down my comments about my friends ideas” [P-7, I-61].

Participants pointed out that because of being so sensitive and not to discourage others, they could not express themselves easily every time. They preferred not to reply some of the messages. P-2 stated her impressions as “It is a good way of self criticism for me. Also reading other participant's ideas on the forum is interesting. Sometimes I find them innovative, sometimes a bit conservative. But I still do not feel comfortable to reply or discuss” [P-2, J-13].

One of the participants was not experienced in using forums, so she had difficulties in the beginning of the oTPD program. She stated:

At the beginning of the program I was not motivated for the use of forum discussions since I do not know much about it. I learned what forum is in this program. When you learn how to use it correctly, it is really beneficial [P-1, I-62].

Writing activities

Participants did writing throughout the course since this course was online. They did different types of writing activities such as responding to forum, weekly assignments and weekly e-journals. Most of the comments about writing activities were about e-journals. Some of the participants enjoyed writing on it. P-10 stated:

I liked keeping an e-journal. I was writing what I did during the week. How can I say? It was like talking to a friend. When I could not finish my tasks on time, my journal was also the best place for writing my excuse. We also had a chance to write down our comments about the weekly assignments [P-10, I-63].

Some of them were critical about the e-journal in terms of have to keep it weekly. P-9 stated, “I did not like keeping an e-journal. I wrote the same things every week. I am not totally against it, may be having it every three weeks. For example, there may be a section about the expectations and then journal section” [P-9, I-64].

Some of the participants stated that it was boring from time to time, since they were restricted at the topics that they have to cover every week. They suggested having more freedom while keeping e-journals.

Watching a sample lesson

All of the participants stated that they benefited much from the sample lesson that they watched online. They said that it was useful in different ways such as having chance to observe qualities of the teacher. One of them stated:

I did not just concentrate on student-involved assessment. In addition, I observed different things in the lesson. For example she made a simple mistake. I put myself into her position and thought about what to do in the same situation. Sometimes I feel that I am making same mistakes or good points. I checked how she managed the class in a chaotic situation. I wish that we had more sample lessons to watch [P-3, I-65].

Another positive comment was about showing them a real picture of applying a student-involved assessment in a classroom. She stated:

I think that the sample lesson that we watched was very useful. While I was watching it, I had a chance to see possible problems that may occur in such a case in the classroom. I understood that the quality of the rubric that I prepared,

motivating students are very important points. Seriously, I had prior knowledge about what I will be faced with, with the help of this sample lesson [P-6, I-66].

The participants also commented on watching a sample lesson in their journals. P-10 wrote:

I think that it is a good idea to watch this type of activity. I have not imagined how we involve students into assessment part like this. I thought that assessing short answer question can be difficult if students are involved in assessment. But I realize that it is not difficult. Thank you [P-10, J-14].

After watching a sample lesson the participants asked to plan a lesson with the same strategy as student-involved assessment. They prepared lesson plans and materials and sent to the facilitator of the program and got feedback from her. Right after making changes based on the feedback, they applied it in their classrooms. The following section includes their comments about the hands-on part of the oTPD program.

Hands-on activity

In the pre-interview most of the participants mentioned the importance of performing what they learned as theory in a real classroom. In the post-interview and their weekly e-journal, they stated their comments about the application activity. The researcher also observed three of the classrooms that were in Ankara while the participants were applying student-involved assessment.

One of the participants stated, “The most helpful activity was the hands-on one. I laughed at some of the points that I experienced in class, because they were all same as those in the sample lesson that I watched two weeks ago” [P-7, I-67].

The participants stated how they were inspired to use a similar technique from the lesson they watched as a sample. P-9 wrote on her journal:

This week’s activity is very effective and open to give new strategies. I think the teacher that we observed did a good example of student involvement though it is a little bit time consuming. I was inspired from her style while preparing my lesson plan. I have chosen viruses because I am teaching it in my 9th grades. I thought that I must make my students work by themselves. My activity will make them work on same paper for a lesson. They will read the questions and answers. They will create an answer key and evaluate exam paper [P-9, J-15].

The comment above was about the preparation part of the hands-on activity. Afterwards, she commented on how it went:

I applied my lesson plan for this course. Everything was OK about it. All students were engaged in the activity. Actually they used to make my DARTs , handouts and worksheets.

I have chosen a silent class for assessment application. They read the questions and the other paper materials. I was surprised that they were very serious on evaluation process. They were like professional teachers. Some students said, 'Teacher! I feel that you trust me by doing such an activity. Do you really believe in us.' Some were anxious and excited They reported that marking and evaluating was strange and a job of elders.

When I asked them what about learning, I mean the learning dimension of it; they said that it was a short-quick review of viruses. According to them, I have chosen a good way of teaching [P-9, J-16].

The researcher observed three of the classes which were in Ankara. The participants applied student-involved assessment in class. After the hands-on activity the researcher gave a feedback session to the participants. She got comments from them. One of them stated, "I really enjoyed using this new technique. I think having you in the classroom had a positive effect on me and the students. The best way about doing it is as we know: Things will be remembered most when you do it, not just read it from a textbook" [P-2, Observation (O)-1].

WebQuest

This activity was used in the last weeks of the oTPD program. All of the participants were familiar with WebQuest since they had learned it in the technology course at Bilkent University. They stated that they benefited from the activity in different ways. Examples were trying to complete different paths of the activity in a given time which includes integrating friends in the department and remembering how to use WebQuest in education. P-1 wrote in her journal, "I had a chance to remember how we use WebQuest, and think about why I am not using it in my class. I inspired from you, so next year I will include WebQuest into my teaching. Once more I realized the benefit of them" [P-1, J-17].

One of the participants highlighted the importance of the topic and how the activity fits with the topic. He stated:

I liked the web pages you gave us that are part of WebQuest. It was a good reference in terms of what to consider while giving feedback to students. Also the placement of the topic perfectly fits into the whole syllabus. The steps of the activity were carefully planned. It was fun to prepare power point presentation to my colleagues [P-7, I-68].

Objectives of the oTPD program

All of the participants said that the objectives of the oTPD program were stated clearly. Besides the general objectives, weekly objectives were also provided, according to participants' comments. One of them stated, "We knew all of the objectives before we started to do program. It was clearly explained by the facilitator before the oTPD started. Also the aims of each week were defined" [P-6, I-69].

P-2 stated, "During the pre-interview, you clearly explained the aims of the course. The ones who missed them or wanted to review them can easily find them in the online course syllabus. The weekly aims were given in every week's task" [P-2, I-70].

Time allocation

The content given in a week was appropriate according to six of the participants. One of them stated, "The time allocation for activities was fair enough. Even though I was teaching twenty hours per week, I had time for completing weekly tasks" [P-7, I-71].

On the other hand two of them thought that they needed extra time in some of the weeks for getting more from the oTPD program. According to them the content was loaded especially in the first two weeks of the oTPD program. P-4 stated, "I tried my best for completing tasks on time. But sometimes, especially second week of the oTPD program, there are too many tasks to complete. I submitted some of the assignments late" [P-4, I-72].

4.4.4 Research Question 3.3: Participants' perceptions about the context of the oTPD program

In this section participants expressed their comments on the learning management system that was used in oTPD program. The data were gathered from post-interview, weekly e-journals and forum discussions. First, their general comments about BeCampus and then the advantages and disadvantages of it were covered. Finally, the technical problems that they experienced were discussed.

4.4.5.1 General impressions about BeCampus

Seven out of eight participants stated that BeCampus was a well organized tool. One of them stated, "This is my first time with a system like that. The information that it has was sufficient. I did not have any difficulty while using it" [P-9, I-73]. P-6 commented on the nature of the system. One of them said, "The designers of the system did a good job, because the technology was directly integrated to the lesson" [P-6, I-74].

Participants also commented on the design of the BeCampus. One of the participants explained her comments:

It was a good system. In one of the videos that you recorded and shared with us at the beginning of the program was a person who worked in the design of this system. He gave short information related to the design of the system and the tools that they used. I was somehow familiar with LMS since we used a similar system in Educational Technology course [P-10, I-75].

4.4.5.2 The advantages of LMS (BeCampus)

The participants stated the advantages of BeCampus as

- flexibility about the timing of the program
- flexibility about the place of the program
- gathering people that are from different parts of the country
- increase responsibility
- individual decision on the pace of the weekly tasks

All of the participants stated that there were flexibility about the timing and the place of the program. P-3 stated:

In one weeks time, you logged on whenever you found time. That was a great advantage. After that you also decided how long to stay in the system. May be you will finish your work in ten minutes may be in one hour. But if it was a real classroom environment you got just 40 minutes to complete the tasks. You used time based on your need [P-3, I-76].

In the first week, one of the participants wrote on her journal, “The other good opportunity about this system is that it is not obligatory to meet with classmates somewhere at a certain time”[P-2, J-18].

They also commented, “People do not need to go to classrooms. The learning environment is at home or school in front of a computer” [P-7, I-77].

In an online questionnaire, they ranked flexibility of timing highest, which was given in Table 4.14.

Table 4.14 Why participants choose oTPD program

	Response Percent	Response Count
I was told to study the program using this delivery method.	37.5%	3
Convenience/ease of access	75.0%	6
Flexibility of completing the program on my own time schedule	87.5%	7
I like to work by myself.	62.5%	5
I was most comfortable with this method.	62.5%	5
When using this method, I was not concerned with privacy, example, feel free to ask question	25.0%	2

In addition to the points written above one of the participants stated that it was also good for saving the trees, since paper was not used in oTPD programs.

4.4.5.3 The disadvantages of LMS (BeCampus)

Besides advantages, the participants mentioned the disadvantages of the system as

- not having a classroom environment
- facing with technical problems
- lack of motivation

- not easy to do reading from a computer screen

P-9 stated, “it is sometimes better to study in a classroom environment. Face-to-face sessions can be integrated with online environment” [P-9, I-78].

Another participant wrote in her journal, “BeCampus was a good way to communicate with the rest of the group members. But the only problem was that it does not give you a chance to be social in your group like you are in a classroom” [P-2, J-19].

All of the participants had at least one technical problem. The problems were about internet connection, uploading coursework and downloading course materials.

Two of the participants had internet connection problems. One of them stated, “I had a problem about internet connection at home. It was about ADSL connection and modem. I sorted it out by myself” [P-10, I-79].

Two of the participants also had trouble in uploading files to the system. One of them had a problem because of the facilitators’ fault during assigning coursework. 12 am was chosen instead of 12 pm, so even though they had twelve hours for submission, they could not submit it. Right after getting in touch with the facilitator, the problem was over. P-6 wrote her problem as

I can not submit my work. It claims that I can not ‘because I am late’. But due date was till 12 am for 15th of April. Due date has to be tonight, is not it? I can not attach my new document as well. It says no submission. How am I supposed to do? [P-6, Forum (F)-1]

In the forum section called ‘technical problems’, the facilitator responded to her problem quickly in the forum section. She replied, “I made necessary changes in the system. Now you can upload files easily. Sorry for that problem” [Facilitator, F-2].

For downloading course materials, participants had two different types of problems. One could not open some of the documents because of high level protection of school or home computers. Some of the participants’ computers have firewall as a protection, so it did not let them open some documents. In the first week P-9 had the problem written above and

sent her comments to forum area, “I did have some problems while downloading files. But I think this is because of my P.C.”[P-9, F-2]. One of the participants replied to that message, “I had same problem when I was trying to download some documents from internet. Later, I found out that it is because of protection system of the computer” [P-7, F-3]. The facilitator did not reply to that message, because that was a good start at the beginning of the program in terms of making contact with each other.

The other problem and the most referred one was downloading the videos in the fifth week. Except one of the participants, all had a problem with the third section of the video about a sample lesson. They highlighted it in different sources such as e-journal, forum and post interview. P-4 wrote in her journal, “BeCampus was a bit of a problem for me. I do not know why only I had a problem to see the last section of the third video” [P-4, J-20]. There were several comments similar to the one written above.

4.4.5 Research Question 3.4: Participants’ perceptions about the organization of the oTPD program

Participants commented on points related to the organization of the oTPD program. These were:

- Organized activities
- Getting resources in a timely manner
- Solving problems quickly and efficiently by the facilitator
- Easy access to facilitator and the materials

Participants stated that the activities and the tasks were all organized. P-4 stated, “All of the topics were organized. There was a consistency between the topics. The end of one week was a beginning for the next week” [P-4, I-80].

Participants mentioned that they have all of the resources at the beginning of the week, and have one week to complete assignments. They stated that that was consistent throughout the program.

They also highlighted that all of their problems were solved by the facilitator immediately and it was easy to access to the facilitator. The details were given in the previous section which includes the qualities of the facilitator.

Except one of the participants, all had easy access to the materials. The one who had a problem stated her problem as “I had access to all materials whenever I had an access to internet” [P-2, I-81].

4.4.6 Research Question 3.5: Participants’ perceptions about the outcomes of the oTPD program

In this section, participants’ perceptions about the abilities that the training improves and the things that they learned were interpreted. The data was gathered from post-interview, weekly e-journals, forum discussions and weekly assignments. Participants’ students’ comments are included as well.

The list of things that participants learned is below.

- Student-involved assessment steps
 - Preparation of a lesson plan including student-involved assessment
 - Think about possible problems and take precautions
 - Application of it in the classroom
- Online education
- Preparation of different types of worksheets
- Using technology
 - Uploading a file
 - Using forum
- Self assessment and criticism
- Not to have prejudice about new techniques
- Details about giving feedback to students
- Learn their colleagues’ opinion about assessment techniques
- Time management
- Learn about the other participants’ views on topics
- The effect of using something new in the classroom

- The importance of including students in different committees in school
- Having same problems within the group and have a chance to see different solutions
- Remember the meaning of being a student

All of the participants stated that they learned about student-involved assessment during the post-interview. P-7 said, “I learned whether students can be involved in assessment or not. According to me they can. I learned the points that I have to consider while applying student-involved assessment in the classroom” [P-7, I-82].

After they watched a sample lesson, student-involved assessment was used in the fifth week. Participants made comments about that lesson, including some points which reflects what they learned. P-4 wrote in a weekly assignment:

Yes I think that it was an effective student-involved assessment. But there are some points that teachers should be more careful such as: preparing a rubric, giving a chance to students to assess all answers on their own at first. [P-4, weekly assignment (A)-1].

After watching and commenting on a sample lesson, they prepared their own lesson plan. One example of a lesson plan with materials is given as Appendix G. They wrote in their weekly journal that the sample lesson that they watched inspired them. One of them wrote on her journal:

I am very satisfied with this week’s activity which is preparing a lesson plan that includes student-involved assessment. I learned how to integrate student-involved assessment in my lesson including possible threats that I may deal with [P-1, J-21].

Participants applied their lesson plans in classes after getting feedback from the facilitator of the course. They prepared reports after doing it in class. Some of the participants also sent photos of the classroom, given below.



Figure 4.1 Classroom views during “student-involved assessment” application 1 ¹



Figure 4.2 Classroom view during “student-involved assessment” application 2 ²



Figure 4.3 Classroom view during “student-involved assessment “application 3 ³

^{1 2 3} Permisson from a school is granted for the photos.

After participants applied their lesson plans in the classroom, they made comments about their experiences. In their reports they also included students' comments. P-10 wrote on her weekly assignment:

Before starting this virtual campus program, I had a question mark in my mind "how can I get students' attention on the correct answers when I have explained the questions which are answered wrongly by students?" Now I know the correct answer of this question. If I involve students in the assessment part, they actively engage in the class and learned their mistakes. Maybe they will not do same mistakes again. Also they had an opportunity to learn their friends' answers and sometimes we gave decision about the answer was correct or not with together. I thought that it also helped them to understand the subject [P-10, A-2].

The teacher used forms for assessing themselves while applying student-involved assessment in classroom. These resources also give clues about what teachers learned from this experience. One of these completed forms is given as Appendix H.

Participants gathered data from their students through different ways such as a short questionnaire, interviews and general questions to the whole class. They learned what their students' were thinking about student-involved assessment.

Most of the students said that they enjoyed this activity. Some of them wanted to do it everyday. Some said that they had difficulty giving marks to themselves. They said that they can do this activity at the end of the each topic to repeat it and added that the technique is beneficial to see their mistakes as students. They stated that they can learn from their mistakes. However, some students cannot be honest while they are giving the marks so teachers should monitor students very well. Their teachers can save more time for themselves if the students read and mark the exam papers. One student told the teacher that he felt very strong as she gave him responsibility and trusted his ideas. These were the issues that participant learned about student-involved assessment.

Participants stated different issues learned in this oTPD program (see a list in the beginning of this section). One of the participants stated, "I remembered how hard it is to be a student. We worried about completing our tasks on time. I learned about time management" [P-7, I-83].

Also participants said that they learned not to have prejudice about new techniques in class. P-3 stated, “I was assuming that student-involved assessment is not easy and beneficial. I learned that it is easy and it is very useful for students. It is also motivating for students to be active in class” [P-3, I-84].

There were comments about online learning as well. P-4 stated, “I learned more about using a computer, and also about the sections of online learning. I have a chance to see how hard distance education is” [P-4, I-85].

4.4.7 Research Question 3.6: The value of the oTPD program according to participants’ perceptions

The participants commented on the value of the oTPD in different steps of the research under four headings. First, their comments about why they chose to be part of this program was presented, and then their thoughts about the context of the program which is online environment and also the new assessment technique that they learned. Later, they stated whether they wanted to participate in oTPD program or not in the future with their reasons. Lastly, participants’ suggestions for further oTPD programs were presented. The data were gathered from online questionnaire and post interview.

4.4.7.1 The participants’ reasons for attending oTPD program

Eight of the participants stated that their first reason was improving themselves. P-2 wrote in an online questionnaire, “The first reason was to improve myself and my knowledge”. Besides learning new information they stated that it was a good chance to review what they learned in the university. P-6 wrote, “I wanted to learn more things about assessment. I wanted to remember some points that I have learned before. I wanted to learn new methods in assessment. I wanted to criticize some points that are questions in my mind.”

The other comment is about attending an online learning program, which is their first experience. According to P-1, it was a perfect chance to join such a kind of online activity. It was her first time in online learning and she wants to work with the facilitator

again. One of them specifically wrote that she learned the advantages and disadvantages of distance education.

One of the participants stated that she wanted to learn her friends' views about some issues in assessment. Related to that point, P-7 stated that he wanted to learn what other teachers do and thought. Two of the participants have not finished their first year of teaching, so they were inexperienced teachers. P-10 wrote, "I want to learn new things about education because I am a one-year experienced teacher. I believe that this program affected my opinion about the assessment process."

