

## Computer Applications with the Related Facts in Multi-Grade: Teachers Opinions

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### Abstract

The study was conducted to examine the views on the use of computers in mathematics courses teachers in multi grade schools. The case study method of qualitative research design was used in this study. 10 teachers in the Bayburt in Turkey participated in the study. Conducted interviews with teachers participating in the study and the observations were made. The collected data were analyzed with descriptive analysis and content analysis. Multi grade result of the study is not sufficient in terms of technological equipment of schools; it was found that the teachers do not use computers in mathematics classes enough. Teachers use the computer as a result of the need, usually when considering contributing to individual training; intended use of the computer as it is thought to embody the concept of visualization and more. Teachers use technology as the reasons for the technological infrastructure and computer failure, the incompatibility of multi grade environment and teachers have to see the low computer literacy. Furthermore, teachers of subjects that are difficult to provide ease of expression of the biggest advantages of using computers contemplated; computer software used in mathematics education stated that the only share to Office software.

**Keywords:** computer integration, multi-grade, teacher opinions

### 1. Introduction

The principle of equality and equal opportunity based on access high expectations for all students in the creation and development of the contemporary understanding of mathematics education is an important factor. Although the structure of school diversity and differences in different regions of Turkey, central exams to ensure equality of opportunity evaluation by the system makes students more important. However, the steps in order to ensure equal opportunities in education in Turkey. One of these steps is the Fatih Project expected to produce significant results in ensuring equal opportunities in education. The purpose of giving each student a tablet PC and Fatih Project is to contribute to ensuring equal opportunities in education by establishing smart boards in every (Caglar, 2012; Kaplan & Öztürk, 2014; Kaplan, Ozturk, & Ocal, 2015). However, schools vary in different regions of Turkey and differ according to their technological infrastructure. Multi-grade schools who take courses on the basis of several different classes in the same environment, education, and technological opportunities have a more limited compared to other schools in terms of facilities. To take advantage of technology to provide equal opportunities in multi grade schools, it will give the opportunity easier to adapt to the era of student teaching in these schools(Altun, 2007). In cases when there is a minority of multi-grade students, which doesn't make it not possible to give a teacher for each class, one class is in the same environment in the classroom, which allows to see the course of a single teacher supervision (Oğuzkan, 1993).

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Ames (2006) multi-grade school; usually located in rural areas, where it is not possible to make teaching used in a single class, defined as the type of school that allows individuals to take courses at different ages and education levels in the same class. In multi grade schools the teachers are obliged to work with students in different grade levels simultaneously (Cueto, Ramirez, & Leon, 2006). Due to the nature of multi-grade schools, conduct educational activities in these schools seem more difficult than the other schools (Cueto, Ramirez, & Leon, 2006; Taşdemir, 2012). In this kind of schools, the experience of teachers and teaching activities should be high knowledge and skills (Taşdemir, 2012). Alongside with these teachers in multi-grade schools to master the different teaching methods and principles, multi-grade uses different tools which contributes to education in schools (Taşdemir, 2012). One of the important tools to contribute and to be used in educational settings is a computer (Kaplan & Öztürk, 2012; Van De Walle, Karp, & Bay-Williams, 2010). A Computer with the basic elements of information and communication technologies, also seen as a necessary element of the teacher and the teacher's qualifications (Chen, 2010). There are many reasons which induce the teacher's integration in using computer learning environments, such as students, media and management (Baki, 2000; Forgazs & Prince, 2001; Umay, 2004). Horzum, Yaman & Yaman (2004) emphasizes that the teacher is the most important component in the use of computers in education. Adequacy of teacher training in computer integration in this context is important (Çakıroğlu, Akkan, & Güven, 2012; Kaleli-Yılmaz, 2012; Kavanoz, Yüksel, & Özcan, 2015).

