Croatian Journal of Education
Vol: 15 (1/2013), pages: 61-85
Preliminary communication
Paper submitted: 21st June 2012
Paper accepted: 26th September 2012

# Effectiveness of Web-Based Inset Programme: A Case Study

Raşit Özen
*A.I.B.U., Faculty of Education, Department of Educational Sciences*

## Abstract

*This study aims to examine primary school teachers' opinions about the effectiveness of the web - based INSET programme in which they had participated. The subjects were primary school teachers (n=83) working in the Bolu city centre in the spring semester of the 2008-2009 academic year. The qualitative data were collected using a semi - structured interview form. Content analysis and continuous comparison techniques were used to analyze the data collected and they were reported using frequency and percentage values. Even though teachers reported positive changes in their computer and Internet-related knowledge and skills, opinions, their uses in classroom activities, their pupils' uses of these technologies, they pointed out some barriers regarding the implementation of what they have learned in the INSET programme.*

**Key words:** *In-service training (INSET) programmes; primary school teachers; web-based in-service training (INSET) programmes*

## Introduction

In recent years, various developments and changes have been observed particularly in the area of information and communication technologies (ICTs). In line with this fact, teachers are required to have the necessary technological knowledge and skills regarding the integration of ICTs into their daily classroom activities and practices at their schools. Therefore, it can be said that teachers are expected to use computer and Internet facilities effectively at schools and various professional development opportunities should be offered to teachers in order to develop their technology knowledge and skills. As Bakioğlu and Şentuna (2001) point out, various professional development opportunities should be offered for teachers at their schools in order to enable access to information on the Internet and effective use of computers, otherwise they will not use these technologies to their best advantage. They add that teachers

are key agents in the integration of technology and thereby should be well-trained on how to access and use information on the Internet. In this respect, in-service training (INSET) programmes in general, and those related to computer and Internet technologies in particular, are considered as opportunities and effective means for teachers to acquire, update and refresh their technology knowledge and skills on integrating ICTs into their classroom activities. Meanwhile, it should be pointed out that in the present study, ICT integration is used as a synonym for effective use of technology by the instructor as stated in Mazman and Usluel (2011).

As a consequence of developments and changes in the information and communication technologies (ICTs), the Internet and World Wide Web (www) is widely used as an integral part of training in-service teachers. Training programmes that use these tools as a means to train in-service teachers are as effective as traditional INSET programmes. The literature presents positive changes not only in teachers' technology knowledge and skills (Guzey and Roehrig, 2009; Valanides and Angeli, 2008), opinions about technology and its integration into instruction (Charalambous and Ioannou, 2008; Polly, 2006), classroom practices through integrating technology into their instruction (Kochery, 2000; Marrero, Woodruff, Schuster and Riccio, 2010), comfort and confidence levels to use technology (Klieger, Ben-Hur and Bar-Yossef, 2010; Wright and Wilson, 2007); but also in their students' participation in classroom activities (Rye, 2001; Wiesenmayer and Koul, 1999), academic achievement levels (Lee, 2006; Liu,Theodore and Lavel, 2004) and technology knowledge and skills (Dawson, Cavanaugh and Ritzhaupt, 2008/2009; Herrington, Herrington, Hoban and Reid, 2009).

The Turkish Ministry of National Education (MoNE - MEB) carries out INSET programmes in computer and Internet technologies (MEB, 2008) for teachers in order to equip them with the necessary computer and Internet related knowledge, skills and competences, to increase and to enhance their current computer and Internet knowledge, skills and competence levels and to integrate computer and Internet related knowledge, skills and competences into their daily classroom activities and practices via web-based distance education. With respect to that, Temel (2007) states that both traditional and distance education methods are used in the INSET programmes which are carried out in cooperation with the representative offices of international highly esteemed companies and substantiated for the training and computer training of teacher trainers. It is stated by the Ministry (MEB,2005) that the necessary studies and procedures concerning putting the Teacher Training Project into practice through the Distance In-service Training Method have already been carried out in Turkey by activating the era's technology computer and internet as well as existing traditional methods and applications. Moreover, it is also stated that the first example of this project will be computer education for teachers and this project will be implemented as a web-based project using the internet. The aim of this training is to increase computer literacy levels of teachers who have a certain level of computer literacy, to

equip computer illiterate teachers with certain computer literacy skills, to support teachers and students for the effective use and integration of computer technologies in education (Arkan, 2005-2006; MEB, n.d.). The programme covers topics such as fundamentals of information technologies, Microsoft Windows and OfficeXP (MEB, n.d.).

Within this framework, the aim of this study is to examine the effectiveness of the web-based INSET programme through investigating primary school teachers' opinions before and after the programme concerning their computer and Internet related knowledge and skills, opinions about computer and Internet, teaching skills related to integration of computer and Internet into their classroom activities, their pupils' computer and Internet use in their classrooms and the barriers they have about the integration of their computer and Internet knowledge and the skills they gained into their daily classroom activities.

## Method

### *The Research Approach*

In this study, qualitative data collection methods were used in order to collect comprehensive data (Yıldırım and Şimşek, 2008). The research was designed as a case study, an empirical research method in which a current fact is studied in its real existence framework (context) (Yin, 1984, p. 23; cited in Yıldırım and Şimşek, 2008). In this regard, a case study report should provide both convincing and persuasive answers to the sub-problems stated at the beginning of the research and abstain from unnecessary information and descriptions (see Yıldırım and Şimşek, 2008). The semi-structured interview technique was also used in the present study, since the aim was to find out whether the statements of the persons interviewed are coherent, whether there are any differences between them and to obtain accurate information about the subject by making a comparison. The questions had been prepared before but the possible answers were not defined.

### *Participants*

In the spring semester of the 2008 -2009 academic year, 724 teachers were working at primary schools located in the city centre of Bolu (T.C. Bolu Valiliği, Bolu İl Milli Eğitim Müdürlüğü, 2009). The sample consisted of 83 primary school teachers who were randomly selected using the simple random sampling technique. All of the sampled teachers worked at primary schools located in Bolu, Turkey and interviews were conducted with them during the spring semester of the 2008-2009 academic year. The demographic information showed that 47 were female, 28 had at least 21 years of teaching experience, 31 were graduates of education faculties, 50 were classroom teachers, and 47 were teaching grades 1 through 5.

### Data Collection Instrument
### Validity and Reliability of Interview Questions

In the current study, the qualitative data were collected through a semi-structured interview prepared and developed by the researcher, who examined the internal validity of the interview questions as Yıldırım and Şimşek (2008) recommend. For this purpose, the researcher made a comparison of the teachers' answers among each other and the literature in order to see the consistency of their answers with each other and with the literature. The comparison showed that there was consistency, observing some variations among the teachers' answers, and thus concluded that the interview questions had internal validity.

The reliability of the interview questions was tested as the researcher performed the following: First, eight subject specialists examined the interview forms; second, the researcher revised the questions and the final form of the interview questions was obtained; third, the pilot study of the interview questions was performed by asking 10 primary school teachers who were taking M.A. courses on Educational Sciences at the university in Bolu in the spring semester of 2008 -2009 academic year to answer the interview questions; fourth, the researcher reviewed and reorganized the interview questions in order to obtain the final form of the interview questions; and finally, the interviews were held with the primary school teachers by the researcher. During the interviews with the primary school teachers, the following five questions were asked:

1. What is your opinion about your computer and Internet related knowledge and skills before and after web-based INSET programme?
2. What is your opinion about your computer and Internet related opinions before and after web-based INSET programme?
3. What is your opinion about your teaching skills related to utilize computer and Internet into your classroom activities before and after web-based INSET programme?
4. What is your opinion about your pupils' computer and Internet use in your classrooms before and after web-based INSET programme?
5. What is your opinion about the barriers you have related to the integration of your computer and Internet knowledge and the skills you gained into your daily classroom?

### Data Analysis

For the analysis of the data collected, content analysis and continuous comparison techniques were used. The following procedure was followed for this purpose. First, two subject -specialists analyzed the interviews separately; second, the interviews were thematized (categorized); and they were formed by the researcher taking the interview questions as sub-problems of the study as a base; third, the themes were compared to each other in terms of their meanings and similar ones were accepted; fourth, the frequency of opinions under certain themes were reported; finally, the

findings of the interviews were compared to the literature to reveal any consistency between the findings of the interviews and the literature.