4.4.7.2 Participants' general comments on online learning and new application they learned

From online questionnaire the data were gathered about participants' preferences about the context of oTPD program. Their responses are given in Table 4.15.

Table 4.15 Participants' preferences about the context of the oTPD program

	1	2	3	4	5
Online (web-based instruction)	50% (4)	37.5% (3)	12.5% (1)	0.0% (0)	0.0% (0)
Instruction through CD- ROM delivery	0.0% (0)	12.5% (1)	25.0% (2)	37.5% (3)	25.0% (2)
Instruction through printed (hard copy) programs	0.0% (0)	12.5% (1)	12.5% (1)	37.5% (3)	37.5% (3)
Face to face staff development workshops (meetings, conferences, 1-2 day sessions)	12.5% (1)	25.0% (2)	0.0% (0)	25.0% (2)	37.5% (3)
Formal classes	0.0% (0)	0.0% (0)	37.5% (3)	25.0% (2)	37.5% (3)

*1 is the highest ranking

As seen from the Table, the participants highly valued online learning when compared with other contexts. The participants were also asked in their online questionnaire how they valued the oTPD program. Their views are given in Table 4.16. It could be interpreted from the data in the table that most of the participants preferred oTPD to meetings and workshops. They stated that they chose oTPD because they can control their schedule since they are very busy as teachers. They also stated that they will seek other opportunities to pursue professional development through online activities.

During post-interview they were asked whether they want to join oTPD program again, with the reasons. As they stated in the online questionnaire that they want to have another oTPD in a different topic, all of the participants said that they will look for other opportunities of oTPD program. Their reasons are

- self paced learning
- no need to travel
- not time consuming
- improve themselves in many aspects
- online learning
- having a chance to complete other jobs at the same time
- being aware of new fashions
- having information about what other schools are doing
-

P-9 stated, “I definitely want to join oTPD again, because I am completing my tasks according to my schedule. Also we are living in a big city, where it is not possible to travel easily. It is really time consuming” [P-9, I-86].

Another participant stressed the success of this program, which affected future decisions about oTPD program. She said that

I want to join another oTPD program, because time flies. With the help of this program, I felt my improvement. It did not consume much time. I completed my other jobs while I was attending oTPD program. I am proud of this program. I told my friends about it. They also wanted to participate in such a program. Doing something for your improvement is very good. Also oTPD program was really successful [P-3, I-87].

P-10 mentioned the importance of sharing information. She stated that

I want to attend another oTPD program, because I will learn something new. I will try different teaching techniques. Besides that, it was really good to share materials with colleagues. Also it was good to know what other schools are doing. For example, I learned what teachers are doing at TED schools in terms of exam preparation and marking [P-10, I-88].

The participants also commented on the value of the new application learned. They all stated that they are going to use it in the future. P-6 said, “I am going to use student-involved assessment for portfolio assessment. I have to revise some of the materials that I prepared, since I used it for poster evaluation” [P-6, I-89].

Table 4.16 How participants value oTPD program

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Online learning is effective when utilized as an integral part of professional development.	87.5% (7)	0.0% (0)	12.5% (1)	0.0% (0)	0.0% (0)
I prefer online professional development program to meetings and workshops.	50% (4)	25.0% (2)	12.5% (1)	12.5% (1)	0.0% (0)
I think I learned as much from an oTPD program as I would have from a workshop on this topic.	37.5% (3)	37.5% (3)	25.0% (2)	0.0% (0)	0.0% (0)
I will seek other opportunities to pursue professional development through online activities.	75.0% (6)	25.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)
I prefer online format for professional development because I can control my own schedule.	75.0% (6)	25.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)
I prefer workshop or group professional development because I feel that learning is largely a social experience that oTPD program does not offer.	0.0% (0)	0.0% (0)	25.0% (2)	50.0% (4)	25.0% (2)
I believe oTPD is more effective than other methods I have experienced.	25.0% (2)	50.0% (4)	25.0% (2)	0.0% (0)	0.0% (0)

4.4.7.3 Participants' suggestions for the further oTPD programs

Participants had suggestions in four different areas. These were related to content, process, context and organization.

The participants would like the facilitator to use more sample videos and other visual materials. According to one of them, games could be used in this environment. Two of them mentioned the use of group work in the oTPD program. One of them stated that she would like to see more case studies. One of the participants suggested completing an extended study at the end of the program. Four of the participants stated that they were very happy with the application part, may be having more than one application throughout the program would be better. Some of the participants stated that journals should not be weekly. It is better to write it every other week and also the format of the journal should be more flexible. One of the participants suggested watching their own recorded lessons and having discussion groups based on their own lesson.

Two of the participants stated that there should be detailed orientation in the beginning of the program. Since they were new to LMS, they could not understand some of the points.

Changing the timing of the program was suggested by five of the participants. They stated that it is better to have oTPD program right after the beginning of the second semester. They expressed that they need time at the end of the semester for completing school work.

All of the participants said that it will be really very nice if they form an online community composed of science teachers graduated from GSE. P-1 wrote in an online questionnaire, "We can continue to share our lesson materials with our learning community by using this virtual campus".

4.5 Research Question 4: Facilitator's experiences of the oTPD program

The facilitator had two headings from her experiences during the design of an oTPD program and conducting an oTPD program. The facilitator gathered data from the detailed journal that she kept throughout the research study.

4.5.1 Design of an oTPD program

Design of an online program started in June, 2006 and ended in March, 2007. The timeline of the design phase was given in the third chapter. It was composed of different steps and each step had challenges according to the facilitator.

The idea of this study started after the alumni conference at Bilkent University Graduate School of Education department. Data was gathered about the needs of the alumni from different sources such as formal and informal individual and group discussions. It was not easy to gather all of these data from different records and records of different people in the school. The facilitator did data analysis in order to set up needs analysis. That was not enough for the needs analysis, especially for the topic of the oTPD program. It was discussed with the thesis supervisor. He suggested asking expert opinion about the needs of teachers. It was thought that it would be useful to ask general directors' or principals of schools opinion. It was meaningful since most of these directors employ alumni as teachers in their school. It took almost ten days to gather all data from them. The data were analyzed and the topic of oTPD program was decided according to the data analysis. It was good for the facilitator, because she was experienced in assessment and measurement. The topic was narrowed down to student-involved assessment after discussing with an expert from the area.

Course material preparation was quite challenging for the facilitator. A good textbook was researched from the internet, which was partly provided to participants. Bilkent University's and Middle East Technical University's library was checked as well. Recording video was another important task of the program. An appointment was fixed from the teacher who was going to be recorded. The application was discussed with the teacher. She kindly accepted to apply the new technique in the classroom. Dates were fixed and the facilitator recorded the lesson with the school and parent permission.

The decision about the order of the activities should be given carefully considering the adult learning theories. It was concentrated to get the prior knowledge of the participants. As many learning activities as possible were included. The necessary changes as needed throughout the oTPD program were made.

4.5.2 Conducting an oTPD program

First week The facilitator was very nervous, especially the first few days. The system was checked all day during the first day of the program. Some of the participants had technical problems that were sorted out quickly. The facilitator was very willing to use all of the tools that she got. A day and hour for voluntary chat session was set, but it did not work well, since participants were very busy with many other things. Three of the participants did not submit their tasks. Grades for each task were allocated, but it was thought that these types of programs should be graded as pass or fail, that means no grading but a feedback for each task. Individual feedback was provided which was hard, because of not giving them face-to-face. All of the details should be written down as talking with the participant.

Second week: There were three late submissions. The facilitator was happy with the participants' comments. The participants started to discuss in the forum section, the facilitator felt that it was not easy for them. E-journals were read and it was decided making some changes in the course such as adding group work activities. A task that needs forming groups was planned to be added, but decided not to use after the end of second week. It was understood that participants needed some time off. Getting in touch with one of the participants was tried to since she had not done any of the coursework from the beginning.

Third week: It was an off-week for participants, since they needed time to catch up. For this week, a forum section was opened about participants' feeling about having a week off for catching up.

Besides giving individual feedback to participants, the facilitator wanted them to see each others' thoughts about weekly tasks. There was a forum section in which they discussed issues, but in this area they did not have a chance to see other participants' views on a given assignment. A solution was found. The last assignment sent by participants was waited. Then, a summary of what participants submitted as an assignment was prepared, and put into the forum section under feedback heading.

The use of the forum was a query, so it was decided using different techniques to encourage them to discuss weekly issues. Firstly, since she was aware of the literature

about online discussions, she chose not to give answers to every question. She encouraged participants to make comments for each others' question or find solutions to questions. It worked, but not as the facilitator expected, so she changed her technique. A rubric for forum use was prepared, posted on the forum area. A positive feedback about the use of the forum rubric was gathered from the participants.

Forth week: According to the facilitator, everything was settled, since she got e-mails from participants saying that they had caught up and the facilitator helped them by guiding through e-mails. This was the easiest week, since participants started to warm up to the oTPD program.

Fifth week: This week was about watching a sample lesson on student-involved assessment. There was a 45 minutes film. The facilitator wanted to put it as an attachment to the system, but there was a file size limit for uploading a video. Her supervisor helped her and put it into the system by streaming. The video was splitted into three sections. The videos were checked several times and they were all working fine. Throughout the week, participants wrote messages about the videos. Some of the participants had problems while downloading them. The system was too slow according to participants, so the facilitator had a difficult time and replied to e-mails several times. It was sorted out before it caused a big problem. At one point, the facilitator thought about sending CDs of a sample lesson to participants. She thought about it before the oTPD program started as a back up plan.

At the end of the fifth week, a detailed written feedback was prepared to all of the participants including their grades and overall comments about the participants' performance. It was not easy to do it online since they also had a right to say a few words about the facilitator's feedback. They tried to sort out that problem by sending e-mails back and forth. The facilitator felt herself very comfortable since she had provided overall feedback for the last five weeks, which was half of the oTPD program.

Sixth week: Participants were warned about the coming week, which was an application of student-involved assessment in a classroom. The participants all prepared lesson plans, except one of the participants who was having a timing problem. She could not cope with school work and oTPD program at the same time. She sent the facilitator an-e-mail to

explain her excuses about not submitting tasks on time. The facilitator thought that it was not so good, since she was about to lose one of the members of the group. She started to judge the workload of the oTPD program. Since the rest of the group members were able to cope with it, she thought that the excuse of P 5 was not because of the program.

This week's feedback was time-consuming. The participants prepared lesson plans and materials. The facilitator checked all of them and gave written feedback by using the "reviewing" tool of Microsoft Word program. They revised it and sent it to the facilitator one more time for checking. It worked really well. The system was checked more frequently for not missing any of the assignments.

Seventh week: This week was exciting for the facilitator as the participants were going to apply what they learned in the oTPD program in a classroom. One of the participants misunderstood the task so the facilitator needed to explain it again to this participant. So it was understood that individual differences can be observed in an online environment easily. Participants were very willing to share what they did in the forum area. The facilitator was happy with their performance. One of the participants also added screenshots from the lesson in which she used student-involved assessment.

Three of the participants who work in Ankara were observed. It was good to see the participants and also the application, since it was different than reading comments of the participants about the lesson.

Eight week: This week participants wrote their reflections about the lesson that they had taught previous week. As a facilitator, it was good to see their reflections about the lesson. The participants also added students' comments about the lesson. It was an effective feedback for the facilitator, so notes were taken for future oTPD programs. Comments were written on the participants' reflection papers (Appendix I)

Ninth week: It was almost the end of the program. WebQuest was used as an instructional activity. The participants were all familiar with it since they learned about it when they were students at the Graduate School of Education. The facilitator recognized timing problem of participants since only three of them submitted their tasks on time, so the due

date of the weekly assignment was decided to be extended. That worked well and participants submitted their tasks.

Tenth week: That week was used for three days extension of the previous week's task and also for course evaluation by using an online questionnaire. Several online questionnaires were checked but since *Surveymonkey* was tried before, she decided to continue using it. The problem faced was the restricted version of online questionnaire. It did not let her prepare more than ten questions. Two sections for the questionnaire were decided to be prepared. Questions were showed to the thesis supervision committee members and got approval from them. The link was sent out to the participants. All of the participants completed them fully. The facilitator looked forward to seeing their comments.

4.5.3 The experience triangle of the designer

The designer was the researcher and the facilitator of the study. The steps of triangle are: access to experts and participants, changing process, materials and technical issues. The experience triangle of the designer is given in Figure 4.4.

The key element of the design process was needs assessment since it led to the selection of the topic. For needs assessment, access to experts who are the general directors of schools was important. It took time and special arrangements, since such experts were busy and had many responsibilities. The second element of the first step in the experience triangle is the participants. The program was voluntary program for participants, and they were invited to join the program via e-mail. Since they were the users of the program, their needs analysis and feedback were crucial.

The facilitator and designer are written together at the one side of the triangle because the facilitator wore her designer hat throughout the program in order to make changes based on participants' feedback. That is why the designer wrote "changing process" in the second step of the triangle. As an example, it can be stated that there was a break in the third week based on participants' feedback even though it was not scheduled.

Choosing materials was also a challenge for the designer. Different resources for learning activities were searched. There was a variety of weekly learning activities such as case studies, reading materials, video of a sample lesson, hands on work and self reflection papers, all of which need material selection and design.

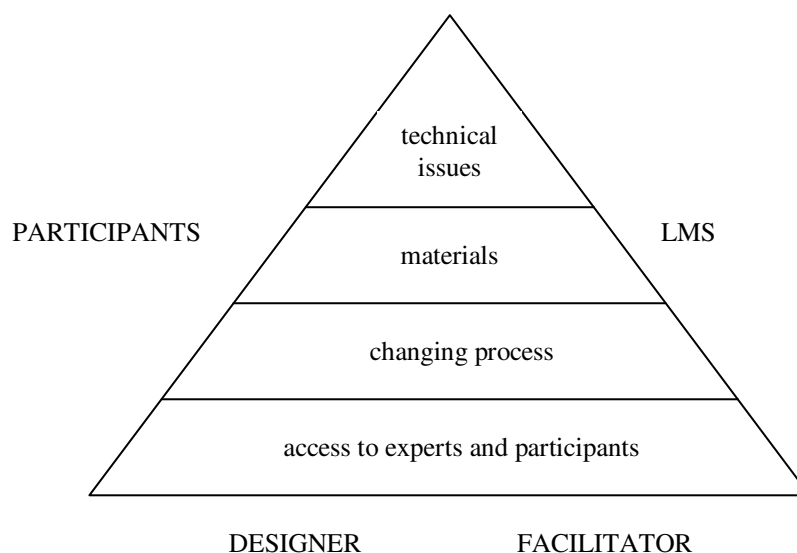


Figure 4.4 The experience triangle of the designer

Technical issues were the least experienced aspect, since the LMS had already been designed by the Meteksan Company. The only problem was about the uploading of videos of experts and sample lesson. That problem was solved by an expert from technology.

4.5.4 The experience triangle of the facilitator

As stated above, the researcher was the designer and the facilitator of this oTPD program. Many issues about the design and implication of the program were learned by experience. The experiences of the facilitator were given in a triangle in Figure 4.5.

Immediate feedback was the most important factor in oTPD program, since it was not possible to meet with the participants face-to-face. The facilitator gave 230 feedbacks through e-mail, forum and phone calls. The individual written feedback about weekly assignments was around 115. The number and length of feedback comments changed from one week to another. That was a time consuming process because words have to be selected carefully in order to give detailed and accurate feedback.

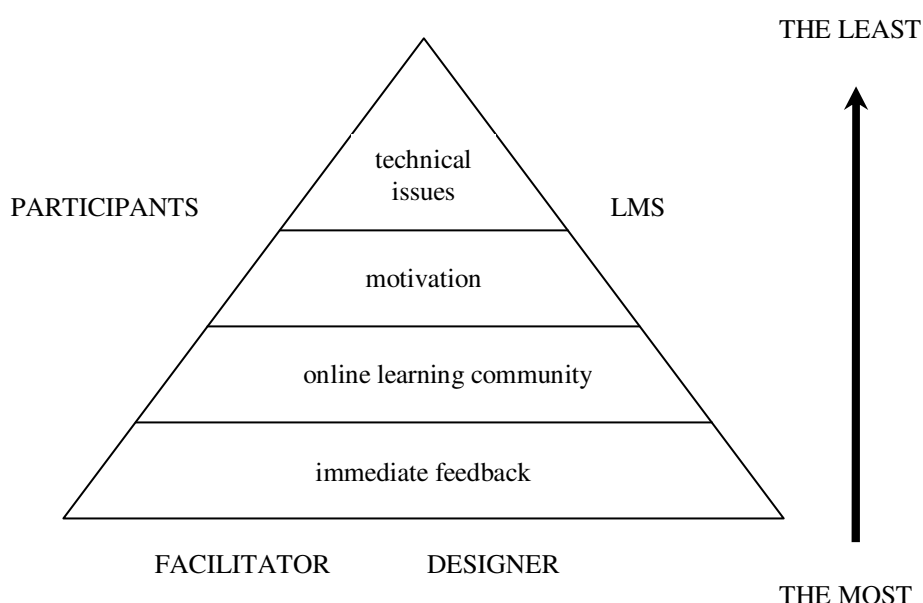


Figure 4.5 The experience triangle of the facilitator

The facilitator felt herself to be a part of the online learning community that was formed by the participants and their colleagues. There was participant-participant, participant-facilitator interaction and also interaction with the colleagues of participants from different schools. Sometimes the interaction was just one way, but most of the time it was two way. Ideas, materials, impressions, expressions and problems were shared in that program.

Throughout the program, the participants' responses were a motivator factor for the facilitator, as was the facilitator's reply to the participants. Efforts were made to be consistent throughout the program with regard to giving feedback and responding to the participants' questions or comments. It was observed that the participants' responses to

other participants were also an encouragement for effective interaction. The importance of encouragement and motivation in oTPD program were experienced.

Major technical problems were not experienced during the program. The participants had some problems about downloading and/or uploading files, so solutions to their problems were attempted with the participants' contribution. There was a discussion platform for technical problems, and participants were encouraged to find out solutions to each others problems.

4.5.6 Summary of the results

The summary of this chapter is composed of three parts: the background to the study, participants' expectations from TPD and oTPD program\ and their perceptions of oTPD program.