When the computer literacy of the teacher is not enough, the use of computer education in this order is not considered as possible (Altun, 2007). As a subject in front of the computer to use as a basic teaching tool, there are two limitations. One of them is computer hardware or software, such as lack of technological capabilities, beliefs, for use in computer information technology, especially the teachers and the other, competencies, interests and the willingness level (Akkan, 2012; Ertmer P. A., 1999; Güven, Çakıroğlu, & Akkan, 2009; Niess, 2005). Ilgaz & Usluel (2011) the main factors that influence the use of information and communication technologies in education; technological equipment availability, accessibility to the Internet, teacher beliefs, experiences of teachers has been identified as knowledge and skills. At the same time, research in the field of literature showed that even with the teachers educational computer software and access to opportunities for technological equipment, the educational software and technological tools were not used effectively (Baki, 2002; Cuban, 2001; Cuban, Kirkpatrick, & Peck, 2001; Ilgaz & Usluel, 2011; Mouza, Karchmer-Klein, Nandakumar, Ozden, & Hu, 2014). Some researchers' personal obstacles the cause of this condition (experience, computer literacy, religion and so on.) (Ertmer P. A., 1999; Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012). In this bond, teachers can be effective in eliminating personal obstacles which grow up in their student years with computer-aided learning environment. Indeed according to Baki (2002), the key factor of using computer education environment for teachers is, that these are being raised by computer-aided learning environment in their student years. When using the computer as a tool for teacher candidates in their own learning, for use as a teaching tool in the teaching period is very difficult. Therefore, teachers should be trained in courses for computer aided instruction in the student years (Baki, 2002). However, as is well known, teachers in Turkey from multi-grade schools in student years, haven't had the experience for computer-aided learning environment in schools.

There are three different ways of using a computer in multi-grade school, for teachers teaching environment. A single computer in the first-class environment of these methods; presentation is to use the application and data source tool (Altun, 2007). The second method class is created in small groups, these groups being offered the opportunity to work with a computer, PC activities is to make the other groups (Computer laboratory method) (Altun, 2007). The last method is the method requires that each student has a personal computer (Altun, 2007) so that this situation does not seem possible for the moment the conditions of Turkey. Looking at the literature review, the integration of the computer in the educational process, there are many studies carried out with primary school teachers for the opinions about computer use. Most of these studies conducted using questionnaires and scales in quantitative study (Adıgüzel, 2010; Bingimlas, 2009; Hermans, Tondeur, Braak, & Valcke, 2008; Karaman & Kurfalı, 2008; Kolburan-Geçer & Gökdaş, 2014; Maher, Phelps, Urane, & Lee, 2012; Sarı & Özerbaş, 2013; Tondeur, Braak, & Valcke, 2007). More quantitative studies on gender (Beisser, 2005; Morley, 2010), age (Morley, 2010; Ulaş & Ozan, 2010), level of studies (Chou, Hsiao, Shen, & Chen, 2010; Gerçek, Köseoğlu, Yılmaz, & Soran, 2006; Kaplan, Öztürk, Altaylı, & Ertör, 2011) with different objectives including variables such as experience are made.

As well as in the literature of primary school teachers with their views on the use of computers in education and survey methods (Morley, 2010; Yenilmez & Karakuş, 2007) for determining the level of computer use qualitative studies (Aktepe, 2011; Atalay & Anagün, 2014; Demir, Özmantar, Bingölbali, & Bozkurt, 2011; Kaleli-Yılmaz, 2012; Kiper & Tercan, 2012; Polly, 2014; Taylor & Corrigan, 2007) are also available.

However, the literature, reflecting the opinions of teachers in multi-grade teaching environment for the use of computers in schools has not been observed in the qualitative study. This study was conducted as a qualitative in that sense; primary school teachers who work in educational environments in multi-grade schools will provide an important contribution for the literature to uncover the usage for computers. Also be activated by integrating the computer into the computer system of teachers education is closely related to how they perceive to be well established competence in the use of computer learning environments (Baki, 2002). But it is still important (Horzum, Yaman, & Yaman, 2004). Because teachers in the educational environment; the selection of technological tools, the pedagogical appropriateness of educational software, are the person responsible for the roles of teaching and guidance will be undertaken in the transfer of knowledge. (Altun, 2007). In this context, the computer can be used for effective teaching environment; teachers are required to determine the opinions of the computer. The purpose of this study in accordance with the grounds stated; to determine teachers views in multi-grade classrooms in the math class on using computers.

## **2. Method**

In this section, research design, participants, data collection tools and processes will provide information on data analysis

### **2.1. Research Design**

The case study method of qualitative research design was used in this study. Case study is definitive information as to the boundaries of a state-based methods to examine and discuss in depth (Creswell, 2007; Stake R. E., 2003). A case where the description or condition in order to generalize the theme untreated case study of the results of a qualitative approach as demonstrated by presenting a special case is made for the purpose of creating examples (Creswell, 2007; Stake R. E., 2005). This study will take a close look to determine teachers' views in multi-grade classrooms in the math class on using computers.