Data Collection Procedure

In order to collect the qualitative data for the present study, the researcher requested legal permission from the Provincial Directorate of National Education of Bolu Governorship in 2009 to hold the interviews. It took three months (March, April and May 2009) to reach a satisfactory number of teachers for the interviews. The interviews were performed on a voluntarily basis in Turkish when teachers had time. In the study, teachers were given numbers (e.g.T1,T2,T3 and so on) as they were told that their names would not be used. During the interviews, the researcher took notes which were later translated into English and show the results of the present study. The English translations of the results were reviewed by two subject specialists from the English Language Teaching (ELT) Department of AİBU. Finally, they were translated into Turkish again to identify possible changes of meaning as a result of the translation.

### *Limitations*

The results of the present study are limited to the opinions of primary school teachers (n=83) who voluntarily participated in the interviews and who were working in the city centre of Bolu-Turkey in the spring semester of the 2008–2009 academic year.

## Results

The findings related to the teachers' opinions about their computer and Internet related knowledge and skills, and opinions related to computer and Internet, their teaching skills related to the use of computers and the Internet in their classroom activities, about their pupils' computer and Internet use in their classrooms before (Time1) and after the web-based (Time 2) INSET programme and barriers they have in using computers and the Internet in their classrooms are presented in Tables 1, 2, 3, 4 and 5.

Even though 19.28 % of teachers pointed out they were using computers and the Internet at a certain level to pursue school and education related tasks at Time 1, 71.08 % of teachers believed there was a considerable change in their computer and Internet related knowledge and skills at Time 2 (see Table 1). Concerning the changes, Table 1 shows that 64.41 % of teachers emphasized a considerable increase and improvement in their computer and Internet knowledge and skills while 8.47 % of them reported an increase in their knowledge and skills on how to use computers and the Internet more effectively and actively in their classroom practices.

**Table 1.** *Teachers' Opinions about Their Computer and Internet Related Knowledge and Skills Time 1 and Time 2*

| Category | Time 1 | f | % | Time 2 | f | % |
|---|---|---|---|---|---|---|
| Teachers' computer and internet knowledge and skills | I thought I had computer and internet knowledge and skills to a certain level. | 42 | 50.60 | There was no significant change in my computer and internet knowledge and skills. | 22 | 26.51 |
| | I would use computers and the internet to do my school work. | 16 | 19.28 | There were some significant changes in my computer and internet knowledge and skills. | 59 | 71.08 |
| | I had severe deficiencies using computer and the internet. | 24 | 28.92 | I have no idea. | 2 | 2.41 |
| | I have no idea. | 1 | 1.20 | **The Changes** | | |
| | | | | There has been a development in my computer and internet related knowledge and skills. | 38 | 64.41 |
| | | | | I have begun to utilize computers and the internet more actively in my daily classroom practices effectively and actively. | 5 | 8.47 |
| | | | | I have begun to utilize computers and the internet more comfortably and confidently in my daily life activities. | 16 | 27.12 |

**Table 2.** *Teachers' Opinions about Their Computer and Internet Related Opinions Time 1 and Time 2*

| Category | Time 1 | f | % | Time 2 | f | % |
|---|---|---|---|---|---|---|
| Teachers' computer and internet related opinions | Computers and the internet should exist in the teaching -learning environments as they increase the quality of education. | 19 | 22.89 | There was no change in my opinions about computers and the internet. | 10 | 12.05 |
| | | | | My opinions about computers and the internet have changed and grown stronger. | 45 | 54.22 |
| | Computers and the internet are effective when they are utilized to provide a support for teachers in teaching - learning environments. | 20 | 24.10 | I have no idea. | 28 | 33.73 |
| | | | | Opinions Changed and Improved | | |
| | Computer and the internet should be learned and utilized by teachers. | 36 | 43.37 | I have realized that it is necessary to utilize computers and the internet in the current primary school curriculum. Therefore, teachers should improve their skills related to computers and the internet. | 15 | 33.33 |
| | | | | I have observed the positive effects of utilizing computers and the internet in my classroom practices | 28 | 62.22 |
| | I have no idea. | 8 | 9.64 | | | |
| | | | | I have begun to utilize computers and the internet in all areas of my life. | 2 | 4.44 |

Examination of Table 2 shows that 22.89 % of teachers believed that computers and Internet technologies should be available in educational settings as they enable learners to actively participate in classes, to increase the quality of education at Time 1; however, at Time 2, 54.22 % of them stated that their opinions about these technologies changed and grew stronger. Concerning the changed and improved opinions, it is seen that even though 62.22 % of them have observed the positive effects of using these technologies in their daily classroom practices, 4.44 % of them pointed out they have begun to use these technologies in all areas of their lives (see Table 2).

**Table 3.** *Teachers' Opinions about Their Computer and Internet Utilization in Their Classroom Activities Time 1 and Time 2*

| Category | Time 1 | f | % | Time 2 | f | % |
|---|---|---|---|---|---|---|
| Computer and internet utilization in the classroom activities | I would utilize computer and the internet in my classroom practices as much as possible depending on the course topic and time. | 31 | 37.35 | There has been no remarkable change in my computer and internet utilization in my classroom activities. | 18 | 21.69 |
| | I would utilize computer and the internet for various purposes in my classes and save time. | 42 | 50.60 | There has been a remarkable change in my computer and internet utilization in my classroom activities. | 65 | 78.31 |
| | | | | **The Changes** | | |
| | I have no idea. | 10 | 12.05 | I have begun to utilize computer and the internet more in my classroom activities. | 40 | 61.54 |
| | | | | I have realized that it is essential and useful to utilize computer and the internet more and that they provide a support for teachers during their classroom activities. | 25 | 38.46 |

Even though 37.35 % of teachers reported that they use these technologies in their daily classroom activities and practices as much as possible depending on the course topic, and time at Time 1, 78.31 % of them stated that there were remarkable changes in their computer and Internet use in their classroom activities at Time 2 (see Table 3). Focusing on teachers' opinions about changes in their computer and Internet use in their classroom activities as in Table 3, it can be seen that 61.54 % of them pointed out they began to use computer and the Internet more in their classroom activities, while 38.46% of them pointed out they realized that it was essential and useful to use computer and the Internet more and that these tools provided support for them during their classroom activities.

**Table 4.** *Teachers' Opinions about Their Pupils' Computer and Internet Utilization in Their Classrooms Time 1 and Time 2*

| Category | Time 1 | f | % | Time 2 | f | % |
|---|---|---|---|---|---|---|
| Pupils' computer and internet utilization in the classrooms | I used to believe that computer and the internet created appropriate teaching - learning environments in which pupils learn easily. | 12 | 14.46 | There has been no significant change in my pupils' computer and the internet utilization. | 8 | 9.64 |
| | | | | There have been significant changes in my pupils' computer and the internet utilization. | 70 | 84.34 |
| | My pupils' participation in classroom activities and their interest increased. | 5 | 6.02 | I have no idea. | 5 | 6.02 |
| | | | | **The Changes** | | |
| | I believed that utilizing computers and the internet technologies in my classes would positively influence my pupils' knowledge and skills regarding computers and the internet technologies and their academic achievement levels. | 25 | 30.12 | My pupils' participation and their interest in classes have increased. | 45 | 64.28 |
| | | | | My pupils' academic achievement has increased. | 15 | 21.43 |
| | | | 22.89 | My pupils' knowledge and skills about computer and the internet have increased. | 10 | 14.29 |
| | My pupils would do more research and would learn more. | 19 | 26.51 | | | |
| | I have no idea. | 22 | | | | |

Concerning the opinions about their pupils' computer and Internet use in their classrooms at Time 1 and Time 2 (see Table 4), 6.02 % reported an increase in their pupils' participation and interest in classroom activities at Time 1; however, 84.34 % stated that there were significant changes in their pupils' computer and the Internet use in their classrooms at Time 2. Related to changes in their pupils' computer and Internet use in their classrooms at Time 2, as can be seen in Table 4, even though 64.28 % pointed out their pupils' increase in their pupils' participation and interest in classes, 14.29 % pointed out an increase in their pupils' computer and Internet knowledge and skills.