4.5.6.1 Background to the study

As a background to the study the teachers' previous experiences with TPD, oTPD programs, and measurement and evaluation were investigated. They are summarized in Table 4.17.

Table 4.17 Summary of the background to the study

<i>TPD Experience</i>		
Content	Topics	<ul style="list-style-type: none"> • inter-personal and intra-personal development • methodology • measurement and evaluation • curriculum • instructional technologies (IT) • classroom management • subject area • psychology

Table 4.17 (continued)

TPD Experience		
Process	Instructional activities	<ul style="list-style-type: none"> • use of hands-on activities • presentation • whole group discussion • group work • lecturing
Organization	Timing	<ul style="list-style-type: none"> • seminar • after school days • weekend • summer holiday
	Duration	<ul style="list-style-type: none"> • short term • long term
Context	Place	<ul style="list-style-type: none"> • schools' outside facilities • university campus • hotel
Negative views	Instructional activities	<ul style="list-style-type: none"> • lecturing • presentations
	Trainer	<ul style="list-style-type: none"> • not qualified • lack of preparation • long speeches • lack of feedback
	Topics	<ul style="list-style-type: none"> • too general • lack of needs analysis
	Duration	<ul style="list-style-type: none"> • short term
	Timing	<ul style="list-style-type: none"> • after school • weekend
	Expectations	<ul style="list-style-type: none"> • lack of needs analysis
	Level	<ul style="list-style-type: none"> • too high • too low
Positive views	<ul style="list-style-type: none"> • sharing ideas • learn new information • discussion platform • self-assessment and revision 	

Table 4.17 (continued)

oTPD Experience	
Negative views	<ul style="list-style-type: none"> • one way interaction • short time • technical problems • language problems (English)
Positive views	<ul style="list-style-type: none"> • high quality lecture • good examples
Measurement & Evaluation	
Techniques used	<ul style="list-style-type: none"> • Written exams • Oral exams (questioning-answer) • Portfolio • Presentations • Laboratory reports • Quiz • Projects • Notebook/File • Models
Strong points	<ul style="list-style-type: none"> • Question preparation (different types of questions, different levels of questions) • Teamwork in measurement and evaluation (preparation, decision making, standardization meetings for exam markings) • Rubric preparation and use • Marking students' work (marking question by questions, standardization meeting within the department) • Questioning skills (distribution of question, recording students' performance afterwards) • Feedback
Weak points	<ul style="list-style-type: none"> • Measurement and evaluation types (peer assessment, self assessment, question types, in class assessment) • Feedback

4.5.6.2 Participants' expectations from TPD programs and oTPD program

Participants' expectations from TPD programs and oTPD programs are given in Table 4.18.

Table 4.18 Participants' expectations from TPD programs and oTPD program

Expectations from TPD		
Content	Topics	<ul style="list-style-type: none"> • methodology • measurement and evaluation • curriculum • instructional technologies (IT) • classroom management • foreign language • psychology
Process	Instructional activities	<ul style="list-style-type: none"> • hands-on activities • discussion • online program • case study
	Facilitator	<ul style="list-style-type: none"> • expert • easy accessible • ability of using variety of activities • giving effective feedback
Organization	Timing	<ul style="list-style-type: none"> • seminar • weekend
	Duration	<ul style="list-style-type: none"> • long term
Outcomes	Teacher	<ul style="list-style-type: none"> • improve teachers' abilities • improve qualifications of the teacher • help to get maximum capacity from the teacher • help new teachers in induction period • motivate teachers • follow up new regulations and follow up changes in school community

Table 4.18 (continued)

Expectations from TPD		
Outcomes	Student	<ul style="list-style-type: none"> • to improve themselves • to be motivated • to learn in a better way
	School	<ul style="list-style-type: none"> • importance to teachers and students • good reputation for the school
Expectations from oTPD program		
Advantages	<ul style="list-style-type: none"> • Flexibility and versatility • Self-paced training • Building teachers' community 	
Obstacles	<ul style="list-style-type: none"> • More flexibility • Technical problems • No face-to-face session 	

4.5.6.3 Participants' perceptions about oTPD program

Participants' perceptions about oTPD program was expressed in terms of its content, process, organization, context and outcomes. The suggestions and positive comments about the program were added as well (Table 4.19).

Table 4.19 Participants' perceptions about oTPD program

Participants' perceptions about oTPD program	
Content	<ul style="list-style-type: none"> • Clear and easy • Follow logical order • Reasonable • Relevant • Meaningful • Useful • Appropriate level

Table 4.19 (continued)

Participants’ perceptions about oTPD program			
Process	Facilitator	<ul style="list-style-type: none">• Hepler• Hardworking• Well prepared and organized• Feedback provider	
	Planning	Instructional activities	<ul style="list-style-type: none">• reading case studies and notes about the topic• forum discussions on different issues on weekly basis• writing assignments, self reflection and forum• watching a sample lesson• hands-on activity in class• WebQuest
		Objectives	
		Time allocation	
Organization	Timing	<ul style="list-style-type: none">• 24 hours a day seven days a week	
	Duration	<ul style="list-style-type: none">• long term	
Context	Advantages	<ul style="list-style-type: none">• flexibility about the timing of the program• flexibility about the place of the program• gathering people that are from different parts of the country• increase responsibility• individual decision on the pace of the weekly tasks•	
	Disadvantages	<ul style="list-style-type: none">• not having a classroom environment• facing with technical problems• lack of motivation• not easy to do reading from a computer screen	

Table 4.19 (continued)

Participants' perceptions about oTPD program	
Outcomes	<ul style="list-style-type: none"> • Student-involved assessment steps <ul style="list-style-type: none"> • Preparation of a lesson plan • Think about possible problems and take precautions • Application of it in the classroom • Online education • Preparation of different types of worksheets • Using technology <ul style="list-style-type: none"> • Uploading a file • Using forum • Self assessment and criticism • Not to have prejudice about new techniques • Details about giving feedback to students • Learn their colleagues' opinion about assessment techniques • Time management • Learn about the other participants' views on topics • The effect of using something new in the classroom • The importance of including students in different committees in school • Having same problems within the group and have a chance to see different solutions • Remember the meaning of being a student
Suggestions	<ul style="list-style-type: none"> • More videos, visual materials and case studies • Games can be used • Having extended study and flexible e-journals • More hands on activity and watching videos of their own lessons • Detailed orientation program • Not having the program at the end or close to the end of semester
Positive views	<ul style="list-style-type: none"> • self paced learning • no need to travel • not time consuming • improve themselves in many aspects • online learning • having a chance to complete other jobs at the same time • being aware of new fashions • having information about what other schools are doing

CHAPTER 5

DISCUSSIONS AND CONCLUSIONS

The purpose of this case study is its contribution to the development and implications of oTPD programs. To reach this aim, first science teachers' (participants) background information such as demographics, their experiences with TPD and oTPD programs and measurement and evaluation, and their expectations from TPD program and oTPD program tried to be finding out. The reason for checking this purpose is to start to gather background information about the participants, so this gave an idea of their perceptions for the remaining purposes of the research. Second, how the teachers experienced oTPD program in terms of content, process, context and organization and also the outcomes of an oTPD program according to teachers' perceptions was explored. The reason was that this gave an insight into the oTPD program's success according to the participants.

This chapter starts with the major findings and discussions of the previous experiences of participants about TPD and oTPD programs as background information. Later, the major findings of research questions are discussed. Following the interpretation of background information and research questions, implications are drawn for the practice and future research. The chapter finishes with a conclusion of the study.

5.1. Major findings and discussions of previous experiences of participants about PD and oTPD programs

In order to understand the perceptions of the teachers about oTPD program, the researcher found out their previous experiences with TPD programs. Their positive and negative comments are discussed in the following section and the summary is given as a chart in Figure 5.1.

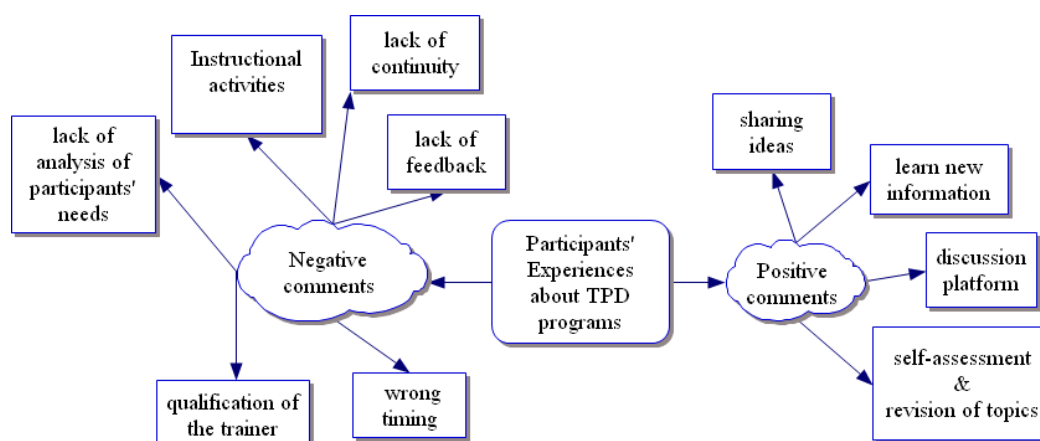


Figure 5.1 The summary of positive and negative comments of participants about previous experiences of TPD programs

5.1.1 The positive comments on PD programs

As teachers themselves report the more time they spend in PD programs, the more likely it was that PD enhanced their instruction (Killion, 1999). The pre-interview results showed that the teachers' positive comments are about some of the instructional activities and topics that they got in PD programs.

5.1.1.1 Instructional activities

Different teaching methods used in PD programs often result in different levels of learning (Semb & Ellis, 1994). In this study, the instructional activities that participants experienced are; hands-on activities, presentations, whole group discussions, group works and lectures. The participants stated that they are happy with group work, pair work and discussions to have a chance of sharing ideas among colleagues. Imel (1994) believed that use of group work activities in PD programs developed relationships among colleagues, which is sometimes more beneficial than trainer-participant interaction. So it is clear that active learning strategies can be used in the PD programs for the benefit of the participants. According to Dale's *Cone of Experience* people remember what they practice best.

5.1.1.2 Topics

As training topics, participants' experienced the followings: inter-personal and intra-personal development, methodology, measurement and evaluation, curriculum, IT, classroom management, subject area related and psychology. The topics that they experienced cover most of the educational area. For science and mathematics teachers, subject area related PD programs are favored cooperating with scientists from the area.

Teachers stated that with the PD programs they have an opportunity to learn new information. If they have already learned the topic before, it is a self assessment and revision of the topic.

5.1.2 Negative comments about PD programs

The teachers think that there are some areas of PD programs which need improvement. According to Özer (2004), obstacles to PD programs stated by teachers are given as below:

- inability to afford to buy and read publications in the profession
- lack of motivational factors for PD
- lack of activities in schools for PD
- omitting to ask teachers' opinions before deciding on subjects and contents for in-service training programs
- not being able to choose the programs that teachers wish to attend
- not considering teacher needs in selecting trainees for the programs
- lack of qualified instructors in the programs
- accommodation and dining problems in the places where in-service training activities take place
- in-service training was costly for teachers (p. 96).

Gabriel (2004) also highlighted similar points and additionally reports about top-down decision making and not caring about the learners of the participants.

Based on this research, the participants had problems with some of the methods, topics, lack of analysis of the participants' needs, qualifications of the trainer, timing of the program, lack of continuity and lack of feedback. Even though costing of TPD programs is an issue according to researches, none of the participants were aware of this issue.

5.1.2.1 Instructional activities

In this study, the participants complained about some of the instructional activities that trainers used, such as lecturing and presentation particularly, because they were not active in their own learning process. Bruner (1961) pointed out that the learners will remember what they learned if they will be actively engaged in the learning process. Tall and Hall (1998) stated that lecturing relies on listening skills, which may not be a strong skill of the participants. According to the research, most of the adults' weakest skill is listening. So the use of lecturing and trainer's presentation should be limited based on the concentrations of the participants.

5.1.2.2 Topics

There were two different views about the topics that participants have already learned according to the results of pre-interview data. Some of them liked to review the topics that they knew, whereas some of the participants found these topics not interesting, therefore this causes them to lose their motivation. According to Wlodkowski (1985), the attitude of participants towards the topic and content is an important aspect of motivation. Lack of motivation of participants may cause the program to be unsuccessful.

5.1.2.3 Lack of analysis of the participants' needs

According to results of this study, the participants criticized PD programs as not caring about the needs of the participants. (Şahin, 1996; Beduk, 1997, Yalın, 2001) pointed out that research methods and instruments are not used for finding out the needs of the teachers. As participants stated the importance of their need analysis, in the literature (DeSilets, 2007; Stanley, 2002; Nash, 2005; Treacy, Kleinman & Peterson, 2002) needs analysis of learners and school is also mentioned as a very crucial and necessary step of effective PD program design. The designers of these programs should take that point into consideration for improving teachers' expected skills.

5.1.2.4 Qualifications of the trainer

Qualifications of the trainer were another problem that participants raised. They stated that some of the trainers were not good at communicating with people; had no teaching experience and also they were not sufficiently prepared. As trainers they are role models for participants, and should act accordingly. They are both designers and facilitators in most of the cases, so trainers should be well prepared and organized. There are other

qualifications s/he should have. Beatty (1990) stated that the trainer should; be energetic, keep eye contact throughout the program, have listening skills and have clear expectations.

Related to qualifications of the trainers, a problem that was stated in this study was about trainers not having teaching experience. Similarly, Baran and Çağıltay (2006) pointed out lack of school experiences of trainers who are giving PD programs to teachers cause participants to see the PD program as ineffective. The materials written in textbooks are correct, but sometimes not applicable to every situation in real life in different contexts. As trainers, without knowing what is going on schools (school community, interaction, duties, structure), just knowing about the content may not be practical. In most cases, just being an outside observer of a context is not enough for seeing the whole interactions and tasting the feelings. For understanding the participants' situation, the trainer should have school experience. This is also a concern for pre-service teacher education.

5.1.2.5 Timing

Teachers have many other responsibilities besides teaching and being a teacher. They have families, life out side of the school. As a result, they need some time after school or at weekends. According to this study teachers had problems with having PD programs at weekends or after school. In other studies, such as in Özen's (2008) ,the findings of this study were supported as the teachers stated that the time schedule of the PD program should be appropriate for the participants, otherwise it is not beneficial for teachers.

5.1.2.6 Lack of continuity

Teachers are not happy with one-shot training. They believe in the continuity of the PD programs. The literature specified that collaborative, situated and sustained PD experiences make more changes in practice compared to one-shot programs (Hawkes & Romizovski, 2001; Vance & McKinnon, 2002; Kenny, 2003; Hawley & Valli, 1999). Nowadays, PD programs are in a series or have follow up activities (McRae et al., 2001; Dede, 2006). In the study, participants stated that one or two hours of PD program and just once was not enough for anything.

5.1.2.7 Lack of feedback

Related to not having sufficient contact time with the trainer, the participants highlighted the lack of feedback in PD programs as a criticism. Since the duration of the program was too short, for a trainer it was not possible to see every individual's performance and assess it and give effective feedback. Barkley and Bianco (2002) pointed out the importance of assessment of the participants and feedback given by the facilitator to see the achievement of PD program's goals. Feedback is important for participants in terms of finding out their problems and improving them. Since feedback is missing in PD programs, it is not like a complete training.

5.1.2.8 Cost

Based on the literature, the cost of the face-to-face PD programs is given as a disadvantage of the PD programs because of prices of trainers, attendance and accommodation (Dickenson, McBridge, Lamb-Milligan & Nichols, 2003). The results of this study do not have any data related to the cost of the PD programs since the participants do not have administrative jobs, which mostly deals with costing. It shows that they have not thought about it as a teacher of the school.

Eventhough there were criticism about the context of the TPD programs (Özer, 2004; Yalın, 2001) in the literature, in this study there were neither negative nor positive comments from the participants about the context of the programs.

5.2 Major findings of the research questions

The expectations from oTPD program and experiences of participants with oTPD program were discussed in this section. The expectations of participants from oTPD program are related to their expectations from TPD program, so it is discussed in the following section and the summary is given as Figure 5.2.

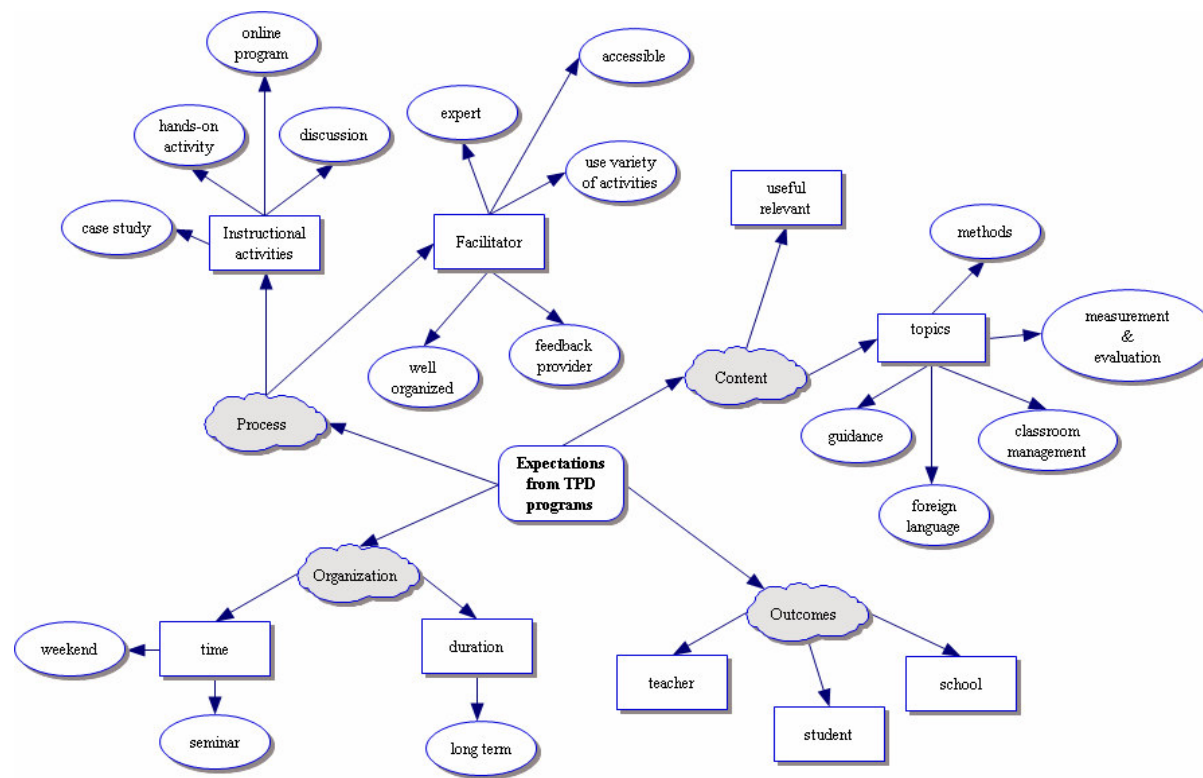


Figure 5.2 The summary of participants' expectations from TPD programs

5.2.1 Participants' expectations from TPD program

Teachers' expectations are crucial in PD programs, since these programs are for them. Their expectations were almost the opposite of their negative experiences with previous PD programs. According to the results of the pre-interview, they found out solutions to their problems with PD programs and also they rephrased the positive comments that were written as their previous experiences with PD programs.