### **2.2. Participants**

Ten classroom teachers of multi-grade schools, which have been selected with the accessible sampling working method have taken place in this study. Accessible sampling in cases where it is impossible to reach the entire universe is based on work that is accessible to a group according to the purpose (McMillan & Schumacher, 2014). This material allows for the study, when considering transportation facilities and time is not possible to reach all multi grade schools, multi grade teachers working in 10 schools in the Bayburt County have been involved as a participant in this study. Teachers were asked questions of "years of experience, the number of students in school and technological/computer opportunities"; these obtained data is presented in Table 1.

**Table 1: Teachers' Gender, Years of Experience, the Number of Students in School and Technological Opportunities and Conditions**

Teacher	Gender	Number of students	Years of experience	Technology in schools / computer opportunities
T1	Female	18	1 Year	There are two computers in the school. One of the computers is defective. The other one is in the director's office. There is no computer in the classroom and there is no internet connection.
T2	Female	14	2 Years	There are two computers in the school. One of the computers is defective. The other one is in the director's office. There is no computer in the classroom and there is no internet connection.
T3	Female	12	4 Years	There is only one computer at school. The Computer is in the director's office. Teachers and students have tablets. They can bring the tablets if it is required to the course.
T4	Female	12	1 Year	There are two computers belonging to the school. There are two computers in the classroom. There is internet connection.
T5	Male	12	13 Years	There are two computers. One of them is in a classroom the other one is in the director's office. There is internet connection.
T6	Female	14	6 Years	There is only one computer. Is in computer class. There is internet connection.
T7	Male	26	3 Years	There are two computers belonging to the school. There are two computers in the classroom. There is internet connection.
T8	Female	16	4 Years	No computers and no Internet at school.
T9	Female	14	4 Years	There is one computer in the classroom. The IT - class has six computers and the all have internet connection.
T10	Female	12	2 Years	There is only one computer at school. The Computer is in the classroom. There is internet connection.

### 2.3. Data Collection Tools

Interviews and observation as a data collection tool was used in the study. Interviews with teachers of mathematics lessons in getting the views of computer use; observations with the school environment and school technology/computer opportunities were examined. The preparation of the interview form is a form designed by utilizing the resources in the literature (Arslan, 2006; Kaplan, Öztürk, Altaylı, & Ertör, 2011). In the form of mathematics education doctorate was presented to a specialist and spreads based on feedback received from the experts added more substance. Then made a multi-grade teaching with a pilot who served in schools are identified and removed from the form is not a problem with the functioning of the intended form. Interview form consists of two parts. In the first part of teachers technological schools with a personal information / three questions to determine the computer facilities were asked (For how many years you have been teaching in multi-grade schools, how many students do you have, what can you say about your school's technological infrastructure?). In the second part four questions are asked to determine their views on teachers' use of computers (Do you use computers in mathematics, can you design a learning object to be used in the classroom in math class, do you think that is necessary in mathematics to teach computer use, how do you use computers in mathematics to teach in multi-grade schools, what are your suggestions?) and sub-questions were asked in this question. Any form to collect observation data didn't use in this study. Instead, unstructured environments and student observations made to contain the visual images were taken.

