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Examining Teachers' Views on the Use of Information and Communication Technology in Schools in Türkiye

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Article Information	Abstract
Keywords: <i>Ict</i> <i>Teachers Perception</i> <i>Primary School</i>	This study investigates teachers' perceptions of ICT use in primary school classrooms, focusing on its advantages, disadvantages, and effectiveness. The research aims to explore whether there is a relationship between schools' ICT facilities and teachers' frequency of use, as well as the impact of in-service training on ICT integration. A mixed-methods approach was employed, utilizing both quantitative and qualitative data collection techniques. An online survey was conducted to gather numerical data regarding the availability of ICT facilities and their usage by teachers. Additionally, semi-structured interviews were held with five primary school teachers to gain deeper insights into their perceptions and experiences with ICT in teaching. The analysis of quantitative data using SPSS revealed no significant relationship between schools' ICT facilities and teachers' frequency of use. However, there was a strong correlation between the frequency of ICT usage and in-service training. Teachers who received training were more likely to integrate ICT into their lessons effectively. Qualitative findings supported these results, highlighting that while most teachers viewed ICT positively, some faced challenges due to lack of training. The study concludes that ICT can enhance teaching effectiveness, particularly when teachers are adequately trained. Future research should address barriers to ICT integration and evaluate the long-term effects of training programs on teachers' proficiency and confidence in using technology in classrooms.
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Türkiye'de Okullarda Bilgi ve İletişim Teknolojilerinin Kullanımına İlişkin Öğretmen Görüşlerinin İncelenmesi

Makale Bilgileri	Öz
Anahtar Kelimeler: <i>BİT</i> <i>Öğretmen Görüşü</i> <i>İlkokul</i>	Bu çalışma, öğretmenlerin ilkököl sınıflarında BİT kullanımına ilişkin algılarını araştırarak avantajlarına, dezavantajlarına ve etkililiğine odaklanmaktadır. Araştırma, okulların BİT olanakları ile öğretmenlerin kullanım sıklığı arasında bir ilişki olup olmadığını ve hizmet içi eğitimin BİT entegrasyonuna etkisini araştırmayı amaçlamaktadır. Hem nicel hem de nitel veri toplama tekniklerini kullanan karma yöntemli bir yaklaşım kullanılmıştır. BİT olanaklarının mevcudiyeti ve öğretmenler tarafından kullanımı ile ilgili sayısal verileri toplamak için çevrimiçi bir anket yapılmıştır. Ek olarak, öğretimde BİT ile ilgili algıları ve deneyimleri hakkında daha derin bilgiler edinmek için beş ilkököl öğretmeni ile yarı yapılandırılmış görüşmeler yapılmıştır. SPSS kullanılarak yapılan nicel verilerin analizi, okulların BİT olanakları ile öğretmenlerin kullanım sıklığı arasında anlamlı bir ilişki ortaya koymamıştır. Ancak, BİT kullanım sıklığı ile hizmet içi eğitim arasında güçlü bir korelasyon vardır. Eğitim alan öğretmenlerin BİT'i derslerine etkili bir şekilde entegre etme olasılıkları daha yüksektir. Nitel bulgular bu sonuçları desteklemiş, çoğu öğretmenin BİT'i olumlu görmesine rağmen, bazılarının eğitim eksikliğinden dolayı zorluklarla karşılaştığını vurgulamıştır. Çalışma, özellikle öğretmenler yeterli eğitim aldığında, BİT'nin öğretim etkinliğini artırabileceği sonucuna varmıştır. Gelecekteki araştırmalar, BİT entegrasyonundaki engelleri ele almalı ve eğitim programlarının öğretmenlerin sınıflarda teknolojiyi kullanma yeterliliği ve güveni üzerindeki uzun vadeli etkilerini değerlendirmelidir.
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Introduction

There is a mountain of significant research that has focused on the information and communications technology (ICT) to contribute pupils' learning (BESA, 2001; Goodison, 2002; Usun, 2009 and Vivancos, 1997), because the use of ICT as a material in primary classroom could be thought as an essential role in developing knowledge. Therefore, Ager (2000) indicates that government initiatives have also seen the potential value of ICT in education in primary schools in the early 21st century.