Hawley and Valli (1999) noted that participants expect a PD program which is continuing, context based, including hands on activities, focused on improving student learning, based on collaboration of teachers and considering the needs of the teachers.

The results of pre-interview data analysis showed that participants want to actively engage in the learning activity. They want to take part in case study, hands on work, discussion and an online training. They like sharing their ideas with colleagues through discussions and form collaboration of teachers. It is important for them to see real life cases not just theories. These case studies may be readings or videos of the participants. They want to have lectures as well, but according to the participants the duration of lecturing should not be too long. They lose their concentration in long trainer talk sessions.

The participants expected to have PD programs that are at weekends or during seminar times. They want to have long term training programs. According to them the best duration is having it throughout one semester on a weekly basis. In this study, the participants suggested that PD programs should have different stages and modules each week.

The participants' expectations were really high in terms of the quality of the trainer. The qualifications affect the whole PD program, since s/he is the facilitator of it. The credentials of trainer include preparation and organization of the program, being a good communicator, being able to give appropriate feedback.

In this study, according to participants' view, they need training mostly in instructional methods and measurement and evaluation. In measurement and evaluation, they stated

that the required area of training is exam preparation, peer and self assessment and marking. As the latest developments in technology, they pointed out integration of instructional technology into lesson is an area for further development, especially like web based learning and preparation of instructional materials such as animations. Classroom management is also one of the hottest topics in PD programs and it looks like this will never change. Besides these, a small minority suggested PD programs in foreign language and guidance. In general, they thought that specific programs are needed, not the general ones, since they experienced general training during their undergraduate study.

It is stated in much research that the quality of teachers affect students' learning (Bryan, 2000). That is directly related with the expectations of the participants in terms of the aim of the PD programs. In the pre-interview they stated that the aim of PD programs is related to teachers because it should; (1) improve teachers' abilities, (2) improve qualifications of the teachers, (3) help to get maximum capacity from the teacher, (4) help new teachers in induction period, (5) follow up new regulations and changes in school community. Similar to the findings of the pre-interview, Özer (2001, cited in Özer, 2004) claimed that the majority of teachers in Turkey stated that they need PD programs to improve their views on educational issues. According to Holland (2005) the aim of PD program is not just related to improving teachers' subject area knowledge, but also to increasing their conception of how students learn.

As stated above, the quality of teaching affects students' learning. So the aims of PD programs for students are; (1) to improve themselves, (2) to be motivated, (3) to learn in a better way.

As schools provide PD programs for teachers it showed that they gave importance to teachers and students. Also research agrees that "the success of school improvement and reform initiatives hinges in large part, on the qualifications and effectiveness of the teachers" (NMSA, 2004). As schools improve themselves by increasing the quality of teachers through PD programs, also the reputation of the school is enhanced.

5.2.2 Participants' positive and negative views about oTPD program before it starts

Participants both have positive and negative comments about oTPD program before they experienced it. The summary of participants' expectations from oTPD program is given in Figure 5.3.

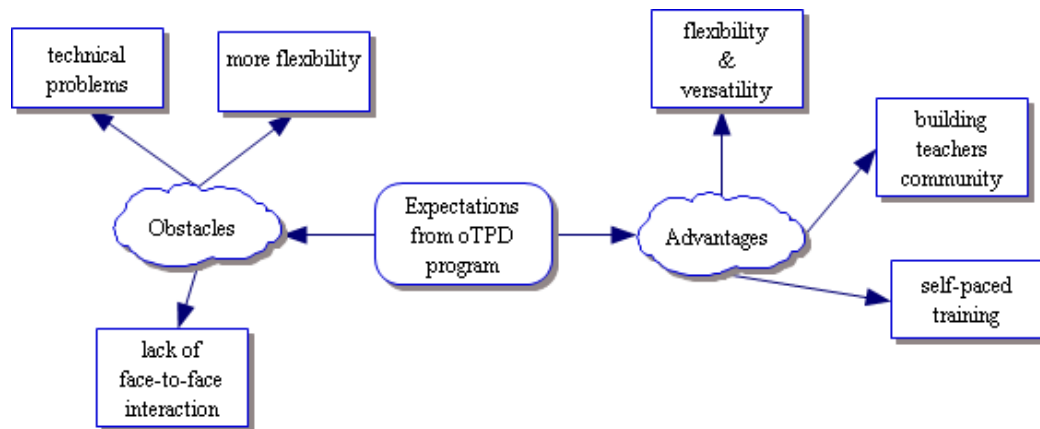


Figure 5.3 The summary of participants' expectations from oTPD program

5.2.2.1 Participants positive views about oTPD program before it started

Before the oTPD program started, the participants' expectations were asked through a pre-interview. They highlighted following points: the flexibility and versatility of it, the community building capacity of it among teachers and the opportunity of self-paced training. Since the teachers are very busy during the day, they stressed need for the flexibility of time and place most. This is stated in research as a great advantage of oTPD program (Carter, 2004; Harlen & Doubler, 2004)

In the following sections, the participants' perceptions about oTPD after the program ended are discussed. It is seen that the oTPD program met the expectations of the participants stated.

5.2.2.2 Participants' negative views about oTPD program before it started

Besides the positive views about online training, based on the pre-interview results, the participants had negative attitudes towards oTPD program which could be divided into three headings: having more flexibility which causes lack of motivation, not having face-

to-face interaction which, and possible technical problems. Based on the data analysis after the end of the oTPD program, it was noted that the participants experienced the expected problems, even though precautions were taken.

5.3 Participants' perceptions about the oTPD program

Participants shared their perceptions about oTPD program under the headings of; general issues, content, process, organization, context, outcomes of the oTPD program. They also added how they valued this program including the comments of their students' views. The summary of their perceptions is given in Figure 5.4.

5.3.1 General issues

The analysis of data showed that all of the participants had generally positive attitudes towards the oTPD program. According to post-interview and documentation analysis results the program was successful, because it was motivating, entertaining, time saving, a feedback supplier, helpful to improve self, very well organized, beneficial and supported exchange of views.

Besides these positive comments, some results showed that that timing of the program was not appropriate, since that was participants' busiest time. The last two weeks of the program was particularly loaded. Based on the results of this study, the timing of the oTPD program should be negotiated with the participants.

The participants commented that not having face-to-face discussions was a barrier for them, since some of them believe in the importance of face-to-face communication and also it was hard for some of them to express themselves in an online environment. This is supported by other studies (Cook-Sather, 2007). Davis & Resta (2002) suggested use of face-to-face sessions for expressing and introducing themselves and supporting online learning environment. It shows that blended approaches would be a choice for better PD program.

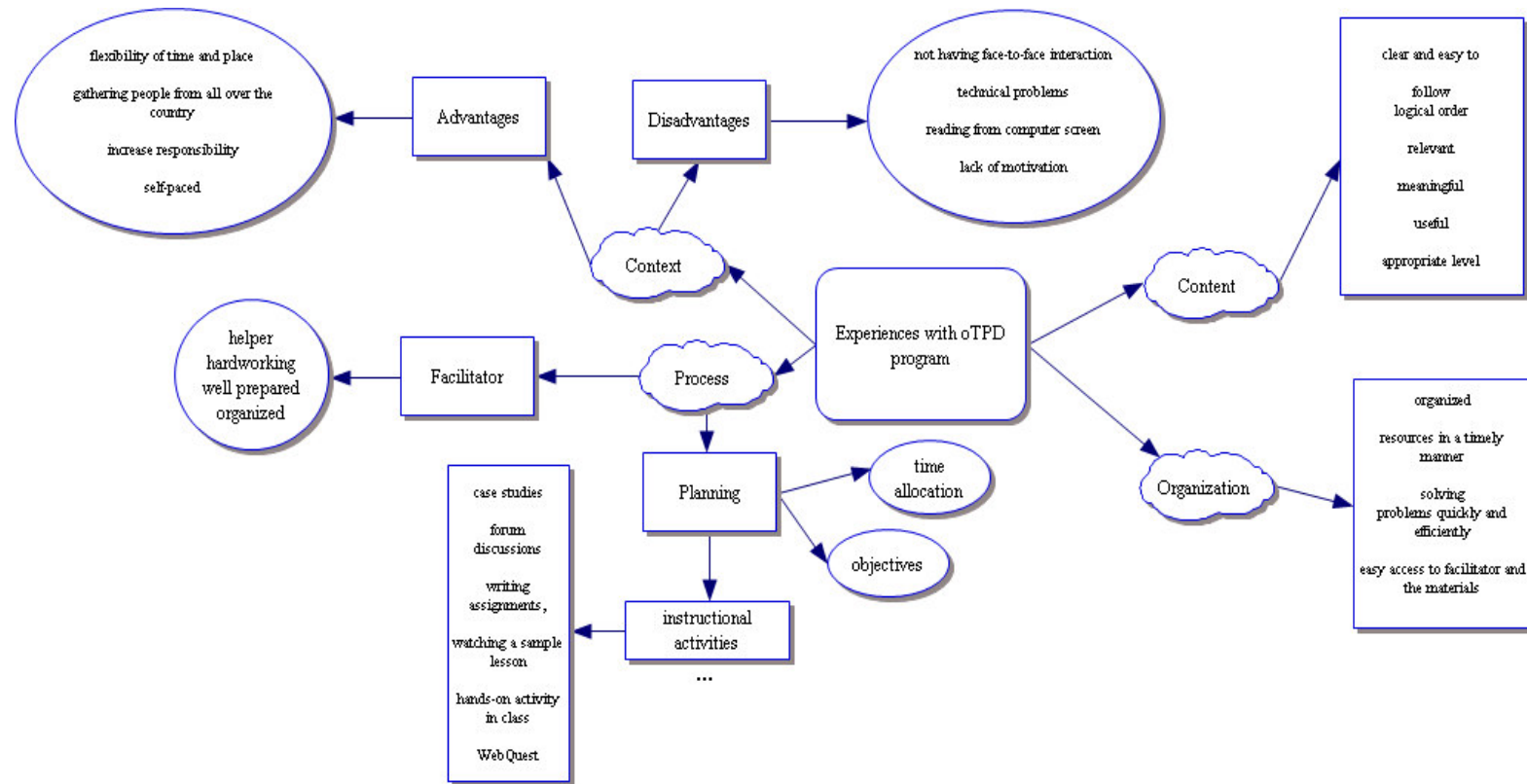


Figure 5.4 The summary of participants' perceptions about oTPD program

The biggest handicap was technical problems which participants faced, while downloading the sample lesson videos.

A detailed discussion of points given above is in the following section.

5.3.2 Participants' perceptions about the content of the oTPD program

According to online questionnaire results, the participants found the content of the program to be:

- clear and easy to understand
- logical in terms of order

Also, the program contributed to their knowledge and understanding of issues in measurement and assessment. The amount of information and work included in the program was reasonable for them.

5.3.2.1 Relevance

Relevancy of topic is a preference in adult learning activities (Sparks, 2002; Brookfield, 1995). Lack of relevant content was one of the problems of participants in their previous experiences with PD programs. All of the participants thought that the content was meaningful and relevant to their professional development, since the topic of the oTPD program measurement and evaluation which is one of teachers' major jobs. Teachers use assessment almost in every lesson. Even though they think that it is an important part of teachers' duties, they were not quite sure what student-involved assessment was.

According to the results, the content of the program is meaningful, because it follows a logical order and the prior knowledge of the participants was used in making new concepts more meaningful (Bransford, Brown & Cocking, 2000). In this oTPD program, in the first week, the participants analyzed what they had already learned about assessment (check prior knowledge) and shared it with other participants. Zemke and Zemke (1984) suggested including such activities for adult learners to be able to build new information on their prior knowledge. This was one of the positive comments about

their experiences with PD programs stated during pre-interview. The facilitator took that positive comment into consideration during the design of the PD program.

5.3.2.2 Usefulness

If a program's content is useless, it is a waste of time. For this program, participants thought that the oTPD program's content was useful, because they learned a new assessment technique which affects their instructional method. Schools give importance to student-involved assessment. New curriculum approach in Turkey supports involvement of students in assessment.

As well as the participants, their colleagues in the department also benefited from this program by checking oTPD program content and attending some of activities by stating their comments. That was satisfactory, since it was listed as one of the aims of the program. Some of these colleagues wanted to participate in the program. Since they requested it after the program had started, the facilitator could not accept them onto the program.

The content of the course also included resources for participants which was prepared by the facilitator as well as the participants themselves. Submitting material facilitated cooperation in terms of sharing documents such as worksheets, handouts. In the literature, the benefit of online communities for sharing materials and documents is also stated (Renninger & Shumar, 2004).

Since the course was English medium, the participants had an opportunity to use English. Some of the participants have not been used English since they graduated from Masters Program.

5.3.2.3 Level

The level of the program is important, since appropriate level may cause lack of concentration. This was one of the criticisms of participants based on their previous experiences with PD programs. In this study, the level of the content was appropriate. If the level of the program is too high, the participants may not understand and get bored. If the level is too low, since the participants know everything in detail, they may get bored and lose concentration and motivation.

5.3.3 Participants' perceptions about the process of the oTPD program

The process of the oTPD program is related with the qualities of the facilitator and the planning of the program which consists of learning activities, objectives of the program and the order and balance of the coursework.

5.3.3.1 Facilitator

The characteristics of facilitator affect greatly the performance of the participants. The online facilitator should; be knowledgeable on curriculum, be experienced in PD programs and policies and also giving an online program, have leading skills, have available time, be interested in technology, be accessible to participants (Treacy et al., 2002). In this study the participants pointed out the facilitators important characteristics as; (1) helper, (2) quick responder which is very crucial in online education, (3) well prepared and organized, (4) able to give clear and step by step instructions, (5) able to provide immediate feedback.

5.3.3.2 Planning of the oTPD program

The design of the program included different steps which were explained in the previous chapters. First, *clear objectives* should be given to participants. In this study, the objectives of the program, the participant outcomes were stated both written and verbally during the e-mail correspondence and pre-interview before the program started. Later, objectives were explicitly stated in the program syllabus. For each week, specific objectives were given. Secondly, *the course syllabus* should include; the description of the course, textbook and supplementary readings, weekly calendar of the learning activities including assignments, assessment, online discussion conditions, contact information of an instructor, grading criteria for each piece of study, attendance and participation policy, course prerequisite (Graham, Çağıltay, Craner, Lim & Duffy, 2000). Additionally, some tips about the program were provided.

As a third point, *learning activities* were examined. In this study the facilitator used the following activities:

- reading case studies and notes about the topic
- forum discussions on different issues on weekly basis

- writing assignments, e-journal and forum
- watching a sample lesson
- hands-on activity in class
- WebQuest

The variety of activities is important and participants complained about having just one type of learning activity in their previous experiences with PD programs during pre-interview. While designing the program, the designer took that feedback and research into consideration. Based on the online questionnaire that participants filled in, their favorite activity is watching a sample lesson video. They pointed out the importance of real-life application of student-involved lesson. While watching a lesson, not just the learning activity that the teacher got their attention; also they concentrated on qualities of the teacher (classroom management techniques, presence). In the literature, there is a lot of research carried out on use of video in PD programs and resulting in positive comments (Knight, Pedersen & Peter, 2004; Wang & Hartley, 2003), because of the chance to observe different teachers and classrooms.

With regard to the results of post-interview, online questionnaire and documentation the participants highlighted the benefit of hands-on activity which means performing what they have learned. It was different than what they experienced in a PD program before. They got a chance to see whether the assessment technique that they learned was working or not. This makes the whole PD program meaningful. Tall and Hall (1998)'s research also supports that finding and they stated that participants learn better when hands-on activities are used to reinforce the skills used in real life situations.

Forum discussions are tools for forming online learning communities where participants share their reflections, comments, questions and materials asynchronously. In this particular case, participants made positive comments about interaction among each other and between the facilitator. In addition to research findings about the advantages of use of online discussion, other studies revealed that forum discussions give participants time to prepare comments and questions, and also provide a recorded data of discussion which can be referred whenever needed (Treacy et al., 2002).

The participants valued forum discussions, because they were not just question and answer type. It includes sharing materials, introducing themselves and finding solution to each other's problems. In the literature, discussion tasks such as contributions from each member, getting questions from participants for promoting building of community is encouraged (Roskos, Jarosewich & Collins, 2007).

The experience in forum discussion both affects positively the motivation of the users and acts as a barrier. Since some of the participants were not experienced in it, they had difficulties at the beginning of the program even about where to submit their comments. Related to forum discussions, some of the participants were not comfortable all the time about writing their controversial opinions, because they do not want to discourage others.

According to half of the group, keeping an e-journal was the least helpful learning activity. The facilitator limited the participants while keeping e-journal. She gave headings which forms the framework of the study, and expected them to write accordingly. Being limited in keeping an e-journal decreases the motivation of the participants. Some of the participants enjoyed writing it, because besides writing about the headings that the facilitator wanted, they also wrote their feelings about the week and many other things.

Related to the design of the modules, it is claimed that "PD programs challenged participants to make new meanings, but at the same time limited their knowledge construction by setting the ceiling at explaining rather than more analytic processes, such as critiquing" (Roskos, Jarosewich & Collins, 2007, p.181). With the help of forum discussions and e-journals, these problems can be solved and participants may use critical thinking skills. Based on the findings of this study and research carried out e-journals should be kept as a learning activity, bearing in mind use of more flexible e-journal formats.