### 2.4. Data Analysis

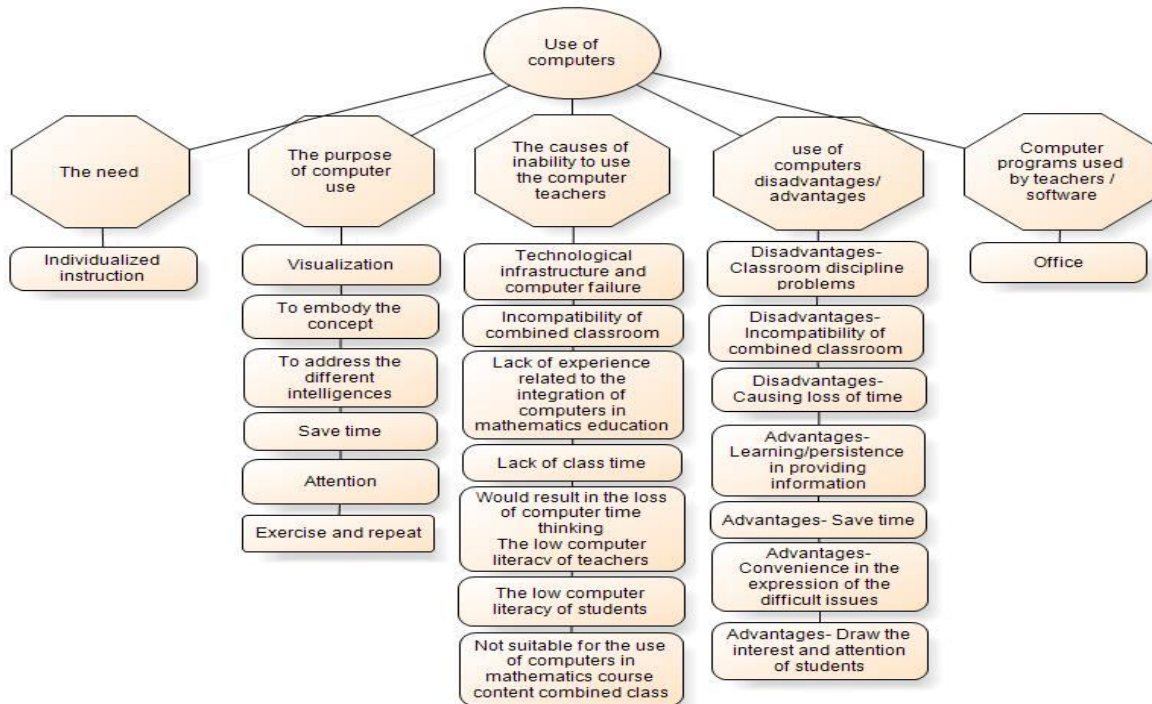
Content analysis and descriptive analysis to analyze the data obtained from this study as qualitative techniques were used. Descriptive analysis and summary of the data collected according to a predetermined category and it is a type of analysis which comprises interpreted. This analysis is summarized in the reader, the basic purpose of the findings obtained and interpreted in a manner presented (Yıldırım & Şimşek, 2013). Interview form of three questions were analyzed descriptively and presented in the first part of the working group on the part of the work in process (see. Table 1).

It is also used to analyze the descriptive analysis of observational data. Interview data described using the photographs showing the views of the classroom teachers are supported. The content analysis, requires an in-depth analysis of the data collected. Allows previously non-specific categories and codes to reveal. The purpose of such analysis is to provide the reader with a regulated findings obtained and interpreted form (Yıldırım & Şimşek, 2013). In this context, the questions were transferred first to the teacher answers in the second part of the interviews with the computer form, consisting of text and read it line by line several times by the first researcher and coding were created for it. Second researchers regarding the suitability of the appropriate encoding / not mentioned opinions as appropriate and add new codes to sections where you want to add. Interruption harmony between the first and second researcher Cohen Kappa is calculated as 83%. Then by combining the codes found in common, so it is uncovered category will form the outline of the research findings. Compliance with the Code evaluated third category of researchers and thus finalized the code and category distribution. However, the findings of the data being offered in the participating teachers to qualify "as T1,T2, T3, T4, T5, T6, T7, T8, T9, T10" abbreviations used in the bilateral dialogue between the researcher and the teacher is directly given to the quote.

**3. Results and Discussion**

The first set of data is obtained as a result of the category code analysis presented in this part of the study, the codes under this category are defined in the sequel related manner explained and interpreted. The analysis of the obtained data related to teachers views on the use of computers in 5 categories and 22 code is set. Specified categories "the need to use a computer, computer intended use, do not use the computer because the computer usage disadvantage / benefits and computer software programs used" form. Categories identified in accordance with the opinions of teachers and categories under code-coding scheme are presented in Fig.1 shows categories.

**Figure 1. Contains the Opinions of the Teachers Participating in the Study Code-Category Scheme**



The findings in this part of the data of the code under this category are respectively defined categories which reviewed explaining the associated form.

**3.1. Teachers Views on the use of Computers in Need**

When combined classroom teachers examine their views about the need to use the computers belong to the category of teachers in favor of the use of computers was found that would contribute to more individualized instruction. Especially T5, T6 and T10 computer teachers stated that they need more individualized instruction because it provides support.

For example T5 teacher, *"Individual differences and all the classes I want them utilized computers to everyone far as is practicable, thinking together, it is advantageous for individual instruction."* and T10 teacher, *"To all students level I would like to create the appropriate software. I would love to do individualized instruction. Because they have different three-four-five class levels."* one form of expression, this computer for two teachers said they see as their needs require individualized instruction.