The aim of this paper is to conduct a micro research study into teachers' perceptions with regard to the use of ICT on teaching in primary schools. This study seeks responses of questions which are given below:

- Is there relation between schools' facilities and the use of ICT by teachers
- Do teachers' perceptions support to use ICT in primary classrooms?
- Why do teachers prefer to use ICT in their classrooms?
- What are the teachers' perceptions of the advantages and disadvantages of using ICT in the primary classrooms?

To do that, this paper will be divided into four parts. Firstly, methodological approach used in this study will be clarified. In addition, a sample group and ethical issues will be defined in the first section. Secondly, data analysis will be explained. After that, results of this study will be illustrated in the third section. In the meantime, the relation of these results with literature contained within this area of investigation will also be expounded. Finally, this study will present a road map for future research.

METHODS

Research Methodology

To collect data for this micro study, both quantitative and qualitative methods were used because the use of a mixed methodological approach, in particular, shows existent issues. As Mertens (2010) clarifies that the mixed methods approach has been preferred by many

researchers in order to discover reasons explicitly. In addition, Stephen and Chris (2004) have defended the view that a mixed methodological approach often has a major impact. They also advance the opinion that figures can be much evidential to decision makers. Online survey called “survey monkey” is implemented to collect data for the quantitative part of this study. Online survey also provides to reduce length, effort, stress and frequency in a simple way. It can be responded without the need to draw on work time or to post the questionnaires to the respondents (Bradburn, 1978). Moreover, interviews are used as a qualitative part of this study to seek the responses of research questions more deeply.

The first aim of this study is to define relation between schools’ facilities and the use of ICT by teachers. To do mutual assessment, online survey is generated by the questions which are predictable to take responses relevant schools’ facilities and teachers’ proficiency trained by researcher. Aldridge and Levine (2001) support the view that survey is convenient to collect accurate data on proficiency training. Thus, it is an efficient method to define relation between schools’ facilities and the use of ICT by teachers. Consequently, it might be said that survey method is convenient to explore the aim of this study.

The second aim of this study is to determine main causes and effects of the use of ICT in primary classrooms. Therefore, a semi-structured interview form is used to illustrate what the teachers’ perceptions of the advantages and disadvantages of the use of ICT in the primary classrooms and how they encourage using ICT in primary classrooms. When the issue needs more clarifications, interview as a kind of educational research method, provides occasions to take more responses in more depth (Tuckman, 1972). For this study, it is highly possible to say that a semi-structured interview form can be appropriate to explore the teachers’ perceptions about causes and effects of ICT and their attitudes towards the use of ICT in their classrooms.

For the sample group of this study, ten teachers working at primary schools in Turkey are selected from 3th grade classes in five different schools having internet access. First of all, their teaching experiences, ICT facilities of schools and frequency of occurrence by teachers are compared to investigate relation between each of them and effective use of ICT. Secondly, teachers, working in schools having different ICT facilities and use ICT different frequency of occurrence, are listed. Consequently, teachers having different ICT properties

are interviewed for each of different properties to illustrate teachers' perceptions with regard to the use of ICT in primary classrooms. In this context, five teachers participated in interviews.

British Educational Research Association (BERA, 2004) suggests ethical guidelines in the planning process. According to BERA (2004), an informed consent must be provided for participants. Therefore, in this study, teachers as participants are provided an informed consent by researcher. In addition, they are informed that this micro study has no negative impacts on their positions. What is more, the purpose of this study was explained them. Lastly, researcher informed all participants that they could withdraw from the questionnaire or interview at any time if they like.