There was more reading activity at the beginning of the program, since it was mostly used for warming up of participants to the program. Some of the readings were related to theory to remind the participants of the topic and the others are case studies for discussion and interpretation. Participants commented on how hard it was to do reading from a computer screen, so they preferred to print the readings out and took some notes on it and

complete assignments. It is consistent with Sellen and Harper's (2002) findings that the activities that are preferred to be read on paper.

Post-interview results and the participants' notes in e-journal showed that they enjoyed and benefited from the use of WebQuest. According to this study, it was beneficial, because they had to work with their colleagues, carry out research and synthesize what they gathered. In the literature, WebQuest is an authentic learning activity which encourages the use of higher order thinking skills by internet (March, 2004). According to studies established, WebQuests help learners to be motivated on tasks and to have fun (Gu, 2002; Greenfield, 2003). Lipscomb (2002) also highlighted the features of WebQuests as helpful and engaging because of promoting working on track.

5.3.3.3 Time allocation

Time allocation for weekly activities was not a problem, even though the participants were teaching twenty to twenty-four hours a week. According to some of them, the first weeks were more loaded than the others.

5.3.4 Participants' perceptions about the organization of the oTPD program

In this study, the participants stated that the oTPD program was organized, because they got resources in a timely manner, they knew what they were supposed to do for each week well in advance, the facilitator solved their problem quickly and efficiently, it was easy to access to the facilitator and the materials. The consistency of facilitator's guidance throughout the program was pointed out by the participants.

5.3.5 Participants' perceptions about the context of the oTPD program

The context of oTPD program was different from traditional PD programs. In traditional PD programs, context includes features of facilities, food and accommodation. In this program, the context was a learning management system which is BeCampus. The system was not designed by the researcher, so the tools of the system were out of her control. All of the participants found BeCampus a well organized LMS. They had brief information

about the system from one of the designers of it by recorded on video. They found the information very useful, since they did not know a lot about LMS.

5.3.5.1 The advantages of LMS

The most stated advantage of BeCampus was providing flexibility of time and place to the program. Hillman, Bowen and Abraham (2000) also stated that online environments are accessible seven days a week and 24 hours a day and this gives flexibility to the participants.

The other advantage was gathering people from different parts of the country for a long period\ such as ten weeks. Since there was a variety in participants and their backgrounds, it makes the environment fruitful. It also increased the responsibility of the participants since they had to manage their time carefully. The system facilitated self paced learning. The participants were very happy while completing the tasks in their free time, since they did not depend on another person (instructor or classmates).

5.3.5.2 The disadvantages of LMS

Besides advantages, there were obstacles to LMS. These were not having a face-to-face environment, which was very important for some of the participants. Since they were not used to discussing on an online platform, it was hard for them to keep up with the pace of the discussion. They stated that it also caused a lack of motivation, since they could not see each other and the facilitator. Besides that, they believed in that it was not possible to express themselves in an online learning environment.

Technical problems that they faced discouraged the participants from time to time. The facilitator had back up plans and tried to solve their problems immediately. The technical problems were related to downloading or uploading files. The videos for case studies were beneficial, but special care should be taken to ease their use by the participants during downloading. There was a section called “technical problems” in the forum part, which gave them a chance to discuss and find solutions to their problems. Their problems were screened and sometimes (if the problem was not so urgent) participants were waited to answer each others questions. It was tried to be engaged in an online discussion. Treacy, Kleinman & Peterson (2002) highlighted the significance of providing technical support throughout the oTPD program to solve problems quickly and effectively.

The internet connection problems which occurred rarely were out of the facilitators' control. Late submissions were tolerated due to internet access problems.

In an online environment readings are published as an online document, which needs to be read from a screen or needs printing out and then read. In this study mostly the participants chose to do reading from a screen which was not easy for them since they were not used to it. Some of them liked to take notes on the reading which they could not do on a soft copy of the document. On the other hand, they were happy that they were environment friendly as they did not use paper.

5.3.6 Participants' perceptions about the outcomes of the oTPD program

The outcomes of the oTPD programs can be connected to the content of the program, online education, use of technology, and self assessment/

In this study, the results of post-interview and all other documentation showed that, the participants learned: (1) the steps of student-involved assessment (preparation of lesson plan, thinking about possible problems and taking precautions, application of it in a classroom), (2) online learning, (3) preparation of different types of instructional materials, (4) using technology (uploading files, forum discussions), (5) self assessment and criticism, (6) how to accept about new techniques, (7) details about giving feedback to students, (8) colleagues' opinion about assessment techniques, (9) time management, (10) the other participants' views on variety of topics, (11) the effect of using something new in the classroom, (12) the importance of including students in different committees in school, (13) that they all had similar problems had a chance to see different solutions, (14) the meaning of being a student.

The participants highly valued the video that they watched and the hands-on activity. It was a good learning process for them, since they got immediate feedback about their lesson plans and activities before they applied them in the classroom. Following feedback on the lesson plan, they applied it in the classroom and observed the results. The results of the research of Garet, Porter, Desimone, Birman and Yoon (2001) indicated that PD which focused on subject area gave teachers a chance to apply what they learned in classroom setting. This method is more likely to create better knowledge and skills which then has a positive impact on student learning outcomes.

Participants gathered valuable data from their students. According to the results of this data, participants prepared their self criticism of the hands-on activity. Students mentioned many good points such as; having fun, good revision tool, feeling important since the teacher trusted them, being honest, and saving teachers' time.

5.3.7 The value of the oTPD program according to participants' perceptions

The participants attended this program, because firstly they wanted to improve themselves and their instruction (Bryan, 2000) and also as a chance to revise what they learned in the university. Secondly, they highlighted the importance of experiencing an online program, which is new for Turkey. One of the participants was a novice teacher, so she pointed out the significance of having a chance of being on the same platform as experienced teachers.

Based on the results of online questionnaire, participants preferred oTPD to meetings and workshops, because they could control their time schedule easily. The other important factor for them was the continuity of the oTPD program. Since it was not a one-shot type of training, they got a chance to get continuous PD program for ten weeks. The participants valued continuous PD program, because they perceived that the oTPD contributed to the success of their teaching. Research also shows that the teachers who attended longitudinal PD programs reported that it improved their teaching more than short PD programs (National Center for Educational Statistics, 2001). According to post-interview results, all of the participants pointed out that they will seek other opportunities to pursue oTPD programs.

5.4 Implications for practice

This case study is an example for practitioners who want to design an oTPD program or facilitators who want to use online learning strategies in in-service teacher education. Related to that, the researcher discussed the perceptions of teachers on content, process, context, organization and outcomes of oTPD program. As background information, teachers' perceptions and experiences about oTPD program were discussed.

Since it is a case study, and there were limitations such as having specific sample in this study, the findings of this study cannot be generalized. These suggestions can be gathered as a guideline for a similar study.

This section includes; (1) suggestions for designers about the points related to the elements of web based learning including instructional design, distance education, learning theories, system and communication theory; (2) suggestions for facilitators about points to consider before, during and after the oTPD program, (3) suggestions for other parties such as MoNE and educational leaders.

5.4.1 Suggestions for the designers of oTPD programs

This study revealed that the designer could take into consideration the following points:

- The designer should follow the steps of an online ID model without missing any of them. Needs analysis is a crucial step and participants' needs should be carefully analyzed since the program is for them. Their needs can be gathered either from the participants, from the educational leaders or researches done in that area.
- While deciding the content of the program, based on the participants' needs, real life cases should be used.
- The designer should be aware of the technological resources and capabilities of the participants. Based on the findings, technological support can be provided. Related to that issue, at the beginning there should be a well organized orientation program introducing all of the tools of the system to the learners. Based on their readiness, the orientation week could be extended.
- There has to be variety of learning activities where most of the time participants are active. These may include:
 - Sample videos of a lesson which includes objectives of the designer for oTPD program
 - Games for revision of the topic
 - Group work to increase the interaction among participants

- Case studies related to the topic of the program or case studies can be created by participants based on their experiences.
- An extended study like a long term project
- Practical activity which is supported by the theory
- Video recordings of participants from a section of a lesson and a discussion based on it
- Discussion platform for sharing information, materials
- WebQuest is beneficial in many ways such as encouraging participants to make research prepare a learning material and work collaboratively.
- There should be weekly assignments to follow up performance of the participants. The amount of time for completing the weekly tasks should be decided considering workload of the learners.
- The adult learning theory which includes aware of need to know, self-directed learning, prior knowledge, real life cases, problem-centered orientation and motivation, should be kept in mind since the participants are adult learners.
- The timing of the program should be consulted with the participants. Since they are teachers and particularly busy close to the end of term, the best time for them could be two weeks after the semester starts. The duration of the program should be carefully decided. Based on the needs of the learners' an appropriate weekly schedule should be prepared.
- The context of the program should be selected based on the participants' needs and capabilities. LMS are suitable tools for online programs. Different LMS have different tools, and the designer should think about the needs of the learner and also cost-effectiveness of the system while deciding it.
- It is not easy to build online learning communities. So, the programs could include both face-to-face and online platform. The first meeting could be done face-to-face. Maybe throughout the program, another hands-on session can be organized. Some of the participants still believe in the importance of face-to-face interaction.
- The designer may choose to facilitate the program, if s/he has the capabilities of giving PD program online. If not, the designer should be in touch with the facilitator of the program to get formative assessment and make possible changes.
- The participants could be included in plans and goal settings.

- Especially for science and mathematics teachers, subject area experts (not educators) can be integrated into the program. In this way, the interaction of scientists with the teachers can be provided which is very beneficial for both sides. Teachers will be up-dated and scientists will notice the profile of the current teachers of future scientists.

5.4.2 Suggestions for the facilitators of oTPD programs

This study revealed that the oTPD program facilitator could take into consideration the following points:

- The goals of the program should be clearly explained to the participants well in advance. Weekly objectives should be given in a timely manner. The details of the program should be provided to the participants and any queries should be clarified at the beginning.
- The facilitators should hold the primary responsibility for scaffolding of the participants. The level of support should be well determined in order to not discourage participants. Detailed individual, informative feedback should be provided from the beginning to the end of the program. The participants should see how much they achieve the given objectives and improve themselves if needed. Besides giving weekly feedback about the participants performance, mid term reports could be provided for them to see overall picture of their performance.
- The facilitator should give an immediate response to the messages, questions of the participants which is maintains motivation.
- The participants should be encouraged during the forum discussions. The facilitator should leave the floor to the participants from time to time. S/he should not answer all of the questions of the participants. Instead push them to answer each others questions.
- The facilitator could be a designer of the program if possible. If not, keep in touch with the designer for possible changes based on the needs of the participants.

- The facilitator should be well trained and have experience in online learning/teaching, LMS and tools of it.
- The number of participants should be limited or big groups should be split into small groups and more than one facilitator should be responsible. Otherwise the feedback may not be appropriate, since it is not easy to give online feedback especially in written assignments.

5.4.3 Suggestion for other parties

- There should be a well coordinated team for providing oTPD programs.
- The educational leaders should think of PD programs considering the needs of the teachers. They can arrange computers and give time for teachers at school, since some of them do not have computers and/or internet access at home.
- MoNE did a project about improving teachers' computer competencies via online in-service training of teachers. In-service teacher training department of MoNE piloted school-based PD programs in different cities in Turkey. Another project may be prepared on context based PD program which can be delivered both online and face-to-face (blended) by MoNE.

5.5 Suggestions for future research

This study provides information for researchers who want to work on PD, oTPD or blended TPD programs. The research conducted in that area showed that online PD programs are valuable and worth studying (Hawley & Valli, 1999; Barnett, 2002; Barab et al, 2004; King 2002; Renninger & Shumar, 2004; O'Connor & Ertmer, 2003; Yang & Liu, 2004, Picciano, 2002; Mouza, 2002). This study concentrates on the perceptions and experiences of the participants. Since there were limitations in the current study and previous research in the area, the following recommendations are made to the future researchers:

- This research concentrated on perceptions of the teacher in content, process, organization, context and outcomes of the program. The value of the program according to them was interpreted. The researcher also shared her experiences as a designer and facilitator of the program. The details of just one aspect (content, context, organization, process, outcomes) can be studied by the researcher.
- Based on the results of this study, blended approach in TPD program can be researched.
- Since it was a single case study, it was not possible to generalize the results of this study. For increasing the generalizability of the study, the research can be repeated.
- The effectiveness of specific learning activities can be studied. In this study, the participants highly valued the use of videos of cases and hands-on work. These activities can be studied specifically.
- As an instrument, the researcher used face-to-face interviews. It was very useful in terms of getting facial impressions of the participants and also observing their school environment. If they have a chance, the researchers should carry out face-to-face interviews for learning participants' context.
- In a lot of research it is stated that PD programs have an effect on students' learning. So, at the end of an oTPD program, it is valuable to check students' learning outcomes.
- Comparison studies can be conducted about the delivery of oTPD programs and face-to-face TPD programs and blended TPD programs.
- Most of the research carried out in oTPD programs are qualitative studies. It is useful in terms of getting in depth analysis of the study. Mixed methodology can be used for getting quantitative data as well.
- The effectiveness of oTPD program via online learning communities can be studied.
- The effects of multimedia on the success of oTPD program are another area for researchers.
- Studies can be carried out related to the design of the oTPD program. The research can focus on the development of content, learning activities, delivery, administration of the program.

- The elements of high quality PD program can be identified and researched for the effectiveness of the PD program.
- It is recommended that the study related to the engagement of participants throughout the program could be studied.
- A research study could be carried out that concentrates on educational leaders' perceptions about oTPD program.

5.6 Conclusion

TPD is crucial for students' learning and improvement of the school. Even though the value of it is known, not much care is given to the design and conduction of it. Teachers' perceptions are crucial in evaluating the TPD programs, but not the only criteria. Besides benefiting from them, teachers have complaints about some of the current TPD programs in terms of quality, content, process, context and organization.

Development in information technologies brings advantages to educational platform in different areas including TPD as well. oTPD is a new trend which fits in easily with teachers' busy schedules. This study mainly focused on the teachers' perceptions about an oTPD program.

The findings regarding the positive perceptions of teachers consist of two different areas. One of them is related to the quality of the PD program which is not directly linked to the advantages of the online learning, such as having variety of activities, relevant and meaningful topic, correct level, organized, well-prepared, hands-on activities, accessible facilitator, and feedback. The other one is related to the advantages of online learning platform such as having access 24 hours a day, seven days a week, flexibility of place, continuity and self-paced learning environment.

There are some obstacles in oTPD programs such as having technical problems, not having face-to-face interaction and having more flexibility which can cause lack of motivation. As an organizational problem, the timing of the program should be decided carefully, to get the most from the oTPD program. Even though oTPD provided time

flexibility compared to traditional TPD programs, the timeline should not be too close to the end of semester.

Since the teachers like face-to-face interaction and state it as an obstacle of this study, blended TPD programs can be given and in that way one of the barriers can be removed with the support of face-to-face sessions in oTPD programs.

Whether the PD program is online, face-to-face or blended, the designer and the facilitator should definitely consider the high quality of the PD program and principles of adult learning theory.

As suggested above, there are still areas which need to be studied. It is hoped that these findings will help designers, facilitators and researchers who want to study PD, oTPD or blended TPD programs.

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APPENDIX A

SYLLABUS OF oTPD PROGRAM

Student-Involved Assessment for Learning Spring semester, 2006-2007

Instructor: Armağan Ateşkan
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Course description

In this course, major areas of assessment will be studied. It involves active participation of all students in all virtual classroom. Each week, different aspects of assessment will be discussed in forum. It includes practicum as well with the self reflection. Throughout the training, participants will keep weekly e-journal related to their experiences.

Course objectives

At the end of this course, participants will:

- comprehend the difference between evaluation and assessment
- analyze themselves in terms of use of assessment methods
- understand the relationship among assessment, student motivation and student success at learning
- be able to select proper assessment methods
- be able to involve students into assessment process
- be able to use learning management systems

Weekly schedule

	Week	Topic
1	April 2-April 8	Introduction to the course
2	April 9-April 15	Student-involved assessment for learning
3	April 16-April 22	Recovery
4	April 23-April 29	Revision of assessment methods including involvement of students
5	April 30-May 6	Sample of a student-involved assessment
6	May 7-May 13	Preparation of lesson plan
7	May 14-May 20	Application of lesson plan in class
8	May 21-May 27	Writing critical analysis of the lesson
9	May 28-June 3	Communicating assessment results
10	June 4-June 10	Evaluation and feedback -questionnaire part 1 & part 2

Every week

1. Check course contents and see the task(s) of the week with explanations.

(after 4th week, check directly assignments and forum sections)

2. Follow each step in course contents pages.

3.Submit assignments if necessary.

4.Fully participate forum. Do not give up !

Assessment

Coursework	Percentage
E-journals	30% (10 entries)
Weekly assignments	30%
Forum discussions	40%

Textbook

Stiggins, R.J. (2005). *Student-involved assessment for learning*. Pearson: Ohio.

APPENDIX B

DETAILED INFORMATION ABOUT WEEKLY TASKS

Session 1

Introduction

This week, there will be orientation tasks for you to get familiar with the system. Additionally one of the tasks will be a bridge between where you are in terms of assessment and what you want to improve in that area.

The goals of this week are:

- ❖ to learn how to use BeCampus
- ❖ to analyze yourself in terms of use of assessment in class.

Task 1

1. Visit classroom home.
2. Visit syllabus and read it in detail, if you have not done yet.
3. Check students list and see classmates.
4. Visit forum, but not write anything this time, just visit.
5. Task 1 is finished.

Task 2

1. Go to forum.
2. Under “General issues” section, visit planet café.
3. Reply “Who am I?” subject, which is introducing yourself basically.
4. Read your classmates posts.
5. Task 2 is over. Congratulations!

Task 3

1. Please watch welcoming messages (classroom home) if you have not done yet:
Armağan Ateşkan (course instructor)
Necmi Akşit (measurement expert)
Can Kültür (system expert)

Task 4

1. You will find PPT(Page 1) related to the system that we use. Try to understand the background information about the system

Task 5

1. Visit “Weekly discussion-week 1” forum.
2. Please read the attached rubric, which is a tool for judging classroom assessment quality.
3. Do it by yourself and write down your comments.

Task 6

1. Visit assignments and check 1st weeks assignment.
2. Prepare your e-journal’s 1st week and upload it.
3. Fill in table given as an attachment in week 1.2.

Well Done!!!

Session 2

Student-involved assessment for learning

This week, we will start working on student-involved assessment. After we looked at where we are, let’s continue with different strategies with the help of case studies from book. The aim is

- ❖ to analyze assessment from students’ side
- ❖ to understand their feelings about it.