Even though 18.07 % believed there were no obstacles at their schools for integrating computers and the Internet into their daily classroom activities, 74.70 % believed there were some barriers at their schools to integrate their INSET gains into their daily classroom activities as seen in Table 5. Of these, 40.32 % reported barriers related to

technological facilities at schools, while 16.13 % reported barriers related to schools (see Table 5).

**Table 5.** *Teachers' Opinions about the Barriers They Have in Utilizing Computer and Internet in Their Classrooms*

| Category | Teachers' Opinions | f | % |
|---|---|---|---|
| Barriers teachers have in utilizing computer and internet in the classrooms | There are not any barriers at my school to integrate computer and internet into my daily classroom activities. | 15 | 18.07 |
| | There are some barriers at my school to integrating computer and the internet into my daily classroom activities. | 62 | 74.70 |
| | I have no idea. | 6 | 7.23 |
| | **The Barriers** | | |
| | Barriers related to schools (e.g. the number of pupils in classes, the physical conditions of classrooms ). | 10 | 16.13 |
| | Barriers related to curriculum, teachers and pupils (e.g. unwillingness of teachers and pupils to use technology, the mismatch between curriculum and the course content). | 12 | 19.35 |
| | Barriers related to technology facilities at schools (e.g. lack of internet connections). | 25 | 40.32 |
| | Barriers related to support services (e.g. lack of academic, financial, administrative and technical support). | 15 | 24.19 |

## Discussion of the Findings

The aim of the present study was to investigate primary school teachers' opinions about the web-based in-service training (INSET) programme they had participated in. For this purpose, semi-structured interviews were held with 83 primary school teachers working in the Bolu city centre in the spring semester of the 2008–2009 academic year. The results of the interview indicated positive changes in teachers' computer and Internet related knowledge and included their skills, opinions, classroom activities, their pupils' use of computer and Internet by the end of the programmes they had participated in; however, they reported some obstacles in the use of their web-based INSET gains in their classrooms.

Today, INSET programmes are considered to be one of the most important means for the professional and individual development of teachers and form an essential part of teachers' professional lives. As Delano (1975, p. 520) says, ongoing continuous in-service education must be part of every public school system. According to Guskey (2002), professional development programmes are systematic efforts to bring about change in the classroom practices of teachers, in their attitudes and beliefs, and in the learning outcomes of students. Furthermore, change is considered to be one of the guidelines of effective professional development programmes. In this respect,

Guskey (1991) examines change as a guideline related to the effectiveness of these programmes. He states that change should be considered as an individual process, and to make this process beneficial and useful for the participants, the focus of attention should be on the instructional activities and the learning experiences of these programmes. Based on this, it can be said that, change is expected to be observed in teachers' attitudes, beliefs, opinions, knowledge, skills, classroom practices, relations with their colleagues and their pupils' academic achievement levels as an outcome of participation in an INSET programme.

In line with these statements, when research findings related to web-based professional development programmes are concerned, it is evident that the literature presents various studies that report positive changes not only in teachers but also in their pupils. When examining the literature, it is observed that the literature reveals positive changes both in teachers' technology knowledge and skills (Keller, Hixon, Bonk and Ehman, 2008; Walker, Downey and Sorensen, 2008), opinions about technology and its integration into instruction (Daly, Pachler, Pickering and Bezemer, 2007; Livingston and Condie, 2006), classroom practices through integrating technology into their instruction (Duncan – Howell, 2010; Rutledge, Duran and Carroll-Miranda, 2007), comfort and confidence levels in using technology (Kankaanranta, 2001; Zhao and Bryant, 2006) and in their students' participation in classroom activities (Bebell and Kay, 2010; Mitchem, Wells and Wells, 2003), academic achievement levels (Overbaugh and Lu, 2008; Owston, Wideman, Murphy and Lupshenyuk, 2008), technology knowledge and skills (Hiemstra and Poley, 2007; Mouza, 2008) by the end of these programmes. In that respect, it can be said that similar results were observed between the findings of the present study and that of the literature.

Teachers' participation or involvement is considered as one of the characteristics of effective INSET programmes as it increases teachers' sense of ownership, promotes a climate of commitment and teachers have some control over their own in-service experiences (Burke, 1994; McHaney and Impey, 1988; Sherman, Kutner, Webb and Herman, 1991; Zigarmi, Betz and Jensen, 1977). Additionally, when teachers' participation is ensured, teachers have opportunities to interact and to communicate with their colleagues, try out and experience new things by themselves and observe real applications of what they have learned in these programmes. Teachers' participation is also important when INSET programmes via distance education are concerned. In this regard, the participants of Özen's (2008) study state the importance of their participation in carrying out these programmes. In their opinion, during the application of INSET programmes via distance education, the instructional activities should provide participants' active participation (Özen, 2008). Even though the literature emphasizes the importance of teachers' participation or involvement in INSET programmes, Wood and Thompson (1980) state the lack of participant (teacher and administrator) involvement as one of several reasons for the current problems in staff development programmes. According to them, in planning and conducting

effective in-service education, a number of facts about adult learning need to be kept in mind. Therefore, the learning experiences that the participants undergo during staff development programmes should provide opportunities for the acquisition of certain skills observed in their professional behaviours, their involvement at the various stages of the programmes and their interaction with each other and with their instructors (Arends, Hersh and Turner, 1980) in order to observe positive changes not only in teachers but also in their pupils by the end of these programmes as the outcomes of these programmes.

Given below are statements of three participants, with varying years of teaching experience, as examples of changes in their knowledge and skills, opinions about computers and the Internet and their classroom applications by the end of these programmes as they indicate the fact that they are provided opportunities and means to participate in the application of these programmes actively. In this regard, a teacher with 20 and more years of experience in teaching (T38) stated the following changes in his/her computer and Internet knowledge and skills:

> "By the end of the programme, I think I have developed my computer and Internet knowledge and skills. I have gained confidence in using these technologies without having any fear."

Furthermore, another teacher's comments at the initial stages of teaching (T51) indicated changes in his/her opinions about these technologies as follows:

> "My opinion is that they are indispensable elements of my life and my education has got stronger."

Furthermore a teacher with 21 years and more teaching experience (T67) said the following about his/her use of these technologies in his/her daily classroom activities:

> "I observed that everything has become easier in my instructional practices and activities"

While primary school teachers report positive changes in their own and in their pupils' computer and Internet use having participated in these programmes as mentioned in the findings, and the Ministry of National Education (MoNE) states that necessary measures have been taken to apply for the effective integration of ICTs into education (Republic of Turkey, Ministry of National Education, n.d.); teachers state there are some barriers they have in integrating their computer and Internet related INSET gains into their daily classroom activities.

The literature about the barriers teachers have in integrating ICTs into their teaching-learning process in Turkey (Akkoyunlu, 2002; Cüre and Özdener, 2008; Yalın, Karadeniz and Şahin, 2007) indicates that they are mostly related to the number of students in classes, teachers' technological knowledge and skills, attitudes towards technology, confidence and anxiety in using technology, workload and responsibilities at schools, training facilities and opportunities provided to teachers, the number and

versions of hardware and software at schools, technological infrastructure schools have, mismatch between school curriculum and integration of technology into school curriculum, technical and administrator support, access to technology, physical infrastructure of schools. In this regard, it can be said that there is a similarity between the findings of the studies conducted in Turkey with the present study.