Data Analysis

The data for this micro study is collected by using both quantitative and qualitative methods. Firstly, the online survey method is used to investigate the relationships between schools' facilities, which are internet access, computers, projectors and interactive whiteboards, and the use of ICT by teachers. Therefore, numeric and descriptive statistics are conducted for this study. Numeric statistics allow assessing the percentage of schools' facilities or results from simple measures, since Cohen et al. (2011) support the view that descriptive statistics do not assume to predict these parameters while descriptive statistics are used for defining and representation of data. By reason of these causes, Statistical Package for the Social Sciences (SPSS) is used to investigate quantitative data. Eight closed questions are used to obtain information about the relation between schools' facilities and the use of ICT by teachers in a wide-ranging way with SPSS. All questions are coded by numbers in an attempt to make analyses of data clearer and more explicable. Numeric values are used to illustrate the number of years in teaching, the grade level they taught and the number of ICT facilities questions' type. In addition, the rest of them are string value. Descriptive statistic offers a general view of differences among teachers. In the meantime, all these frequencies provide an opportunity to consider which differences and effects might be compared and what kind of relations are needed to be underlined.

Secondly, semi-structured interview is used for this study to explore what the teachers’ perceptions of the advantages and disadvantages of the use of ICT in the primary classrooms and why the teachers prefer to use ICT in their classrooms. The role of ICT facilities on teaching is considered thanks to interviewees, because Bell (1999) claims that interview is a useful method to get more chances to verify responses and examine interviewers’ feeling. In this context, the interviews are implemented with four primary school teachers. Each of interviews took almost 15 minutes. Three open-ended questions were asked. During the interviews, whole processes are recorded to code them. And then all results are argued to reach an agreement.

RESULTS

According to results of this study, there is not a considerable relation between schools’ facilities and frequency of the use of ICT by teachers. However, it can be seen in this study that there is an important relation between frequency of use of ICT by teachers and course subjects and in-service training for ICT. Furthermore, qualitative data indicates that the effective use of ICT facilities depends on course subjects, as frequency of the use of ICT might change depending on course subjects. In addition, teachers’ perceptions related to the use of ICT on teaching in primary classrooms are completely positive. To give a clear demonstration, this section was divided into two parts according to the methods used to collect data. These parts are quantitative and qualitative results.

Quantitative Results

Data were analysed in SPSS programme whether there is a considerable relation between schools’ facilities and frequency of the use of ICT by teachers. According to results of these analyses, there was not any significant relation between them. However, the results of these analyses also demonstrated that there is a rather significant relation between frequency of the use of ICT in primary classrooms and in-service training for effective use of ICT.

The first aim of this study is to define relation between schools’ facilities and the use of ICT by teachers. The results of this study concerning schools’ facilities and the use of ICT by teachers are similar with Reynolds et al.’s report (2003) that is the installation of large labs in a school is not the best possible policy to provide the effective use of ICT on teaching. The

researchers also point out the view that it is difficult to use ICT effectively in lessons if teachers do not know how to use them effectively. However, Latham (2002) supports the view that the schools' facilities have considerable importance on the frequency of the use of ICT. To explain his idea in more depth, when teachers use IWB as a facility of ICT they have more time to teach. Therefore, he believes that there is a relationship between the frequencies of the use of ICT and schools' facilities.

The second aim of this study is to illustrate main causes and effects of the use of ICT in primary classrooms. There is a number of research which is supported by the results of this study. ICT provides instant access to a number of materials from sources and it also allows teaching a pre-prepared lesson for teacher (Glover and Miller, 2001; Latham, 2002), even though the process of lesson preparation using ICT might take a long time (Glover and Miller, 2001). Likewise, another advantage of ICT is that some teachers use ICT facilities to encourage both teacher – pupils' interaction and to give responses of questions (Levy, 2002). What is more, Brown (2003), BECTA (2003) and Smith et al. (2005) claim that the use of IWB as a facility of ICT promotes the percentage of teachers including 'technophobic teachers' to participate with ICT facilities into lessons. Therefore, it could be said that they should be encouraged to attend in-service training.

Qualitative Results

To define teachers' perceptions with regard to the use of ICT in primary classrooms in more depth, three questions were asked to interviewers.

- 1) Do you use ICT as a part of your teaching?
- 2) How much training have you had in using ICT?
- 3) You identified the subject in which you make most use of ICT. Could you tell me;
 - a) Why have you found ICT useful in this subject?
 - b) Have you tried to use other ICT applications in this subject?