Task 1

4. Visit assignments and check 2nd weeks’ assignment.
5. Complete Week 2.1, leave your e-journal task to the end of the week for having general overview of the week.

Task 2

4. Visit “Weekly discussion-week 2” forum.
5. You will see 1 section in that area. Read the attachment and answer the question.
6. Please read your classmates’ answers and reply at least one of them.

Task 3

1. Visit “Classroom assessment scenarios” forum and comment on 2 cases and write down your own experience.
2. Please read you classmates’ answers and reply them.

Session 3

Recovery week

Session 4

Selecting Proper Assessment Methods

As a classroom teacher, how should I assess the achievement of my students? What methods should I use?

Through your study of this week you will understand the following important principles:

1. We have four categories of assessment methods from which to choose for any particular classroom assessment situation: selected response, essay, performance assessment, and personal communication.
2. The method of choice in any particular classroom assessment context is a function of the context provided by the information needs of the user and the achievement target in question.

Task 1

1. Check the attachment on the first page. (Assessment methods). Remember types of assessment, briefly as a table including specific objectives.
2. Please answer those questions :
 - Which one (s) do you use most? Why? Why not?
 - Ask at least one of your colleagues in your school a question which is “How can you involve students into assessment for each category?” Include your own answer as well.
3. Prepare a report on assignment section under week 4.

Task 2

1. Do not forget your e-journal.
2. It is under assignments section (Week 4.2) Since it your comment about the week, complete it after you finished all of the tasks.

Task 3

1. Write down a question under Week 4 section about this week.
2. Reply at least 2 of the messages send by classmates.

Session 5

Sample of a student involved assessment

The goals of this week are:

- ❖ to observe a lesson which is an example of student involved assessment
- ❖ to analyze a lesson and discuss important sections of the lesson

This week, you have a chance to observe a different type of lesson. It stresses student-involved assessment. The lesson is composed of 3 sections. (You can find videos at the classroom home page)

1st section: Introduction to the activity

2nd section: Students working on the activity

3rd section: Students involved assessment

You will find worksheet that students use as an attachment.

Task

1. Watch all of the sections of the lesson.

2. Answer those questions:

-How did the teacher start to the activity?

-Did any problem occur in the beginning of the activity?

-What did the teacher do while students were answering the Qs?

-In the 3rd section of the lesson, what were the roles of the students (think about whole class and individual students)?

-What happened in 3rd section as a critical incident? What was teacher's reaction?

Was it effective? Are you happy with teacher's reaction?

-Is it an effective example of student-involved assessment?

-If you will be in teacher's position, what will be the changes you want to do?

Write an essay answering those Qs..

Session 6

Preparation of lesson plan

Dear all,

We have been working on student-involved assessment for 5 weeks. Now it is time for you to think about a possible application. I want you to prepare a lesson plan, which you will apply in class in the 7th week of our class. (which means 13th of May week). Please fill in a lesson plan, which includes all of the necessary information in a lesson plan. If you will have an attachment (like w/sheet), attach it as well. I will look at it and give written feedback. For that purpose please try to complete it as early as possible and send it to me.

Think about any type of involvement of students into assessment. Not necessarily the same as Fatma Hoca did. Please use your imagination.

7th week (13th May- 19th May) you will apply it.

Session 7

Application of lesson plan in class

The aim of this session is to apply what has been analyzed and discussed up to now.

Dear all,

This week's assignment is very easy. Since you have already sent your lesson plan and activities to me, all you have to do is apply it. That's it for this week. You may share your views with your colleagues at the forum area, if you wish.

I will publish all of your work in the forum section. If you want me not to publish it, please let me know.

Good luck!

Session 8

Critical analysis of the lesson

Dear all,

We are almost coming to end of this online Professional Development program. 3 more weeks to go together. I know that you are very busy, because of end of term business. That's why, I appreciate your performance. This week is very important, in terms of looking at you after 7 weeks of training and especially last week's experience. The aims of this week are:

- ❖ To reflect on your performance which includes last week's application
- ❖ To share your in depth views about outcomes of last week
- ❖ To share your students views on the lesson
- ❖ To devise a tool for analyzing students views about the lesson
- ❖ To analyze the lesson from different perspectives critically.

Task 1

1. Devise a tool (short questionnaire or an interview) for getting students' views on student involved assessment, which you can use in the classroom that you applied it.
2. Analyze the results of your tool very basically.
3. Prepare a short report based on their comments.

Task 2

1. Write a critical analysis paper, which includes both your comments and your students' comments about the whole process.
2. For your self-evaluation, you may use points given in lesson evaluation form (**lessevaluationform.doc** attachment)

Task 3 (forum week 8)

1. Write down just one sentence, which represent your experience and feelings about last week.
2. Write down one question that remains in your mind about last week.

Task 4 (journal)

1. As usual, please complete your journal.

Have a lovely week!!!

Session 9

Task 1

1. Before preparing a presentation, you have to walk around and ask your colleagues and students about possible problems in communicating assessment results with students. Prepare a list of points.
2. Share your findings with your friends. Visit weekly forum. Week 9-Investigation

Task 2

1. Now it is time to find solutions for preventing these problems. Again you may ask peers, students or check given websites.

Effective feedback

<http://www97.intel.com/en/ProjectDesign/InstructionalStrategies/Feedback/>

http://www.heacademy.ac.uk/assessment/Bob_Matthew.ppt

Elements of effective feedback <http://cnx.org/content/m13306/latest/>

Students' feedback

<http://www.jcu.edu.au/office/tld/teacheval/EncouragingStudentsToGiveFeedback.doc>

2. Just take some notes. Put 5 important points to forum section week 9-under solutions.

Task 3

1. Now it is time to prepare a PPT on your findings. The format is up to you.
2. Submit it to weekly forum: Week 9-presentation

Task 4 (journal)

1. As usual, please complete your journal.

Session 10**Task 1**

1. Online questionnaire-part 1 and part 2.

Task 2

1. As usual, please complete your journal.

APPENDIX C

MODEL LESSON WORKSHEET USED BY THE TEACHER

Section 1

Adı Soyadı: No: Sınıfı:/...../2006

Başlamadan önce;

Aşağıdaki metinde yapacaklarınız hakkında bilgi verilmiştir. Metni okuduktan sonra, sizden beklenenleri doğru olarak ilgili boşluklara yazınız.

Şirin, bir ilaç fabrikasında laborant olarak çalışmakta ve mantar hastalığının tedavisinde kullanılacak yeni bir ilaç üzerinde deneyler yapmaktadır. Dün, çok yorulduğu için laboratuardan erken ayrılmaya karar vermişti. Ayrılmadan önce de ilacın asidik, bazik ve nötr ortamlarda verdiği reaksiyonları test etmek için deney düzeneklerini hazırlayarak üzerlerine etiketler yapıştırmış, odasının havalanması içinde camı aralık bırakmıştı. Sabah laboratuara geldiğinde deney düzeneklerindeki etiketlerin akşam çıkan rüzgar yüzünden düşmüş olduğunu görünce kafası karıştı.

Şimdi siz Şirin'e 10 dakikanızı ayırarak yardım etmelisiniz ki deney düzeneklerinin hangisi asidik, hangisi bazik ve hangisi nötr bulabilsin.

1) Asit nedir? Bir çözeltinin asit olduğunu anlamak için kullanılabilecek 3 yöntemi ve beklenen sonuçlarını yazınız?

2) Baz nedir? Bir çözeltinin baz olduğunu anlamak için kullanılabilecek 3 yöntemi ve beklenen sonuçlarını yazınız?

3) Nötr bir ortamda **pH** değeri nedir? Neden?

4) Şirin'in doğru çözeltileri tek seferde bulabilmek için yapabileceği uygulama nedir? Açıklayınız.

5) Elektrik iletkenliğine bakılması çözeltilerin yeniden doğru etiketlendirebilmesi için uygun mudur? Neden?

- 6) Şirin, bazı denemeler yapmış ve aşağıdaki sonuçları bulmuştur. Buna göre şişeleri **ASİT, BAZ VE NÖTR** şeklide doğru olarak etiketleyiniz.

Uygulamalar	I	II	III
Mavi Turnusol kağıdı ile	Renk değişimi yok	Kırmızıya döndü	Renk değişimi yok
Fenolftalein ile	Pembe renk oluştu	Renk değişimi yok	Renk değişimi yok
Na metali ile tepkimesi	Tepkime yok	H ₂ gazı çıkışı oldu	Tepkime yok
DOĞRU ETİKETİ YAZIN			

Section 2

CEVAPLAR VE PUANLAMA	ÖĞRENCİ PUANI	ÖĞRETMEN PUANI
<p>1) Asit, sulu çözeltisinde H^+ iyonu verebilen maddelerdir.(4p) Bir maddenin asit olduğu ;</p> <ul style="list-style-type: none"> • Turnusol kağıdı kullanarak (1p) Mavi turnusolu kırmızıya çevirir.(2p) • Fenolftalein kullanarak (1p) Fenolftalein ile asitler renk değiştirmez.(2p) • pH ölçümü yaparak (1p) / 0-7 arası asidiktir. (2p) • Zn, Al, Mg, Na ve Fe metalleri ile tepkimeye sokarak (1p) Aktif metaller ile hidrojen gazı çıkışı olur.(2p) • Tadına bakarak (1p) Tatları ekşidir.(2p) • Elektrik iletkenliğine bakarak (1p) • Karbonatlı bileşiklerle tepkimeye sokarak (1p) Karbonatlı bileşiklerle karbondioksit gazı çıkarırlar.(2p) anlayabiliriz. 		
<p>2) Baz, sulu çözeltisinde OH^- iyonu verebilen maddelerdir.(4p) Bir maddenin baz olduğunu;</p> <ul style="list-style-type: none"> • Turnusol kağıdı kullanarak (1p) Kırmızı turnusolu maviye çevirir. (2p) • Fenolftalein kullanarak (1p) Fenolftalein ile bazlar pembe renk verirler. (2p) • pH ölçümü yaparak (1p) / 7-14 arası baziktir. (2p) • Zn, Al, Pb ve Sn metalleri ile tepkimeye sokarak (1p) Aktif metaller ile hidrojen gazı çıkışı olur.(2p) • Tadına bakarak (1p) Tatları acıdır. (2p) • Elektrik iletkenliğine bakarak (1p) • Ele kayganlık hissi vermesine bakarak (2p) anlayabiliriz. 		

<p>3) Nötr ortamda pH değeri 7'dir.(5p) Çünkü, asitin H^+ iyonu ile bazın OH^- iyonu birleşerek nötr olan suyu oluşturur.(5p) Nötr ortamda ne asit nede baz özellikleri görülür. (5p)</p>		
<p>4) Doğru çözeltileri bulabilmek için;</p> <ul style="list-style-type: none"> • Kırmızı ve mavi turnusol kağıdı kullanabilir.(3p) • Fenolftalein çözeltisi kullanabilir.(3p) • Tatlarına bakabilir.(3p) • Zn ve Al dışında aktif metaller ile tepkimeye sokabilir.(3p) • pH ölçümü yapabilir.(3p) 		
<p>5) Uygun değildir. (5p) Elektrik iletkenliği asit ve bazlar için ortak bir özellik olduğu için asit ve baz tespiti yapılırken kullanılamaz. (5p)</p>		
<p>6) I- BAZ (5p) II- ASİT (5p) III- TUZ (5p)</p>		
TOPLAM		

Şimdi, cevaplarınızı aşağıdaki puanlama anahtarı ile karşılaştırınız.
Arkadaşlarınız ve öğretmeniniz ile paylaşıp, kendi puanınızı hesaplayınız.

APPENDIX D

PRE-INTERVIEW QUESTIONS

Demographic data

1. Gender
2. Age
3. Year of teaching experience

Professional development

1. Have you ever attended PD program?
Which methods were used?
What are the topics?
When?
What about the duration of them?
2. If you answer is “Yes”, what were the positive and negative points of them?
3. According to you, what should be the aim of PD program?
For schools?
For teachers?
For students?
For the company that provided PD program?
4. What are your expectations from the oTPD program that you will attend?
5. According to you, what are the characteristics of ideal PD program?
Method?
Duration?
6. What are the topics that teachers need PD?

Online education

1. Up to now, have you ever experienced online education?
In which topic?
When?
Duration?

2. What are you thinking about oTPD program?

Positive?

Negative?

Measurement and evaluation

1. .Which measurement and evaluation techniques are you using?

2. In which area of measurement and evaluation do you feel strong and weak?

APPENDIX E

POST-INTERVIEW QUESTIONS

General Warm up Questions

1. Overall, what do you think about Online Professional Development (OPD) program that you attended?

Quality of OPD

Content

1. In what way were the issues explored relevant to your professional responsibilities?
2. Did you have adequate opportunities to explore the theory and supporting research? Why/why not?
3. How did the content make sense to you?
4. Did this topic address an important need? Why/why not?
5. Was the material you reviewed difficult to understand? Why/why not?
6. Did the content relate to your situation?
7. Was your time really well spent? Why/why not?
8. Was your understanding of this topic enhanced?
9. In what way will what you learned be useful to you?
10. How will you be able to apply what you learned?

Process

1. What are the characteristics of the facilitator?
2. What type of instructional techniques used for facilitate your learning?
3. Was the facilitator well prepared?
4. Was the session facilitator credible?
5. How did the materials used enhance your learning?
6. Were the activities in which you engaged carefully planned and well organized?
7. What were the goals and objectives of the course? Is it clearly explained?

8. Were new practices modeled and thoroughly explained?
9. How did you use your time ?
10. Did you have access to all necessary materials and resources?
11. What were the experiences that you got?
12. Were the activities relevant to the topic?
13. How was the timing for completion of tasks?

Context

Delivery method:

1. What do you think about BeCampus?
2. What are the advantages and disadvantages of BeCampus? Why?
3. Which tool is the most useful one? Which one is the least useful? Why?
4. Did you have a technical problem while using the system? If yes, could you please explain?
5. Let's talk about your experience with BeCampus week by week. Remember your first day with BeCampus. Share your feelings and opinions. Any change in the second week? What about last week?

Organization

1. Was relevant information available to you during planning and implementation?
2. Did you have the materials necessary for implementation?
3. Were resources provided in a timely manner?
4. Were problems addressed quickly and efficiently? Could you share an example with me?
5. Was access to expertise available when problems arose?
6. Were the facilities (online facilities) necessary implementation made available?
7. Were you encouraged trying new practices or strategies?

Outcomes

1. In which area (s) does the training improve your ability?
2. Please complete the sentences given below:
I learned.....
Most helpful.....
Least helpful.....
I would like to learn.....
3. What are the most important ideas you gained from this OPD experience?
4. Do you now have any new skills that will improve your abilities to help students learn?
Would you describe those skills please?

Value of OPD program

1. Let's talk about your views about the whole program week by week excluding your comments about delivery method.
I will ask questions from weekly tasks and we will discuss what they did face to face.
2. If there is an option of attending another OPD program, will you choose to take it?
Why/ why not?
3. If you will be the designer of the course, what are the possible changes you will suggest?

Any suggestions, comments.

Thank you!

APPENDIX F

OTPD PROGRAM EVALUATION FORM

Dear all,

Below, you will find a questionnaire which aims to find out your perceptions about the quality of the course delivery method. All of your answers will be kept privately. Thank you for your cooperation.

Best,

Armagan Ateskan

*Questionnaire questions were both adopted and taken from Bowen, M.,D. (2002). *The effectiveness of OPD of in-service computer discovery teachers*. Unpublished PhD thesis, MS.

DEMOGRAPHIC INFORMATION

1. Please answer all of the questions given below.

Name:

School:

City/Town:

2. Years of experience in education:

GENERAL POINTS

1. Did you skip any sections or parts of sections of the module?

Yes ☐

No ☐

2. If you answer 1st question as “yes”, which one(s) ? (Check all that apply)

☐ course content

☐ forum

☐ assignment

☐ practice activity

WHY?

3. Where did you access BeCampus?

1.

2.

CONTENT OF THE COURSE

This part of the questionnaire is about the quality of the OPD program.

1. For each of the statement below, please check the box before the number to the right that best describes your experience or judgment.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. The content of this program was clear and easy to understand.					
2. The content in the program followed logical order.					
3. The program contributed to my knowledge and understanding in the topic area.					
4. The "weekly assignments" contributed to my knowledge and understanding.					
5. The "practice activity" appears to be appropriate and useful.					
6. The "forum discussion" section helped me to understand others' views.					
7. The amount of information and work contained in the program was reasonable.					
8. This program was a useful professional development tool.					

2. .Why did you select to be a part of this program?

3. What would you like to have seen included in this program or in particular sections of it that was not included?

4. What could have been deleted from the program or particular sections of it?

5. What suggestions/recommendations do you have for improving this module?

DELIVERY METHOD

You will find questions which are related to delivery method of the program.

1. For each of the statements below, please check the box before the number to the right that best describes your opinion.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. Online learning is effective when utilized as an integral part of professional development.					
2. I prefer online professional development program to meetings and workshops.					
3. I think I learned as much from an oTPD program as I would have from a workshop on this topic.					
4. I will seek other opportunities to pursue professional development through online activities.					

5. I prefer online format for professional development because I can control my own schedule.					
6. I prefer workshop or group professional development because I feel that learning is largely a social experience that oTPD program does not offer.					
7. I believe oTPD is more effective than other methods I have experienced					

2. What is your preference for receiving professional development instruction, assuming that all delivery methods listed below is appropriate to the content you will study? (please rank the methods from 1-5 with "1" being the highest ranking)

Online (web based instruction)	
Instruction through CD-ROM delivery	
Instruction through printed (hard copy) programs	
Face to face staff development workshops (meetings, conferences, 1-2 day sessions, etc)	
Formal classes	

3. Why did you choose online delivery method for studying the program you just completed?

- ☐ I was told to study the program using this delivery method.
- ☐ Convenience/ease of access
- ☐ Flexibility of completing the program on my time schedule
- ☐ I like to work by myself.

- ☐ I was most comfortable with this method.
- ☐ When using this method, I was not concerned with privacy

Other.....

4. Were any of the following reasons involved in your decision to use the delivery method you chose for this program? (check all that apply)

- ☐ My internet connection is too slow for use of online format.
- ☐ I do not like to keep track of hard-copy printouts.
- ☐ I do not have access to a printer to make hard-copy printouts.
- ☐ I do not like the hard copy printouts because it is like reading a textbook.
- ☐ I like to read the material from a computer screen.