## Conclusion and Recommendations

Based on the findings obtained through semi-structured interviews held with primary school teachers it can be said that INSET programmes are effective when change is considered as one of the characteristics and guidelines of effective staff development programmes. Furthermore, positive changes are observed not only among teachers but also among their pupils when teachers' opinions before and after the programmes they participated in are compared. Even though this fact can be interpreted as the effectiveness of these programmes, there are some barriers that primary teachers face in implementing their INSET gains and integrating ICTs into their daily classroom practices and activities. In line with this, the following can be recommended: first, further studies need to be conducted with larger sample groups and by implementing different data collection instruments. Second, similar studies need to be carried out in different parts of Turkey to gain more insight into the effectiveness of these programmes in the whole country. The correlation between the school curriculum and the content of these programmes needs to be considered during the planning of these programmes and the instructional activities of these programmes need to provide solutions to teachers' classroom related problems. Therefore, the active involvement of the participants in these programmes needs to be emphasized and encouraged by the programme organizers. Moreover, teachers need to be provided with various means and opportunities to see, observe and experience their new learning during the application of these programmes. In order for teachers to integrate ICTs into their daily classroom practices and activities, necessary measures need to be taken and studies need to be conducted by MoNE authorities and schools administrators.

### References

Akkoyunlu, B. (2002). Öğretmenlerin internet kullanımı ve bu konudaki öğretmen görüşleri (Use of internet by teachers and their opinions on the issue). *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, (22), 1- 8.

Arkan, Ç. (2005-2006). Eğitimde teknoloji devrimi: Microsoft eğitimde işbirliği programı [Innovation in technology for education: Microsoft cooperation in educational programs]. *microsoft.life:Teknoloji ve Yaşam Kültürü Dergisi* [*microsoft.life:Technology and Lifestyle Magazine*], (29). Retrieved July 07, 2008, from http://www.microsoft.com/turkiye/mslife/sayi29/kapakKonusu.mspx.

Arends, R., Hersh, R. & Turner, J. (1980). Conditions for promoting effective staff development. (ERIC Document Reproduction Service No: ED 183506).

Bakioğlu, A. ve Şentuna T. (2001). Internet ile eğitimde öğretmen ve okul yöneticilerinin görevleri [The principals' and teachers' responsibilities in education with internet]. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi [Pamukkale University Journal of Education]*, (9), 10 – 18.

Bebell, D. & Kay, R. (2010). One to one computing: A summary of the quantitative results from the Berkshire wireless learning initiative. *Journal of Technology, Learning, and Assessment,* 9(2), 4-59. Retrieved June 15, 2011, from http://www.jtla.org.

Burke, M.A. (1994). Designing effective electronic distance education programs for K-12 staff development. *Clearing House*, 67(4), 233 -237.

Charalambous, K. & Ioannou, I. (2008). The attitudes and opinions of Cypriot primary teachers about the use of the Internet for their professional development and as an educational tool. *Learning, Media and Technology*, 33(1), 45–57.

Cüre, F. ve Özdener, N. (2008). Öğretmenlerin bilgi ve iletişim teknolojileri (BİT) uygulama başarıları ve BİT'e yönelik tutumları [Teachers' information and communication technologies (ICT) using achievements and attitudes towards ICT]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi (H.U. Journal of Education)*, (34), 41–53.

Daly, C., Pachler, N., Pickering, J. & Bezemer, J. (2007). Teachers as e-learners: Exploring the experiences of teachers in an online professional master's programme. *Journal of In-Service Education,* 33 (4), 443 – 461.

Dawson, K., Cavanaugh, C. & Ritzhaupt, A.D. (2008/2009). Florida's EETT leveraging laptops initiative and its impact on teaching practices. *Journal Research on Technology in Education*, 41(2), 143 - 159.

Delano, J.S. (1975). In-service for change. *Educational Leadership*, 32 (8), 520 - 523.

Duncan-Howell, J. (2010). Teachers making connections: Online communities as a source of professional learning. *British Journal of Educational Technology*, 41(2), 324 – 340.

Guskey, T.R. (1991). Enhancing the effectiveness of professional development programs. *Journal of Educational and Psychological Consultation,* 2 (3), 239 – 247.

Guskey, T.R. (2002). Professional development and teacher change. *Teachers and Teaching: Theory and practice,* 8(3/ 4), 381- 391.

Guzey, S. S. & Roehrig, G. H. (2009). Teaching science with technology: Case studies of science teachers' development of technology, pedagogy, and content knowledge. *Contemporary Issues in Technology and Teacher Education*, 9(1), 25 - 45.

Herrington, A., Herrington, J., Hoban, G., & Reid, D. (2009). Transfer of online professional learning to teachers' classroom practice. *Journal of Interactive Learning Research*, 20(2), 189-213. Retrieved June 12, 2011, from http:// unpan1.un.org /intradoc/groups /public/ documents /unpan /unpan 037305.pdf

Hiemstra, R. & Poley, J. (2007). Lessons pertinent for teaching with computers. *The Clearing House*, 80 (3), 144 - 148.

Kankaanranta, M. (2001). Constructing digital portfolios: Teachers evolving capabilities in the use of information and communications technology. *Teacher Development*, 5(2), 259 – 275.

Keller, J.B., Hixon, E., Bonk, C. J. & Ehman, L.H. (2008). Professional development that increases technology integration by K-12 teachers: Influence of the TICKIT program. *International Journal of Instructional Technology and Distance Learning,* 5(3), 3 - 22.

Klieger, A., Ben-Hur, Y. & Bar-Yossef, N. (2010). Integrating laptop computers into classroom: Attitudes, needs, and professional development of science teachers - A case study. *Journal of Science Education and Technology,* 19(2), 187-198.

Kochery, T.S. (2000). Providing inservice teachers with a "TICKET" to digital delivery systems. *TechTrends,* 44 (4), 21-25.

Lee, K. T. (2006). Online learning in primary schools: Designing for school culture change. *Educational Media International,* 43(2), 91–106.

Liu, Y., Theodore, P. & Lavelle, E.(2004). Experimental effects of online instruction on teachers' concerns about technology integration. *International Journal of Instructional Technology and Distance Learning,* 1(1), 27- 38.

Livingston, K. & Condie, R. (2006). The impact of an online learning program on teaching and learning strategies. *Theory into Practice, 45*(2), 150–158.

Marrero, M.E., Woodruff, K.A., Schuster, G.S. & Riccio, J.F. (2010). Live, online short courses: A case study of innovative teacher professional development. *International Review of Research in Open and Distance Learning,* 11(1), 81 – 95.

Mazman, S.G. ve Usluel, Y.K. (2011). Bilgi ve iletişim teknolojilerinin öğrenme-öğretme süreçlerine entegrasyonu: Modeller ve göstergeler [ICT integration into learning-teaching process: Models and indicators]. *Eğitim Teknolojisi Kuram ve Uygulama (Educational Technology Theory and Practice)*,1(1), 62 – 79. Retrieved July 17, 2011, from http://www etku.org/sayilar/etku_1_1.pdf.

McHaney, J. & Impey, W. (1988). Staff development: A review of the literature on effective programs and recommendations for future program development. (ERIC Document Reproduction Service No.ED 429).

Milli Eğitim Bakanlığı. (2005). Uzaktan hizmetiçi eğitim yöntemiyle bilgisayar eğitimi projesi / kursları [Computer education project / courses through distance inservice training method (curricular 2005 / 17 numbered B.08, 0.HED.0.25.07.00 /931 and dated 17.03.2005)] .Retrieved July 10, 2011, from http:// hedb. meb.gov.tr /net/_ genelg_ yonetm/ uzak.htm.

Milli Eğitim Bakanlığı. (2008). 2009 yılı hizmetiçi eğitim planı, uygulama esasları ve makam onayı [2009 inservice training plan, principles of application and authorised approval]. Retrieved January 05, 2010, from http://hedb.meb.gov.tr/net/index.php?option=com_content&view=category&layout=blog&id=50&Itemid=74.

Milli Eğitim Bakanlığı. (n.d.). Eğitim teknolojileri genel müdürlüğü tarafından yürütülmekte olan projeler [The projects carried out by educational technologies general directorate]. Retrieved June 12, 2008, from http://egitek.meb.gov.tr/kapaklink/projeler/ yurutulen projeler.html.

Mitchem, K., Wells, D.L. & Wells, J.G. (2003). Effective integration of instructional technologies (IT): Evaluating professional development and instructional change. *Journal of Technology and Teacher Education*, 11(3), 399-416.