When teachers were asked to clarify whether they use ICT teaching subjects or not and how much training they had in using ICT. Three of them said that the use of ICT is an

indispensable part of their teaching to make subjects sense, even though one of them claims that the use of ICT for all subject is just a waste of time. Additionally, the teacher offered that the use of computer as a part of ICT facilities could be difficult for students. It was understood from this interview, the teacher has never had training for ICT. Therefore the teacher’s perception related to the use of ICT for all subjects was negative. On the other hand, the teacher point of view showed that training for ICT is an issue for students as well. Generally, teachers’ perceptions given below could be understood as a summary of these findings.

“They supported the view that ICT facilities provide more opportunities to make all subjects more effective when we use ICT as part of our teaching.” (Teacher-2, 3 and 4)

“They supported the view that if teachers take training courses for ICT effectively, they could use ICT facilities in a more effective way.” (Teacher-1)

When another question was asked to consider why they found ICT useful in some specific subjects and to understand whether they compare ICT applications with each other in same subject. Two of them defended the view that the use of ICT facilities is useful for mostly in literacy and mathematics subjects.

“They said that when they use ICT facilities to teach mathematics, pupils can learn easier.”

On the other hand, the others asserted that it depends on ICT facilities. Therefore, it might be said that if a number of ICT applications is provided for teachers, they could compare them with each other to consider which one is the best for teaching of each subject.

-How these findings relate to Literature Review:

Smith et al. (2005) assert that different applications of ICT help teachers do more activities for some of the courses. Likewise, Gage (2006) supports the view that IWB as a part of ICT facilities is very enjoyable and quite easy to put numbers on numerical axis for primary school children in mathematics lesson. These literatures are quite parallel with the finding of this study. According to this study, teachers having affirmative perceptions think that there are more advantages than disadvantages of the use of ICT. Despite all these positive results,

some teachers pointed out that it is difficult to learn how to use some of difficult ICT facilities. For instance, IWBs are new technology in schools in Turkey. Because according to the Ministry of Education in Turkey, it will be seen that all primary schools will have IWBs for each primary classroom. However, many teachers require training to use it. Therefore, it is vitally important to say that before the installation of new technology to schools, teachers' anxiety should be removed.

This part of the study demonstrates the strengths and weaknesses of the research in the way of the ability of answering the main research questions. It also shows how researcher affects the findings of the study.

First of all, online survey was used to demonstrate the relation between schools' facilities and the use of ICT. The most significant weakness of the study was founded in data collection of schools' facilities. Some teachers could not fill in some parts of questionnaires related to schools' facilities. The reason about this problem could be related to the lack of experiences of researcher about generating a questionnaire. It might be thought that some options of responses were not clear although multiple-choice questions were used. On the other hand, the strength of the study was that the data was suitable to be analysed in SPSS.

Secondly, the interviews were conducted to illustrate the teachers' perceptions related to the use of ICT in more depth. Therefore, semi-structured forms of interviews were used. There is some strengths of the interviews. For instance, whole processes of interviews were recorded by the voice recorder to make sure that all points were mentioned. However, it is possible to say that there were some weaknesses of the research, because some questions were difficult to answer. For example, some questions made teachers stressed.

To sum up, it might be said that the most significant key for a research is a suitable scale for both survey and semi-structured interview, although all questions of survey and in questionnaire were answered by the participants in this study. It might be said that the general aim of this study was achieved thanks to the methods used in this study.

CONCLUSION

The results demonstrated that there was no relationship between schools’ facilities and the use of ICT by teachers. However, the findings illustrated that there is an important relationship between frequencies of the use of ICT in primary classrooms. What is more, in-service training has a significant impact on the use of ICT effectively on teaching. It is also highly possible to say that while teachers are teaching, most of them prefer to use ICT in order to provide effective learning.

The most significant weakness of this research is that during interviews’ process, there were some obstacles. For example, some schools did not have too much ICT facilities. When some questions were asked regarding some ICT facilities in more depth, some teachers did not understand what these questions meant, since they have never used them. Therefore, if I do research again, I would like to make a small-scale research to consider whether my questionnaire is easy to collect responses.

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