Other.....

SUGGESTIONS

1. What future training or follow up activities would you recommend to support this program?
2. Further comments and suggestions about the oTPD program.

APPENDIX G

LESSON PLAN AND MATERIALS OF P 7

Öğretmenin Adı : P-7 **Sınıf** :6-A
Tarih : 12.05.2007 **Ders Süresi** :80 dk

Hedefler			
1. Isıyı iyi ileten katıları ısı iletkeni şeklinde adlandırır. 2. Gündelik gözlemlerinden, doğrudan temas olmadan ısı aktarımı olabileceği çıkarımını yapar. 3. Isının iletim, konveksiyon ve ışıma yoluyla yayıldığını ayırt eder. Değerlendirme: Soru-cevap, çalışma kağıdının okunması ve notlandırılması, çalışma kitabından ödev verilmesi. Kaynak ve malzemeler: Ders kitabı, çalışma kağıtları, cevap kağıtları.			
Zaman	İçerik	Öğretmen Etkinliği	Öğrenci Etkinliği
5'	Öğrencilerin bilgilerinin yoklanması	Isı ve sıcaklık ile ilgili soru sormak	Cevaplama
5'	Isı ve sıcaklık	Öğretmen tarafından konunun anlatılması	Dinleme
5'		Soru-cevap yoluyla anlatılanların kontrolü	Cevaplama
10'	Isının yayılma yolları	Öğretmen tarafından konunun anlatılması	Dinleme
5'	Açıklama	Çalışma kâğıdının açıklanması	Dinleme ve soru sorma
15'	Soğuk bir kış günü (çalışma kâğıdı)	İzleme ve kontrol	Çalışma kâğıdının yapılması
3'	Cevaplama	Cevap kâğıtlarının dağıtılması	
25'	Çalışma kâğıdının kontrol edilmesi	Doğru cevapların okunması	Kâğıtlara not verme
4'		Kâğıtların toplanması ve varsa soruların cevaplanması.	Varsa soru sorma
3'	Ödev	Ödev verilen sayfaların not aldırılması	Not almak

12.05.2007

Soğuk Bir Kış Günü

“Karnesini alarak yarıyıl tatiline giren Sema sevinçle evine geldi. Annesi karne hediyesi olarak tatile çıkacaklarını söylediğinde çok heyecanlandı; ancak hava soğuktu. Hemen televizyonu açarak hava durumunu izlediler ve birkaç gün içerisinde havanın ısınacağını öğrendiler. Sema buna çok sevindi.

Odada soba yanmasına, oda sıcaklığının 25 °C olmasına rağmen Sema hala üşüyordu. Daha iyi ısınabilmek için sobanın yanına gittiğinde, sobanın üzerindeki havanın hareketini gözlemledi.

Annesinin sobanın üzerine koyduğu çaydanlıktaki suyun bittiğini fark etti. Çaydanlığın gövdesi o kadar çok ısınmıştı ki, Sema çaydanlığa dokunur dokunmaz eli yandı. Çaydanlığın sapından tutarak çaydanlığa su eklemek üzere mutfığa gitti. Çıkarken odanın kapısını açık unutan Sema odaya döndüğünde oda sıcaklığının düştüğünü hissetti ve üşüdü. Hemen odanın kapısını kapattı.”

Metne göre soruları yanıtlayın.

☺ **Sema odada soba yanmasına rağmen neden önce üşüdü, sonra ısındı?**

.....
.....
.....

☺ **Sobanın üzerindeki hava nasıl hareket edebiliyordu?**

.....
.....
.....

☺ **Sema, çaydanlığın gövdesi çok sıcakken sapından nasıl tutabildi?**

.....
.....
.....

☺ **Sema, odanın kapısını bir süre açık bıraktığında neden odanın soğuduğunu hissetti?**

.....
.....
.....

☺ **Yanan soba üzerindeki çaydanlığın ısınma yolu nedir? Açıklayın.**

.....
.....
.....

APPENDIX H

LESSON EVALUATION OF P 6

**Bilkent University
Graduate School of Education**

Date:	17.05.07	Class:	6-A, 6-B	Lesson:	Assessment of Performance Homework; “Resistors”
<p>What I planned:(brief summary)</p> <p>6th graders assessed their performance work, in the form of posters about resistors. I separated them into five groups. Each group took four or five posters, the owners' names of which were hidden and named by a special symbol like A1,B2...etc. First letters show the <u>group number</u> which is going to assess the poster. Numbers back show the <u>poster number</u> within this group.</p> <p>Before the activity I had given my own marks and recorded them onto my record sheet. I recorded the names of the students referred by a symbol (A1- Güçhan, B2- Merve...). 6A assessed 6B and vice versa, incase they recognize their own papers.</p> <p>Each group had a criteria sheet (rubric) showing my expectations and a record sheet. Each member marked the poster and answered the questions below. Each poster took 3 min to assess. To limit time, watches were used.</p> <p>At the end we discussed on the undecided marks with other students to get different ideas and reached a consensus on each then compared my records shown on OHP.</p>					
<p>My first response: (How do I feel about the lesson? What went well? What didn't? How do I know?)</p> <p>It was a very successful and enjoyable activity. I could do what I planned. As rubric prepared by MoNE (given Science and Technology Textbook for 6th Grade) was not a qualified one, I had to give detailed information about effect of each category on their assessment. If I had not done that we would have faced different problems about what each criteria tests what property of the work. Apart from this almost everything was great.</p>					

<p>Achievement of student learning / objectives: (Did students learn what I intended? How do I know? What do I know about the learning of individuals? What were the reasons for the students not achieving? How effective was my assessment?)</p> <p>Students learned what I intended. Feedback taken from students via short questionnaire showed that was so. I wanted them to predict their own marks after marking friends' posters. Every student knew their marks approximately. It was a reliable indicator to see if this activity works or not. We discussed the efficiency of this activity yesterday. They claimed that it was a learning session in fact. They could understand the topic better while marking. One student told me that he feels very strong as I gave him responsibility and trust his ideas.</p>
<p>Evaluation of what I planned: (Did I achieve what I wanted to achieve? How do I know? If so, why? If not, why not? What will I do to improve?)</p> <p>I was expecting them to understand my expectations so I achieved it. I have already done some more activities to improve this approach. I have prepared a new rubric including students assessment in a particular ratio for our second performance homework. It was a presentation work about "Illnesses". I have considered the others groups idea. So, they are getting accustomed to assess their performance☺</p>
<p>Summary: (What I have learned? What would I do differently? What would I do again?)</p> <p>I should be careful about the clarity of the rubric. Hidden names, cross marking, group ideas part, 6A for 6B issue were all I would do again.</p>
<p>Targets: (Write 1 – 3 clear targets for next lesson with this group)</p> <ul style="list-style-type: none"> • Assessment of performance work 2 (Illnesses presentation) I did this (akran değerlendirmesi rubriğe eklendi) • Feedback of the activity I did this • Not with this group but with prep students; Portfolio Assessment later

APPENDIX I

CRITICAL REFLECTION FEEDBACK OF A FACILITATOR

At this class, I wanted to review general properties of the classes in the animal kingdom by making a quiz. It was a good activity for me and my students. However we had a time problem. As you know, there are differences between students. Some of them can finish the quiz in time but some of them need extra time. I usually give them extra 5 minutes and they can continue their exam or quiz in break time. I pointed out that they had 15 minutes at the beginning of the activity but we had to wait some students who did not complete the quiz for 5 minutes. Therefore, we did not discuss too much the last question. However my students could learn that the using time was very important for me and if I do same activity again they know that I will be strict about time issue. ***Facilitator's comment: Yes, timing is very important. For the ones who finished early, you have to think about some other activity. It is good that they once more learned about the importance of timing.)***

Additionally, I emphasize that students can realize their mistakes immediately. That is why; they can comprehend the topic effectively. Because they have to decide the answer is wrong or true by themselves. Before starting this virtual campus program, I had a question mark in my mind “how can I take students attention on the correct answers when I have explained the questions which are answered wrongly by students?” Now I know the correct answer of the question. If I involve students into assessment part, they actively engage in the class and learned their mistakes. ***Facilitator's comment: Giving responsibility to students is very crucial.*** Maybe they will not do same mistakes again. Also they had an opportunity to learn their friends' answers and sometimes we gave decision about the answer was correct or not with together. I thought that it also helped them to understand the subject.

One of the students claimed that I was very nervous during the activity. Yes, I was very nervous because I had to seem very strict in order to prevent any classroom management problem. ***Facilitator's comment: Any crisis in class? The best way is not smiling till the end of first semester as you know.***

If I applied this activity again, I could change something. For instance, I can select the questions in different subject. I can underline the important word in the answer of the question to clarify the answer and help students as well. Finally, I want to say that the number of the students affect the result of the activity. If I did not have 27 students it would be very effective than this. ***Facilitator's comment: You do not have to do it in a same way. You may make some changes. Use students in assessment in a different way. Some of your friends use it for poster evaluation.***

As a result, I have learned that involvement of students into assessment part is very effective way to get students' attention on the topic. In addition to this, students can assess their exam paper even though the questions are not multiple choice and they are five grade. ***Facilitator's comment: Great, it worked with 5th grade. But it is not always possible to do it with lower grades. Well Done!***

APPENDIX J

CITATIONS FROM INTERVIEWS IN TURKISH

[P-9, I-1] Kendimin nerede olduğunu görmemde faydalı oldu. İkincisi okulda gördüklerimi tekrar etmek açısından iyi oldu. Uygulayıp uygulamadığımı hatırladım. Bilmediğim başka insanların bakış açılarını görmüş oldum. Öğretmen arkadaşlarımın fikirlerini paylaşmış oldum.

[P-3, I-21] Yeni bir şeyler öğreniyorsun. Ya da bildiğin ama denemediğin şeyleri dikkate alıyorsun.

[P-6, I-3] Zümreler arası ilişkilere önem veriliyor.kendi yaptığımız ödevleri değerlendirdik. Bu anlamda herkesin bakış açısını görmek farklı oluyor. Mesela ben beden eğitimi öğretmenin benim konuma bakışını tahminimden daha farklı buldum.

Kendimin eksik olduğu konularda fikirler edindim. Güncel konularla ilgili paylaşımlar oluyor

[P-9, I-4] Ben açıkçası sunumlardan memnun kalmadım. Daha özenle hazırlanabilirdi.Sanki eğitimci son dakikada hazırlanmış. Daha görsel olsaydı daha çok hoşuma giderdi.

[P-8, I-5] Sadece konuşmacı konuşuyor ve çok uzun sıkıcı oluyor. Ne kadar ilgi çekici olsa da bir süre sonra dikkat dağılıyor.

[P-10, I-6] Mesela geliyorlar ve konuşmaya başlıyorlar ve sürekli anlatıyorlar. Ses tonunuz şöyle olsun, vs diyorlar ama kendileri bunları yapmıyorlar. Eğitimciler hep akademik insanlar oldukları için teoride süper ama bazıları gerçek sınıf ortamında ne kadar uygulanabilir olduğunu bilmeyen kişiler var.

[P-8, I-7] Bazı konuşmacılar gereksiz yere bazı konuları uzatıyorlar. Tekrar tekrar aynı şeyler sıkıcı oluyor. Daha kısa olsaydı iyi olurdu.

[P-7, I-8] Mesleki gelişim programlarından beklentilerim çok yüksek. Eğer eğitimci tarafından karşılanamazsa, gerçekten hevesim kırılıyor.

[P-10, I-9] Mesleki gelişim programının zamanlaması problem oluyor. Okul saat 3'te bitiyor. Okul yönetimi saat 5'te mesleki gelişim programı olacağını ve saat 7'de biteceğini duyuruyor. Öğretmenler o saat den sonra nasıl eve gideceğini ve diğer sorumluluklarını mesela çocuklarını ve eşlerini düşünüyorlar.

[P-4, I-10] Mesleki gelişim programlarının 2 haftada olup bitmesi hiç güzel değil bence. Mesleki gelişim aldığım konuları sordunuz, ben güçlükle hatırlayabildim. Uzun süreli bir program olmasını dilerim.

[P-3, I-11] Mesleki gelişim programlarının daha özellikli olmasını isterim. Bazıları çok genel. Mesela, bir programda öğrenci ve okul ilişkisinden çok genel bahsedildi. Öğrenci öğretmen ilişkisine hiç değinilmedi ki bu konuya özellikli olarak değinmeleri gerekirdi.

[P-4, I-12] Hafta sonu gazete okurken, MIT ‘nin derslerini çevrimiçi olarak tüm dünyaya açtığını okudum. Baktım. Biyoloji dersini kontrol ettim. Dersin notları ve eğitimin videoları vardı. Hatta dersin sonunda cevap verilebilecek soruları içeren bir bölümde bulunuyordu

[P-4, I-13] Dersler kısıtlı ve indirmek zor, çünkü hızlı değil. Videolar çok yavaş ve dil probleminden dolayı hocanın her dediğini anlamak mümkün değil. Anlatımlar çok güzel. Örnekler tatmin edici. Mesela hoca beyinin yapısını anlatırken, sınıfa gerçek beyin getirmiş.

[P-3, I-14] Klasik olarak her sömestr için 3 yazılı sınav yapıyoruz. Bunun dışında performans değerlendirmesi var. Öğrencilerin laboratuvar raporlarını değerlendiriyoruz. Yeni eğitim sistemi ile birlikte bazı değişiklikler yaptık. Örneğin, geçen dönem öğrencilere çimlenme ile ilgili ödev verdik ve öğrenciler iki hafta boyunca gözlem yaptılar ve sonunda rapor yazdılar, bizde onu değerlendirdik.

[P-3, I-15] Özellikle laboratuvar raporlarında öz değerlendirmeyi kullanıyoruz. Raporlarını teslim ederken, kendi kâğıtlarını ölçekli puanlama anahtarı ile kendileri de değerlendiriyorlar. Böylece öğrencilerin neyi yapıp neyi atladıklarını görmelerinde çok faydalı oluyor. Öz değerlendirmede hala bazı problemler yaşıyoruz ve bunlar üzerinde çalışmalıyız.

[P-7, I-16] Bizim dışımızda öğrenciler de kendi portfolyolarını değerlendiriyorlar. Bu onlara eksik oldukları noktaları görmelerinde ve öğretmenin durumunu anlamalarında yardımcı oluyor.

[P-6, I-17] Yazılı geri dönüt vermeyi tercih ediyorum. Sözlü geri dönüt vermeyi denedim, çok faydalı olmasına rağmen çok zaman alıyor.

[P-4, I-18] Öğrencilerin sınav kâğıtlarını notlandırdıktan sonra, üzerine geri dönüt yazılmış kâğıtlarını mutlaka dağıtıyorum. Ve ayrıca cevap anahtarını da veriyorum. Öğrenciler kâğıtlarını cevap anahtarına bakarak kontrol ederek, benim geri dönütlerimi okuyorlar. Ayrıca her soruyu teker teker cevaplandırıyoruz. Eğer anlamadıkları bir yer varsa, aralarda bana gelip soruyorlar.

[P-6, I-19] Okullarda ölçme ve değerlendirme bölümleri olmasına rağmen öğretmenler kendilerini geliştirmeli

[P-6, I-20] Bölüm olarak birlikte çalışıyoruz ve bölümün ölçme değerlendirme politikasını hep beraber karar veriyoruz. Ölçekli derecelendirme anahtarı hazırlamada iyiyiz. Bunları kullanıyoruz ve bazen zorluklar yaşıyoruz. Bu zorlukları gözönünde bulundurarak, düzeltmeler yaparak yenilerini geliştiriyoruz.

Soru sorma becerileri konusunda iyiyim. Ayrıca kâğıt değerlendirmede de kendimi rahat hissediyorum. Soru soru okuduğum için bir sınıfın kâğıtlarının değerlendirilmesi dört saat sürüyor.

[P-3, I-21] Derste akran ve öz değerlendirme kullanımında iyi değilim. Kendimi geliştirmeliyim ve etkili bir şekilde kullanmalıyım.

[P-8, I-22] Sınıf içindeki değerlendirme sırasındaki diyalogumu geliştirmem gerekiyor. Bazen o kadar karışık sorular soruyorum ki, çocuklar soruyu bile anlayamıyorlar. Bu durumda onları değerlendirmem hiçte adil değil.

[P-7, I-23] Öğrencilere geri dönüt vermeye çalışıyorum ama zaman bulamıyorum. Bu problemlerden bir tanesi. Diğeri ise, geri dönüt verirken, soruları bir bir öğrencilerle kontrol ediyoruz. Tüm sınıf kendi arasında soruları tartışıyor. Bu da sınıf için de kargaşaya sebep oluyor.

[P-6, I-24] Her öğretmenin donanımı birbirinden farklı, böylece ihtiyaçları da birbirinden farklı. Örneğin, benim öğretim teknolojisi alanında mesleki gelişime ihtiyacım var. Animasyonlarımı kendim yapmak istiyorum. Ayrıca öğrencilerime çevrimiçi destek sağlamak istiyorum. Ders materyallerini ben dağıtmadan çevrimiçi yolla almalarını istiyorum.

[P-1, I-25] Ölçme ve değerlendirme konusunda mesleki gelişim programına ihtiyacım var, fakat genel olmamalı. Spesifik olmalı. Örneğin, performans dayalı değerlendirme olabilir. Şu sorulara cevap verilebilir: Bu tip ödevleri nasıl değerlendireceğim? Notlandırma yaparken hangi noktalara dikkat etmem gerekir?

[P-3, I-26] Komplike fiziksel koşullara ihtiyacın yok. Eğer bilgisayarın ve internet erişimin varsa sistemdesin.

[P-8, I-27] PPT bir yere kadar etkili oluyor. Her zaman aynı tekniğin kullanılması sıkıcı oluyor. Bir sonraki aşamada ne yapılacak diye merak etmeliyim. Eğitimi veren kişi mesleki eğitim boyunca değişik metodlar kullanmalı. Ayrıca pratiğe dayalı yapılan çalışmaların etkili olduğuna inanıyorum.

[P-10, I-28] Eğitimci tarafından metodoloji olarak pratiğe dayalı aktiviteler kullanıldığında, bilgi daha kalıcı oluyor. Eğitimci merkezli olduğunda, eğitmenin ne zaman gelip ne hakkında konuştuğunu hatırlayamıyorum. Diğer taraftan, pratiğe dayalı aktiviteler yaptığımızda, hem ne yaptığımızı hem de eğitimi kimin verdiğini hatırlayabiliyorum.