Mouza, C. (2008). Learning with laptops: Implementation and outcomes in an urban, underprivileged school. *Journal of Research on Technology in Education,* 40(4), 447–472.

Overbaugh, R. & Lu, R. (2008). The impact of a NCLB-EETT funded professional development program on teacher self-efficacy and resultant implementation. *Journal of Research on Technology in Education,* 41 (1), 43–61.

Owston, R., Wideman, H., Murphy, J. & Lupshenyuk, D. (2008). Blended teacher professional development: A synthesis of three program evaluations. *The Internet and Higher Education,* 11 (3-4), 201–210.

Özen, R. (2008). Inservice training (INSET) programs via distance education: Primary school teachers' opinions. *Turkish Online Journal of Distance Education-TOJDE*, 9 (1), 217–232. Retrieved October 24, 2009, from http:// tojde. anadolu. edu.tr/tojde29/index.htm.

Polly, D. (2006). Participants' focus in a learner-centered technology- rich mathematics professional development program. *The Mathematics Educator,* 16(1), 14–21.

Republic of Turkey, Ministry of National Education. (n.d.).Turkish education system: Formal education, non-formal education, priorities and recent developments in education, developments within the context of projects. Ankara:MoNE. Retrieved February 13, 2008, from http://digm.meb.gov.tr/uaorgutler/BM/ turkish _ education_ system.pdf.

Rutledge, D., Duran, J. & Carroll-Miranda, J. (2007). Three years of the New Mexico laptop learning initiative (NMLLI): Stumbling toward innovation. *AACE Journal, 15*(4), 339–366.

Rye, J.A. (2001).Enhancing teachers' use of technology through professional development on electronic concept mapping. *Journal of Science Education and Technology,* 10(3), 223-235.

Sherman, R.Z., Kutner, M.A., Webb, L. & Herman, R. (1991). Key elements of adult education teacher and volunteer training programs: Study of ABE/ESL instructor training approaches. (ERIC Document Reproduction Service No. ED 344056).

T.C. Bolu Valiliği, Bolu İl Milli Eğitim Müdürlüğü.(2009). Bolu Milli Eğitim Müdürlüğü Okul / Kurum Tanıtım Kılavuzu [Bolu Directorate of National Education School/Institution Introductory Guide]. Retrieved March 18, 2009, from http://bolu.meb.gov.tr/kurumlar.asp.

Temel, M. (2007). Bilişim teknolojilerinin eğitimde kullanılması ve bilişim teknisyeni yetiştirilmesi [Use of information and communication technologies (ICT) in education and training of ICT technicians]. *İşveren Dergisi [Employers' Journal].* Retrieved November 27, 2007, from http://www.tisk.org.tr/isveren _ sayfa. asp? yazi _ id =1788&id=89.

Valanides, N. & Angeli, C. (2008). Professional development for computer-enhanced learning: A case study with science teachers. *Research in Science & Technological Education,* 26(1), 3–12.

Walker, D.A., Downey, P.M. & Sorensen, C.K. (2008). E-learning modules for teacher development: Project REAL. *TechTrends*, 52(5), 59-62.

Wiesenmayer, R. L. & Koul, R. (1999). Level of internet use among science teachers involved in a professional development project. *Journal of Science Education and Technology*, 8(2), 123–135.

Wood, F. H. & Thompson, S.R. (1980). Guidelines for better staff development. *Educational Leadership*, 37(5), 374 - 378.

Wright, V.H. & Wilson, E.K. (2007). A partnership of educators to promote technology integration: Designing a master technology teacher program. *Education,* 128 (1), 80–86.

Yalın, H.İ., Karadeniz, Ş. & Şahin, S. (2007). Barriers to information and communication technologies integration into elementary schools in Turkey. *Journal of Applied Sciences,* 7(24), 4036–4039.

Yıldırım, A. ve Şimşek, H. (2008*).* Sosyal bilimlerde nitel araştırma yöntemleri [ Qualitative research methods in social sciences] (Güncelleştirilmiş Geliştirilmiş 6.Baskı, -7. Baskı Tıpkı Basım). Ankara: Seçkin Yayıncılık San. ve Tic. A.Ş.

Zhao, Y. & Bryant, F.L. (2006). Can teacher technology integration training alone lead to high levels of technology integration? A qualitative look at teachers' technology integration after state mandated technology training. *Electronic Journal for the Integration of Technology in Education,* 5, 53-62. Retrieved April 07, 2009, from http:// ejite.isu.edu /Volume5/ Zhao. pdf.

Zigarmi, P., Betz, L. & Jensen, D. (1977). Teachers' preferences in and perceptions of in-service education. *Educational Leadership*, 34(7), 545- 551.

**Raşit Özen**
Abant İzzet Baysal Üniversitesi Gölköy Kampüsü
Faculty of Education
Department of Educational Sciences
14280 Bolu, Turkey
rasitozen@yahoo.com

# Učinkovitost mrežno utemeljenog programa stručnog usavršavanja (INSET*): Studija slučaja


## Sažetak

*Ova studija za cilj ima istražiti mišljenje učitelja primarnog obrazovanja o učinkovitosti stručnog usavršavanja u kojemu su sudjelovali putem mreže. Ispitanici su učitelji primarnog obrazovanja (n=83) zaposleni u gradskom središtu Boluu tijekom proljetnog semestra akademske godine 2008./2009. Kvalitativni podaci prikupljeni su uporabom polustrukturiranog intervjua. Korištene su analiza sadržaja i tehnika kontinuirane poredbe da bi se analizirali prikupljeni podaci, te su prikazani kroz frekvencije i postotne vrijednosti. Iako su nastavnici izvijestili o pozitivnim promjenama u vještinama i znanju uporabe računala i interneta, u stavovima, u uporabi interneta u nastavnim aktivnostima i u načinima na koji njihovi učenici koriste tu tehnologiju, istakli su i neke prepreke koje se tiču implementacije znanja stečenih u INSET programu.*


**Ključne riječi***: Programi stručnog usavršavanja (INSET), učitelji primarnog obrazovanja, mrežno utemeljeni (engl. web-based) programi stručnog usavršavanja.*

## Uvod

Posljednjih godina primijećene su brojne promjene i brz razvoj u polju informacijsko-komunikacijskih tehnologija (IKT-a). U skladu s tom činjenicom, od učitelja se zahtjevaju potrebna tehnološka znanja i vještine u svrhu integracije IKT-a u svakodnevne nastavne aktivnosti i praksu u školi. Stoga možemo reći da se od učitelja u školi očekuje učinkovita uporaba računala i interneta te bi im bilo potrebno ponuditi razna stručna usavršavanja kako bi ispunili navedena očekivanja. Kao što su naveli Bakioğlu i Şentuna (2001), u školama bi učiteljima trebale biti ponuđene

* engl. In-service Training

raznolike mogućnosti stručnog usavršavanja u svrhu pristupa informacijama na internetu i učinkovite uporabe računala, u suprotnom dostupnu tehnologiju neće iskoristiti u potpunosti. Ti autori dodaju i da su učitelji ključni posrednici u integraciji tehnologije te moraju biti dobro upućeni u načine pristupanja informacijama na internetu i u njihovu uporabu. Uzimajući navedeno u obzir, programi stručnog usavršavanja (INSET) općenito, a posebice oni koji se odnose na računala i internetske tehnologije, smatraju se učinkovitim sredstvima da učitelji usvoje, nadograde i osvježe svoja tehnološka znanja i vještine o načinima integracije IKT-a u nastavne aktivnosti. Potrebno je naglasiti da je u ovom istraživanju integracija IKT-a sinonim za učinkovitu uporabu tehnologije, kao što navode Mazman i Usluel (2011).