[P-1, I-29] Hafta sonu sabahdan öğlene kadar olabilir.

[P-10, I-30] Okullar kapandıktan sonra ki seminer zamanında mesleki gelişim almak çok güzeldi. Öğretmenler yapmaları gereken bütün işleri bitirmişlerdi. Boş boş oturup hiçbir şey yapmaktansa, mesleki gelişim programına katılmak çok faydalı oldu. Şahsen okul zamanı günün sonunda yapılan mesleki gelişim programlarını sevmiyorum. Günün sonunda zaten yorgun oluyorsun ve kafanda milyonlarca şey varken bir de bunların üzerine mesleki gelişim programını almak hiç de faydalı olmuyor.

[P-8, I-31] Sadece bir haftada eğitimi almak mantıklı değil. Yeni bir şey öğreniyorsun, fakat sonra kopukluk oluyor ve öğrendiğin yeni şeyi uygulamayı unutuyorsun.

[P-4, I-32] Mesleki gelişim programlarında her öğretmene özel ön bir basamak olmalı. Eğitimi veren kişi, öğretmenin dersinin ilk 20 dakikasını gözlemlemeli ve bazı notlar almalıdır. Gözlem bittikten sonra, öğretmen ile birlikte konuşmalı ve hem eğitimci hem de öğretmenin takip edeceği bir sonraki basamağa beraber karar vermelidirler. Bu iletişim en azından bir sömestr boyunca devam etmelidir.

[P-4, I-33] Kesinlikle somut örnekler görmek istiyorum. Durum çalışmaları bence çok faydalı.

[P-3, I-34] Pratiğe dayalı bir şeyler yapmayı umuyorum. Materyalleri hazırlayıp, eğitimi veren kişiden geri dönüt almak sonrada onu deney yapar gibi sınıfta uygulamak istiyorum.

[P-6, I-35] Kesinlikle sadece konferans şeklinde değil. Ayrıca, dersi zevkli hale getirmek için videolar ve paylaşımlar olmalı.

[P-1, I-36] Spesifik bir zamanda bir yerde olman gerekmiyor. İstediğin zaman ya da çalışmaya hazır olduğun zaman çalışabilirsin. Bazı günler, çok yorgun oluyorum ve çalışmak istemiyorum ve o gün çalışmıyorum. Verilen zaman içinde istediğim zaman işimi tamamlama esnekliğim var.

[P-8, I-37] Çevrimiçi mesleki gelişim programı olacağı için, değişik okullardan ve Türkiye'nin değişik bölgelerinden sınıf arkadaşlarım olmasını ümit ediyorum. Bu öğretmenlerle bilgileri tartışmalar yolu ile paylaşmak istiyorum.

[P-7, I-38] Ders materyallerini okuma ve üzerinde yorum yapma konusunda çok yavaşım. Birinci ödevi tam olarak bitmeden, ikinci ödevi geçmeyi sevmem. Çevrimiçi mesleki gelişim programı, bana bir sonraki aşamaya ne zaman geçeceğini karar verme konusunda şans verir. Böylece, hızıma göre ödevlerin tamamlanma zamanına karar veren kişi ben olurum. Ben bunu gerçekten seviyorum.

[P-3, I-39] Bazılarımız için bu kadar esneklik çeşitli problemlere yol açabilir. Kaytarabiliriz.

[P-5, I-40] Bazen sadece çevrimiçi iletişim kurmaktan korkuyorum. İnsanların mimiklerini ve tepkilerini çevrimiçi ortamda görmek mümkün değil. Ayrıca herşeyi çevrimiçi ortamda tartışmak mümkün değil.

[P-9, I-41] Genel olarak zaman kaybettirici değildi. Bu yüzden çok sevdim. İstediğim zamanda çalıştım. Kendimi geliştirmeme yardımcı oldu. Başka insanların konu hakkında neler düşündüklerini görme fırsatım oldu. Yani, verilen zamanda kendi kendime bir şeyler kattım.

[P-6, I-42] Özellikle uygulama kısmının oluşu, çevrimiçi mesleki gelişim programına değer kattı. Öğrencilere sorumluluk verdiğimde, beklemediğim öğrencilerden olumlu yönde beklemediğim davranışlar gözlemledim. Öğrencilerden çok güzel geri dönütler aldım. Bence öğrencilerin gelişimleri açısından çok faydalı bir tecrübe oldu. Başlarda, öğrencinin değerlendirmeye katılması konusunda olumsuz hislerim vardı, fakat sonra çok faydalı olduğunu gördüm.

[P-3, I-43] İnsanoğlu sürekli aynı şeyi yapmayı sever. Bu da durumlara değişik açılardan bakmaktan yoksun bırakır. Bu çevrimiçi mesleki gelişim programı kendime dönüp bakmamda ve ölçme ve değerlendirme alanında neler yaptığımı kontrol etmeme olanak sağladı. Bu yüzden çok faydalıydı. Ölçme ve değerlendirme alanında neler yaptığıma baktım. Bazı alanlarda düşündüğümde daha çok şey yaptığımı gördüm. Bazı alanlarda ise bazı önemli teknikleri unuttuğumu ve kullanmadığımı gördüm. Çok yararlıydı, yukarda da açıkladığım gibi bana geri dönüt verdi.

[P-4, I-44] Sistemi kullanırken eğlendim. Öğretmenlikle ilgili yeni şeyler öğrenmenin yanı sıra bilgisayarların eğitimde kullanımı hakkında da bilgiler öğrendim. Aynı zamanda bilgisayar kullanım becerilerimin de gelişmesine yardımcı oldu.

[P-2, I-45] Bu benim ilk çevrimiçi mesleki gelişim programımdı. Eğlendim, fakat aynı zamanda şunu itiraf etmeliyim ki sisteme erişimimde zorluklar yaşadım. Programla ilgili değildi. İnternet bağlantı problemleri idi.

[P-10, I-46] Konular hakkında diğer katılımcıların fikirlerini görme şansım oldu. Ayrıca başka okulların neler yaptığını da görmek iyiydi. Bazen, okul olarak bazı noktaları atladığımızı hissettim ve bunu geri dönüt olarak kullandım. Ülkenin değişik yerlerinde öğretmenleri toplamak kolay değil. Çevrimiçi ortam bunu sağladı.

[P-2, I-47] Çevrimiçi programdı. Program boyunca birbirimizi hiç görmedik, böylece yüz yüze tartışma ortamımız olmadı.

[P-6, I-48] Tabii ki konu benim mesleki gelişimim ile alakalıydı. Öğretmenin en baştaki görevlerinden biri de ölçme ve değerlendirmedir.

[P-1, I-49] Öğretmenler olarak değerlendirme stratejilerini her derste kullanıyoruz.

[P-6, I-50] En iyi kısım, pratik olarak yaptığımızdı. O çevrimiçi mesleki gelişim programını anlamlı hale getirdi. Öğrendiğin şeyi gerçek sınıfta, gerçek öğrencilerle uygulamadıktan sonra anlamsız.

[P-10, I-51] Yeni bir değerlendirme tekniği öğrendim. Başta söylediğim gibi, bu hiçbir zaman düşünmeyeceğim birşeydi. Denedim ve büyük bir başarıydı.

[P-9, I-52] İzlediğimiz örnek ders çok faydalıydı. Dersini izlediğimiz öğretmenin tekniğini kullandım. Örnek dersi ve derste kullanılan materyalleri zümre arkadaşlarıma gösterdim ve onlarda çok beğendiler. Kendi konuma uygun olarak bir ders hazırladım ve kullandım. Bu program sadece bana değil, arkadaşlarım içinden öğrenmeye istekli olanlara da faydalı oldu.

[P-10, I-53] Üzerinde bazı değişiklikler yapıp önümüzdeki sömestr kullanıcam. Öğrenciler uygulamayı yaptıktan sonra bir daha yapıp yapmayacağımızı sordular. Poster değerlendirmesi için kullanabilirim.

[P-10, I-54] Aramızda paylaştığımız ders planları çok etkiliydi. Direkt olarak aynısını kullanmasak da ilham aldık.

[P-10, I-55] Mesleki gelişim programının her kısmında İngilizce kullanmaya zorladık kendimizi. Eğer böyle bir programa dahil olmasaydım, bu dönemde İngilizce kullanmayacaktım. Çok faydalı oldu, çünkü neredeyse bazı terimleri unutuyordum.

[P-2, I-56] Bana göre dersi veren kişi her açıdan oldukça yeterliydi. Herhangi bir problemim olduğunda, ona elektronik posta atıyordum ve anında cevap alıyordum. Bazen elektronik posta gönderiyordum ve cevap göndermenizin zaman alacağını düşünerek internetten çıkıyordum. İki gün sonraki bağlanmamda ve elektronik posta kutumu kontrol ettiğimde sorumu iki gün önce cevaplamış olduğunuzu görüyordum.

[P-1, I-57] Bana göre tüm detaylar düşünülmüştü. Yaptığımız bütün aktiviteler iyi organize edilmiş ve planlanmıştı.

[P-9, I-58] Ders önceden planlanmıştı. Birinci haftanın içeriğine bakarken, onuncu haftada ne yapacağımızı görebiliyorduk. Konuların ve ödevlerin sıraları tatmin ediciydi.

[P-7, I-59] Dünyada bu alanda çalışmış kişilerin neler yaptıklarını bilmek güzel. Öğrencilerin değerlendirme sürecine katıldıkları ile ilgili bilgilerin bulunduğu kitaptan okumalar yapmaktan eğlendim. Bunun dışında hemen hemen her hafta okuma yaptım. Mesela forum alanında arkadaşlarımın yazdıklarını okudum.

[P-6, I-60] Emily' nin hikâyesini okumak hoşuma gitti. Kendimi onun öğretmeni ve velisinin yerine koydum. Okuduğum okul ortamını hayal ettim.

[P-7, I-61] Başkalarının yorumlarını okurken, benim o konuda o şekilde düşünmediğimi anladım. Ayrıca arkadaşlarımın bir konu hakkındaki görüşlerine cevap yazma şansım oldu.

[P-1, I-62] Programın başında, forum tartışmaları hakkında pek fazla bilgiye sahip olmadığım için kullanmak için motive olmamıştım. Forumun ne olduğunu bu programda öğrendim. Doğu olarak nasıl kullanacağını öğrendiğinde, gerçekten faydalı.

[P-10, I-63] Çevrimiçi günlük yazmayı seviyordum. Hafta içinde neler yaptığımı yazıyordum. Nasıl söyleyebilirim? Sanki arkadaşım ile konuşuyor gibiydim. Ödevlerimi zamanında bitiremediğimde mazeretimi yazmak için en iyi yer günlüğümdü. Ayrıca haftalık ödevler hakkındaki yorumlarımızı da buraya yazma şansımız oluyordu.

[P-9, I-64] Çevrimiçi günlük tutmayı sevmedim. Her hafta için aynı şeyleri yazdım. Tamamı ile karşı değilim, mesela her üç haftada bir yazabiliriz. Önce beklentilerimizi yazacağımız bir bölüm, arkasından günlük kısmı olabilir.

[P-3, I-65] Sadece öğrencilerin değerlendirmeye katıldığı yönetime konsantre olmadım. Ayrıca derste ki değişik noktaları inceledim. Örneğin, çok basit bir hata yaptı. Kendimi onun yerine koydum. Ben aynı durumda ne yapardım onu düşündüm. Bazen ben de aynı hataları ya da güzellikleri yapıyorum diye düşündüm. Sınıfı kargaşa ortamında nasıl yönetti ona baktım. Daha fazla izleyecek dersler olmasını dilerim.

[P-6, I-66] Bana göre izlediğimiz örnek ders çok faydalıydı. Örnek dersi izlerken, sınıfta böyle bir durumda olabilecek potansiyel sorunları görme şansım oldu. Hazırladığımı

ölçekeli değerlendirme anahtarının kalitesi, öğrencilerin motive edilmesinin çok önemli noktalar olduğunu anladım. Ciddi olarak ne ile karşılaşacağıma dair ön bilgi oldu.

[P-7, I-67] En yardımcı aktivite uygulama yaptığımız oldu. Sınıfta karşılaştığım bazı noktalara güldüm. Çünkü bunlar iki hafta önce seyrettiğim örnek derste karşılaşılan sorunlarla aynıydı.

[P-7, I-68] WebQuest in bir parçası olan web sayfalarını sevdim. Öğrencilere geri dönüt verirken düşünülmesi gereken şeyleri içeren iyi bir referans oldu. Konunun yeride tam olarak uygundu. Aktivitenin basamakları dikkatlice planlanmıştı. İş arkadaşlarıma power point kullanarak yapacağım sunumu hazırlamak eğlenceliydi.

[P-6, I-69] Programa başlamadan önce tüm amaçları biliyorduk. Çevrimiçi mesleki gelişim programı başlamadan önce dersi hazırlayan kişi açık bir şekilde hepsini açıkladı. Ayrıca her haftanın amaçları da ayrıca tanımlanmıştı

[P-2, I-70] Ön görüşme sırasında siz dersin amaçlarını açıkladınız. Bunu kaçırınlar ya da tekrar göz gezdirmek isteyenler için dersin akışını gösteren çizelgede kolaylıkla bulabiliyorlardı. Her haftanın yapılacaklarını gönderdiğiniz dokümanda da haftalık amaçlar veriliyordu.

[P-7, I-71] Etkinlikler için verilen zaman yeterliydi. Ben haftada yirmi saat ders veriyor olmamam rağmen, haftalık ödevleri tamamlamak için zamanım oldu.

[P-4, I-72] Ödevlerimi zamanında tamamlamak için elimden geleni yaptım. Fakat bazen özellikle çevrimiçi mesleki gelişim programının ikinci haftasında çok fazla yapılacak şey vardı. Bazı ödevleri geç teslim ettim.

[P-9, I-73] Bazen sınıf ortamında çalışmak daha iyi oluyor. Yüz yüze yapılan eğitim çevrimiçi ortam ile entegre edilebilir.

[P-10, I-74] Evdeki internet bağlantısında sorun yaşadım. ADSL ve modem bağlantısı ile ilgili sorunlardı. Kendi kendime sorunu çözdüm.

[P-4, I-75] Tüm konular organize edilmişti. Konular arasında tutarlılık vardı. Bir haftanın sonu diğer haftanın başını oluştuyordu.

[P-2, I-76] İnternete erişimim olduğu sürece tüm materyale erişimim vardı.

[P-9, I-77] Böyle bir sistemle ilk defa çalışıyorum. İçerdiği bilgi yeterliydi. Kullanırken hiçbir zorluk yaşamadım.

[P-6, I-78] Sitemi tasarlayan kişiler çok iyi bir şey yapmışlar. Çünkü teknoloji direkt olarak derse entegre edilmiş.

[P-10, I-79] İyi bir sistem. Programın başında bu sistemin tasarımında çalışmış birisinin videosunu izlemiştik. O kişi sistemin tasarımı ile ilgili kısa bir bilgi vermiş ve kullanılan araçları anlatmıştı. Öğrenme yönetim sistemlerine aşinayım çünkü buna benzer bir sistemi eğitim teknolojisi dersinde kullanmıştık.

[P-3, I-80] Bir hafta içerisinde zaman bulduğunda sisteme giriş yapıyorsun. Bu büyük bir avantaj. Ondan sonra sistemde ne kadar kalacağına sen karar veriyorsun. Belki işini on dakikada bitirirsin, belki bir saat de. Ama eğer gerçek sınıf ortamında olsan ödevlerini tamamlamak için 40 dakikan vardır. Burada zamanı ihtiyacına göre kullanıyorsun.

[P-7, I-81] İnsanların sınıfa gitmesine gerek yok. Öğrenme ortamı evde ya da okulda bilgisayarın önü.

[P-7, I-82] Öğrencilerin değerlendirmeye katılıp katılamayacağını öğrendim. Bence öğrenciler değerlendirmeye katılabilirler. Öğrenciler değerlendirmeye katılırlarken nelere dikkat etmem gerektiğini öğrendim.

[P-7, I-83] Öğrenci olmanın ne kadar zor olduğunu hatırladım. Ödevlerimizi zamanında bitirme endişesini yaşadım. Zaman yönetimini öğrendim.

[P-3, I-84] Öğrencilerin değerlendirmeye katılmalarının kolay olmadığını ve yararlı olmadığını düşünüyordum. Bunun öğrenciler için faydalı olduğunu ve kolay bir uygulama olduğunu öğrendim. Ayrıca öğrencilerin sınıfta aktif olmaları onları motive ediyor.

[P-4, I-85] Bilgisayar kullanımı hakkında daha fazla şey öğrendim, ve ayrıca çevrimiçi öğrenimin bölümlerini öğrendim. Uzaktan eğitimin ne kadar zor olduğunu gördüm.

[P-9, I-86] Kesinlikle bir daha çevrimiçi mesleki gelişim programına katılmak istiyorum. Çünkü, ödevlerimi kendi programıma göre tamamlıyorum. Ayrıca, büyük şehirde yaşıyoruz ve seyahat etmek hiç de kolay değil. Gerçekten çok zaman alıcı.

[P-3, I-87] Başka bir çevrimiçi mesleki gelişim programına katılmak isterim. Çünkü zaman uçup gidiyor. Bu program sayesinde, gelişimimi hissettim. Ayrıca çok zamanımı almadı. Bu programa katılırken, aynı zamanda diğer işlerimi de yapabildim. Bu programla guru duyuyorum. Arkadaşıma programdan bahsettim, onlarda katılmak istediler. Kendi gelişimin için bir şeyler yapmak çok güzel. Ayrıca çevrimiçi mesleki gelişim programı gerçekten başarılıydı.

[P-10, I-88] Başka bir çevrimiçi mesleki gelişim programına katılmak istiyorum, çünkü yeni bir şeyler öğreneceğim. Değişik öğretim teknikleri deneyeceğim. Bunun yanında arkadaşlarımla materyalleri paylaşmak çok güzel. Hem de başka okulların neler yaptığını bilmek güzel. Mesela, TED okullarında öğretmenlerin sınav hazırlarlarken ve okurken neler yaptıklarını öğrendim.

[P-6, I-89] Ürün dosyası değerlendirmek için öğrencilerin değerlendirmeye katıldıkları bir teknik kullanacağım. Hazırladığım materyalleri tekrar gözden geçirmeliyim. Çünkü o materyalleri poster değerlendirmesinde kullanmıştık.

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