Kao posljedica promjena i razvoja informacijsko-komunikacijskih tehnologija (IKT-a), raširena je uporaba interneta i World Wide Weba (WWW) kao sastavnog dijela usavršavanja zaposlenih učitelja. Programi usavršavanja koji se koriste navedenim alatima kao sredstvima za obuku zaposlenih učitelja jednako su učinkoviti kao i tradicionalni INSET programi. U literaturi se nalaze primjeri pozitivnih promjena nakon provedenih programa usavršavanja u područjima: nastavničkih znanja i vještina (Guzey i Roehrig, 2009; Valanides i Angeli, 2008), mišljenja o tehnologiji i njezinoj integraciji u nastavi (Charalambous i Ioannou, 2008; Polly, 2006), nastavnoj praksi kroz integraciju tehnologije u nastavu (Kochery, 2000; Marrero, Woodruff, Schuster i Riccio, 2010), smanjivanju nelagode i povećanju samopouzdanja pri uporabi tehnologije (Klieger,Ben-Hur i Bar-Yossef, 2010; Wright i Wilson, 2007), sudjelovanju učenika u nastavnim aktivnostima (Rye, 2001; Wiesenmayer i Koul, 1999), razini akademskih postignuća (Lee,2006; Liu,Theodore i Lavel, 2004) te u području tehnološkog znanja i vještina (Dawson, Cavanaugh i Ritzhaupt, 2008/ 2009; Herrington, Herrington, Hoban i Reid, 2009).

Tursko Ministarstvo nacionalnog obrazovanja (MoNE – MEB) provodi INSET programe za nastavnike putem mrežno utemeljenog obrazovanja na daljinu na temu interneta i računalne tehnologije (MEB, 2008). Programi se provode u svrhu stjecanja neophodnih znanja, vještina i kompetencija u uporabi računala i interneta, u svrhu podizanja razine i unaprjeđivanja postojećeg znanja, vještina i kompetencija, te integracije tih znanja, vještina i kompetencija u nastavni proces.

Imajući to u vidu, Temel (2007) navodi da su u INSET programu korištene tradicionalne metode poučavanja i učenje na daljinu u suradnji s predstavništvima uvaženih međunarodnih tvrtki ovlaštenih za obuku i računalnu obuku instruktora za nastavnike. Ministarstvo navodi (MEB, 2005) da su u Turskoj već provedeni postupci i izvršena potrebna istraživanja koja se tiču provedbe projekata Osposobljavanja nastavnika uporabom metode stručnog usavršavanja na daljinu uporabom računala i interneta, kao i tradicionalnih metoda i aplikacija. Nadalje, navodi se da će prvi primjer u projektu biti računalna edukacija nastavnika, a projekt će biti uporabom interneta implementiran kao mrežno utemeljen projekt. Cilj tog obučavanja je podizanje razine računalne pismenosti kod nastavnika koji su već računalno pismeni, opremanje računalno pismenih nastavnika određenim vještinama računalne pismenosti, pružanje podrške nastavnicima i učenicima za učinkovitu uporabu i integraciju računalne

tehnologije u obrazovanju (Arkan, 2005-2006; MEB). Program pokriva teme poput osnova informacijskih tehnologija, Microsoft Windows i Office XP (MEB).

Unutar tog okvira, cilj istraživanja je utvrditi učinkovitost mrežno utemeljenog INSET programa ispitujući mišljenje nastavnika primarnog obrazovanja prije i nakon provedenog programa o njihovu znanju i vještinama u radu računalima i internetom, o njihovu mišljenju o računalima i internetu, o nastavničkim vještinama vezanim uz integraciju računala i interneta u nastavne aktivnosti, o načinima na koje njihovi učenici koriste računala i internet na nastavi i o problemima pri integraciji njihova znanja o računalima i internetu i vještina koje su stekli u svakodnevnim nastavnim aktivnostima.

## Metode

### *Pristup istraživanju*

U ovoj su studiji korištene metode prikupljanja kvalitativnih podataka s ciljem prikupljanja opsežnih podataka (Yıldırım i Şimşek, 2008). Istraživanje je predviđeno kao studija slučaja, metoda empirijskog istraživanja u kojem se dostupna činjenica proučava u njenom stvarnom okruženju (kontekstu) (Yin, 1984, str. 23; citirano u Yıldırım i Şimşek, 2008). Imajući to na umu, studija slučaja bi nam trebala pružiti uvjerljive i vjerodostojne odgovore na dodatne probleme iznesene na početku istraživanja, istovremeno se suzdržavajući od nepotrebnih informacija i opisa (vidjeti Yıldırım i Şimşek, 2008). Tehnika polustrukturiranog intervjua bila je također upotrijebljena i u aktualnom istraživanju s obzirom da je cilj bio ustanoviti jesu li tvrdnje ispitanika dosljedne, postoje li među njima određene razlike, te usporedbom prikupiti točne informacije o temi istraživanja. Pitanja su bila prethodno pripremljena, no mogući odgovori nisu bili određeni.

### *Ispitanici*

U ljetnom semestru akademske godine 2009./2010. u osnovnoj školi u gradskom središtu Bolua radilo je 724 nastavnika (T.C. Bolu Valiliği, Bolu İl Milli Eğitim Müdürlüğü, 2009). Uzorak se sastojao od 83 nastavnika primarnog obrazovanja odabrana slučajnim odabirom korištenjem jednostavne tehnike slučajnog odabira. Svi su odabrani nastavnici radili u osnovnoj školi smještenoj u Boluu u Turskoj i s njima su intervjui provedeni tijekom proljetnog semestra akademske godine 2008./2009. Demografski podaci pokazuju da su 47 ispitanika bile žene, 28 ih je imalo najmanje 21 godinu radnog iskustva, 31 je diplomirala na obrazovnom fakultetu, 50 ih je bilo predmetnih nastavnika, a 47 nastavnika radilo je u nastavi od 1. do 5. razreda.

### *Instrument za prikupljanje podataka*
### *Vjerodostojnost i pouzdanost pitanja iz upitnika*

U ovom su istraživanju kvalitativni podaci bili prikupljeni uporabom polustrukturiranog anketnog upitnika kojeg je pripremio i razvio istraživač koji je, kao što su preporučili Yıldırım i Şimşek (2008), vrednovao internu valjanost anketnih

pitanja. S tom je svrhom istraživač uspoređivao nastavničke odgovore međusobno i s literaturom da bi utvrdio dosljednost nastavničkih odgovora međusobno i u odnosu na literaturu. Usporedba je pokazala, opažajući neke varijacije među odgovorima nastavnika, da dosljednost postoji te je zaključeno da su anketna pitanja interno valjana.

Pouzdanost pitanja u intervjuu testirana je na način da je istraživač učinio sljedeće: prvo – osam je stručnjaka tog područja provjerilo oblikovanje upitnika, drugo – istraživač je revidirao postojeća pitanja i napravio konačnu inačicu upitnika, treće – provedeno je ogledno istraživanje s deset nastavnika koji su bili na diplomskom studiju na Obrazovnim znanostima Sveučilišta u Boluu tijekom ljetnog semestra 2008./2009. akademske godine, četvrto – istraživač je pregledao i reorganizirao pitanja u intervjuu da dobije završni oblik intervjua, peto – istraživač je proveo intervjue s nastavnicima primarnog obrazovanja. Tijekom intervjua s nastavnicima primarnog obrazovanja postavljeno je sljedećih 5 pitanja:

1. Što mislite o svojem računalnom znanju i vještinama prije i nakon provedenog mrežno utemeljenog INSET programa?
2. Što mislite o stavovima koje ste imali o računalima i internetu prije i nakon provedenog mrežno utemeljenog INSET programa?
3. Što mislite o svojim vještinama u uporabi računala i interneta u nastavi prije i nakon provedenog mrežno utemeljenog INSET programa?
4. Što mislite o učeničkoj uporabi računala i interneta na nastavi prije i nakon provedenog mrežno utemeljenog INSET programa?
5. Što mislite o preprekama koje imate s obzirom na integraciju svog znanja o računalima i internetu i vještinama koje ste stekli u svakodnevnoj nastavi?

### *Analiza podataka*

Za analizu prikupljenih podataka korištene su tehnike analize sadržaja i kontinuirane komparativne analize. U tu svrhu smo slijedili sljedeću proceduru: prvo – dvoje je stručnjaka određenog područja odvojeno analiziralo intervju, drugo – intervjui su tematizirani (kategorizirani) i istraživač ih je oblikovao uzevši pitanja iz intervjua kao podprobleme istraživanja, treće – teme su međusobno uspoređivane s obzirom na njihovo značenje te su slične teme prihvaćene, četvrto – navedene su frekvencije mišljenja pod određenom temom, peto – nalazi intervjua su uspoređeni s literaturom da bi se otkrilo postojanje ikakve dosljednosti među rezultatima intervjua i literature.

### *Postupak prikupljanja podataka*

U svrhu prikupljanja kvalitativnih podataka za ovo istraživanje istraživač je tražio dozvolu za provođenje intervjua od Nacionalnog Direktorata za Obrazovanje u 2009. u Boluu. Za prikupljanje zadovoljavajućeg broja nastavnika ispitanika utrošena su tri mjeseca (ožujak, travanj, svibanj 2009.). Intervjui su bili dobrovoljni i provedeni su na turskom jeziku u slobodno vrijeme nastavnika. U istraživanju su nastavnicima

podijeljeni brojevi kojima su bili označeni (npr. T1, T2, T3, itd.) jer je istraživanje bilo anonimno. Za vrijeme intervjua istraživač je vodio bilješke koje su kasnije prevedene na engleski jezik i prikazuju rezultate istraživanja. Engleski prijevod rezultata je pregledalo dvoje stručnjaka s Odsjeka za poučavanje engleskog jezika s AIBU-a. Na kraju su ponovno prevedeni na turski jezik da bi se identificirale moguće promjene značenja nastale prevođenjem.

### *Ograničenja*

Rezultati istraživanja su ograničeni na mišljenje nastavnika primarnog obrazovanja (N=83) koji su dobrovoljno sudjelovali u intervjuima, a bili su zaposleni u gradskom središtu Bolua tijekom ljetnog semestra akademske godine 2008./2009.

## Rezultati

Rezultati koji se odnose na mišljenja nastavnika o znanju i vještinama vezanim uz računala i internet, o stavovima o računalima i internetu, o vještinama uporabe računala i interneta u nastavnim aktivnostima, o tome kako su njihovi učenici upotrebljavali računala i internet na nastavi prije (1. vrijeme ) i nakon mrežno utemeljenog INSET programa (2. vrijeme) i preprekama na koje nailaze u uporabi računala i interneta u nastavi prikazani su u tablicama 1, 2, 3, 4 i 5.

Tablica 1

Iako je 19,28% nastavnika u 1. vremenu istaknulo da u određenoj mjeri koristi računalo i internet u svrhu ispunjavanja školskih i obrazovnih zadataka, 71,08% ih vjeruje da je zamjetna značajna promjena u 2. vremenu u njihovom znanju i vještinama vezanim za računalo i internet (vidi tablicu 1). Što se promjena tiče, tablica 1 prikazuje da je 64,41% nastavnika istaknulo značajno povećanje i poboljšanje znanja i vještina vezanih uz računalo i internet, dok ih je 8,47% izvijestilo o povećanju znanja i vještina o učinkovitijoj i aktivnijoj uporabi računala i interneta u nastavnoj praksi.

Tablica 2

Proučavanje tablice 2 pokazuje da 22,89% nastavnika vjeruje da bi računala i internet trebali biti dio obrazovnog okruženja s obzirom da učenicima omogućuju aktivno sudjelovanje u nastavi te da bi se podigla kakvoća obrazovanja u 1. vremenu; s druge pak strane, u 2. vremenu, 54,22% je izjavilo da se njihovo mišljenje o navedenom promijenilo na način da je postalo još čvršće. Imajući u vidu da se mišljenje promijenilo nabolje, primijećeno je da iako je 62,22% nastavnika opazilo pozitivne učinke uporabom navedenih tehnologija u svakodnevnoj nastavi, 4,44% je istaklo da su navedene tehnologije počeli koristiti u svim područjima života (vidi tablicu 2).

Tablica 3

Iako 37,35% nastavnika u 1. vremenu tvrdi da koriste navedenu tehnologiju što je više moguće, ovisno o predmetu i raspoloživom vremenu u svakodnevnom

nastavnom procesu, 78,31% je izjavilo da su primijetili značajne promjene u svojoj uporabi računala i interneta u nastavnim aktivnostima u 2. vremenu (vidi tablicu 3). Usmjerimo li pozornost na nastavnička mišljenja o promjenama u njihovim načinima uporabe računala i interneta u nastavi u tablici 3, može se vidjeti da je 61,54% istaknulo da je više počelo rabiti računala i internet u nastavnim aktivnostima, dok je 38,46% istaknulo da je shvatilo kako je bitno i korisno više rabiti računala i internet, te kako im ti alati pružaju potporu za vrijeme nastavnih aktivnosti.

Tablica 4

S obzirom na mišljenje nastavnika o učeničkoj uporabi računala i interneta u nastavi u 1. vremenu i 2. vremenu (vidi tablicu 4), 6,02% izvijestilo je o povećanom sudjelovanju učenika i njihovom interesu za vrijeme nastave u 1 vremenu, unatoč tomu, 84,34% izjavilo je da su primijetili značajne promjene u učeničkoj uporabi računala i interneta u nastavi u 2. vremenu. Što se tiče promjena u učeničkoj uporabi računala i interneta u nastavi u 2. vremenu, kao što je vidljivo u tablici 4, iako je 64,28% istaklo povećanje učeničke aktivnosti i sudjelovanja na nastavi, 14,29% je istaknulo povećanje u učeničkom znanju i vještinama uporabe računala i interneta.

Tablica 5

Iako 18,07% vjeruje kako ne postoje prepreke koje bi školi onemogućile integraciju računala i interneta u svakodnevne nastavne aktivnosti, 74,70% vjeruje da u njihovoj školi postoje određene prepreke integraciji znanja stečenih INSET programom u svakodnevnim nastavnim aktivnostima, kao što je prikazano u tablici 5. Od tog postotka, 40,32% povezalo je navedene prepreke s tehnološkom opremom škole, dok je 16,13% izjavilo da su prepreke vezane uz samu školu (vidi tablicu 5).

## Rasprava o nalazima

Cilj ovog istraživanja bio je istražiti mišljenja nastavnika primarnog obrazovanja o mrežno utemeljenom programu stručnog usavršavanja (INSET) u kojemu su sudjelovali. S tom svrhom održan je polustrukturirani intervju s 83 nastavnika primarnog obrazovanja zaposlena u središtu Bolua tijekom ljetnog semestra akademske godine 2008./2009. Rezultati intervjua ukazuju da su se pred kraj programa u kojem su nastavnici sudjelovali dogodile pozitivne promjene u znanju povezanom s računalima i internetom, uključujući i vještine, mišljenja, nastavne aktivnosti i učeničku uporabu računala i interneta. Unatoč tomu prijavili su i postojanje određenih prepreka u uporabi postignuća stečenih sudjelovanjem u mrežno utemeljenom INSET programu u nastavnom procesu.

Danas se INSET programi smatraju jednim od najvažnijih načina stručnog i individualnog razvoja nastavnika i čine jedan od bitnijih dijelova nastavnikovog profesionalnog života. Kao što Delano (1975: 520) kaže, trajno stručno usavršavanje mora biti dio svakog javnog obrazovnog sustava. Prema Guskeyu (2002), programi stručnog usavršavanja su sustavni pokušaji stvaranja promjena u nastavničkoj

praksi, u stavovima i uvjerenjima nastavnika i u obrazovnim rezultatima učenika. Nadalje, promjena se smatra jednom od smjernica učinkovitog programa stručnog usavršavanja. U tom smislu Guskey (1991) istražuje promjene kao smjernice povezane s učinkovitošću tih programa. Utvrdio je da promjena mora biti individualni proces, te da bi sudionici od toga imali koristi, pozornost mora biti usmjerena prema nastavnim aktivnostima i iskustvu učenja koje ti programi omogućavaju. Temeljem navedenog, može se reći da su očekivane promjene nastavničkih stavova, uvjerenja, mišljenja, znanja, vještina, nastavne prakse, odnosa s kolegama, te učeničke razine akademskih postignuća kao rezultat sudjelovanja u INSET programu.

Proučavajući literaturu o istraživanjima povezanim s mrežno utemeljenim programima stručnog usavršavanja, primijećeno je da se u literaturi otkrivaju pozitivne promjene u mnogim sferama: u tehničkom znanju i vještinama nastavnika (Keller, Hixon, Bonk i Ehman, 2008; Walker, Downey i Sorensen, 2008), u mišljenju o tehnologiji i njenoj integraciji u poučavanju (Daly, Pachler, Pickering i Bezemer, 2007; Livingston i Condie, 2006), u nastavnoj praksi kroz integraciju tehnologije u proces poučavanja (Duncan-Howell,2010; Rutledge, Duran i Carroll-Miranda, 2007), u razini ugode i samopouzdanja pri uporabi tehnologije (Kankaanranta, 2001; Zhao i Bryant, 2006) te u sudjelovanju učenika u nastavi (Bebell i Kay, 2010; Mitchem, Wells i Wells, 2003), u razini akademskih postignuća (Overbaugh i Lu, 2008; Owston, Wideman, Murphy i Lupshenyuk, 2008), u tehničkom znanju i vještinama (Hiemstra i Poley, 2007; Mouza, 2008) po završetku tih programa. S obzirom na to, može se reći da su slični rezultati uočeni u nalazima ovog istraživanja i u proučenoj literaturi.

Sudjelovanje nastavnika i njihova uključenost smatra se jednim od svojstava učinkovitosti INSET programa jer kod nastavnika povećava osjećaj posjedovanja (engl. *ownership*), promiče osjećaj posvećenosti, te nastavnik u određenoj mjeri ima kontrolu nad vlastitim iskustvom stručnog usavršavanja (Burke, 1994; McHaney i Impey, 1988; Sherman, Kutner, Webb i Herman, 1991; Zigarmi, Betz i Jensen, 1977). Također, kad je osigurano sudjelovanje nastavnika, nastavnici imaju mogućnosti interakcije i komunikacije s drugim kolegama, isprobavanja novih stvari i promatranja stvarne primjenu naučenoga korištenjem tih programa. Sudjelovanje nastavnika je važno i kod provođenja INSET programa putem obrazovanja na daljinu. U tom pogledu su i ispitanici Özenove studije (2008) iskazali važnost vlastitog sudjelovanja u provedbi programa. Prema njihovom mišljenju, za vrijeme trajanja INSET programa putem obrazovanja na daljinu, nastavne aktivnosti sudionicima moraju pružiti aktivno sudjelovanje (Özen, 2008). Iako se u literaturi naglašava važnost sudjelovanja nastavnika i njihove uključenosti u INSET programima, Wood i Thompson (1980) tvrde da je pomanjkanje uključenosti sudionika (nastavnika i administrativnog osoblja) jedan od nekoliko razloga za trenutne probleme u programima stručnog usavršavanja. Prema njima, da bi se planiralo i provelo učinkovito stručno usavršavanje, na umu je potrebno imati činjenice o potrebama kod obrazovanja odraslih. Zbog toga bi im iskustvo učenja, koje sudionici prođu tijekom programa usavršavanja zaposlenika, trebalo omogućiti stjecanje

određenih vještina bitnih za njihovu profesiju, sudjelovanje u raznim stupnjevima programa, te međusobnu interakciju, kao i interakciju s instruktorima (Arends, Hersh i Turner, 1980) da bi na kraju provedba tih programa rezultirala pozitivnim promjenama, ne samo kod nastavnika već i kod njihovih učenika.

Niže su navedene izjave troje sudionika različite dužine radnog staža, kao primjer promjena znanja, vještina i stavova o primjeni računala i interneta u nastavi nakon završenog programa. Te izjave ukazuju na činjenicu da programi pružaju mogućnosti i načine aktivnog sudjelovanja u njihovoj primjeni. U tom je smislu o promjenama u znanju i vještinama uporabe računala i interneta, nastavnik s 20 i više godina iskustva u nastavi (T38) izjavio:

> „Do svršetka programa mislim da sam razvio svoja računalna i internetska znanja i vještine. Stekao sam sigurnost u uporabi tih tehnologija bez imalo straha."

Nadalje, komentari drugog nastavnika (T51) u inicijalnim stupnjevima učenja ukazuju na promjene u njegovim/njezinim stavovima o navedenim tehnologijama:

> „Moje je mišljenje da su to neodvojivi dijelovi mojeg života i moje obrazovanje se samo upotpunilo."

Nastavnik s 21 ili više godina nastavničkog iskustva (T67) kaže sljedeće o njegovoj/njezinoj uporabi tehnologije u svakodnevnim nastavnim aktivnostima:

> „Primijetio/primijetila sam da je sve postalo jednostavnije u mojoj nastavničkoj i poučavateljskoj praksi."

Dok nastavnici primarnog obrazovanja iskazuju pozitivne promjene kako u vlastitoj tako i u učeničkoj uporabi računala i interneta nakon sudjelovanja u programima, a Ministarstvo nacionalnog obrazovanja (MoNE) izjavljuje da su poduzete sve mjere za učinkovitu primjenu integracije IKT-a u obrazovanju (Republika Turska, Ministarstvo nacionalnog obrazovanja), nastavnici tvrde da nailaze na neke prepreke pri pokušajima integracije računala i interneta u svakodnevne nastavne aktivnosti, a vezano uz znanja stečena kroz INSET programe.

Literatura o preprekama na koje nastavnici nailaze pri integraciji IKT-a u procesu učenja i poučavanja u Turskoj (Akkoyunlu, 2002; Cüre i Özdener, 2008; Yalın, Karadeniz i Şahin, 2007) ukazuje da su prepreke najčešće vezane uz broj učenika u razredu, nastavničko tehnološko znanje i vještine, stavove prema tehnologiji, sigurnost i tjeskobu u uporabi tehnologije, opterećenje poslom i odgovornošću u školama, obrazovnu infrastrukturu i prilike koje se pružaju nastavnicima, količinu i inačice hardvera i softvera u školama, tehnološku infrastrukturu koje škole imaju, nepodudaranje između kurikula i integracije tehnologija u školski kurikul, tehničku i administratorsku podršku, pristup tehnologiji, fizičku infrastrukturu škole. S obzirom na to, možemo reći kako postoje sličnosti u nalazima među studijama provedenima u Turskoj i ovog istraživanja.

## Zaključak i preporuke

Temeljem nalaza prikupljenih polustrukturiranim intervjuom provedenom s nastavnicima primarnog obrazovanja možemo reći da su INSET programi učinkoviti kada se promjena promatra kao jedno od svojstava i smjernica učinkovitog programa razvoja zaposlenika. Nadalje, pozitivne promjene su uočene ne samo među nastavnicima već i među njihovim učenicima kad se usporede mišljenja nastavnika prije i nakon sudjelovanja u tim programima. Iako se ta činjenica može tumačiti učinkovitošću programa, postoje prepreke na koje nastavnici nailaze uvođenjem znanja stečenih INSET programima i integracijom IKT-a u svakodnevnu nastavnu praksu i aktivnosti. U skladu s time, može se preporučiti sljedeće: prvo, potrebno je provesti daljnja istraživanja s većim uzorkom i implementacijom različitih instrumenata za prikupljanje podataka. Drugo, slična istraživanja se trebaju provesti u različitim dijelovima Turske da bi se stekao bolji uvid u učinkovitost tog programa diljem zemlje. U obzir se mora uzeti korelacija između školskog kurikula i sadržaja tih programa tijekom njihovog planiranja, a aktivnosti poučavanja u tim programima bi nastavnicima trebale pružiti rješenja za njihove probleme vezane uz nastavu. Zbog toga organizatori programa moraju ohrabrivati sudionike i naglašavati važnost aktivnog sudjelovanja polaznika tih programa. Štoviše, učiteljima se mora pružiti raznolikost načina i mogućnosti kako bi vidjeli, promotrili i iskusili novo učenje tijekom primjene tih programa. Kako bi nastavnici integrirali IKT u svakodnevnu nastavnu praksu i aktivnosti, potrebno je da odgovorni u Ministarstvu nacionalnog obrazovanja i školski administratori poduzmu nužne mjere i provedu dodatna istraživanja.