### 3.2. Teachers Opinions about the Purpose of Computer use

Distribution according to this code of teachers with computer codes that make up their opinion about the purpose of the teachers are presented in Table 2. T7 teachers are not included in the table for the use of computers.

**Table 2: Distribution Including the Opinion Regarding the Intended Use of the Computer Teachers**

Codes	T1	T2	T3	T4	T5	T6	T8	T9	T10	Total
Visualization	✓	✓	✓			✓	✓	✓	✓	7
To embody the concept	✓				✓	✓		✓	✓	5
To address the different intelligences				✓						1
Save time			✓							1
Attention					✓			✓		2
Exercise and repeat		✓				✓				2

Table 2 shows, that teachers use the computer more for visualization. T3 teachers use computers for the purpose of visualization "Mathematics requires visual intelligence. Children need to see. Kids do it constantly all the time in their mind - how far? I think it is important on the computer for the visualization. For example, children must use these milliliters and liters of liquids. But there are no pots in my class which covers that scales. The computer could afford it. At least I think, the kids would visually capture it and understand it better by visualization on the compute." reflections. Again T6 teachers "Because it is important to provide greater visibility in small classes, I use the computer to keep it in mind for visualizing information." similar conclusion can be reached from the form of expression. T1 teacher, other teachers, such as computers could contribute to better and lasting learning concepts that students can learn in order to use visualization stated as follows: "... For example, there are ten union statements. I need to draw them in wood. But we could have made our mark, for example in smart boards' beads child knows that you can get more comfortable you can place the decimal union statement. The impact or chamber, in this way. For example, in shock, I have to draw the continuous board, for example, I taught 6 times 3 times I have to constantly draw in groups of three to six apples. Or one more than to turn it into another shape ... Of course, colors such as apples, though this image though computers were in their color, their movement etc. or finding great difficulty we diminishing the boxed transactions in I need to teach each other to complete, but it circling the board or I need to do with the box in front of me. Therefore, the computer is very effective at learning." Akkoç (2010) it can be used for visualization of the user's computer and the student indicates that it is important for the conceptual understanding. In addition, in order T8 teacher uses computer visualization "In my opinion I do not think it would be effective technology giving each student a computer. Whether visualization projected enough ..." The opinion in the form of computer shows that teachers tend to use in a conventional manner. However, Baki (2002) stated that teachers would bring success in mathematics teaching of computer use in a conventional manner, the computer aided teaching has emphasized that students should learn by doing themselves.

If the computer has been determined that some of the teacher mathematical concepts embody the purpose of use. T1 teachers' "Students that the information presented should not be material. Everything remains abstract for children in other types of wood. Information on the children's heads remain abstract. So the computer I'm using the computer to make it a little more embody the concepts or topics to learn more convenient." and T5 teacher "In order to teach more students with solidifying using the computer. Because we know many things told, for example meters.

You know that a hundred centimeters in a meter. But one thing I wonder how many meters? It does not know. Gets to show her that meters can say, explain what problems or are using technology showing the projection does not allow our hands to embody abstract things"form the discourse, the computer of this teacher, said to embody the purpose of use concepts.

However T4 computer for the teacher addressed to different intelligence, T3 stated that teachers use the computer to save time. T4 teacher this idea "That used to cater to a lot of computer intelligence." speaking expressed in the sentence, the idea is to T3 teacher "We draw. Drawing takes our very time. No more than two or three questions can be solved. Saving computer time." said. Indeed Kose (2009) the computer is used as a teaching tool in many courses that appeal to intelligence, Atalayand Anagün (2014)stated that the computer is used to save time. T5 of the teachers participating in the study and T9, stated that they use computers in order to draw attention in the course. T5 teacher "More students in order to teach solidifying using the computer ... I'm also using in order to draw attention in computer class." from the form of expression, it was determined that the use to attract attention as well as the embodiment of the computer. Similarly T9 teacher is using the computer in order to draw attention stated as follows: "I am using the computer course in order to draw attention in preparation."Atalayand Anagün (2014)have also found that teachers use computers in their classes in order to draw attention. T2 and T6 teachers stated that they use to the computer and repeat the exercise. T2 teacher "For example, I tell the splitting process, the child many times do I need to know it. Computer provides more exercise. Watching these kids do not like it. Children need to repeatedly practice." in the form of opinions I understand that, while the T6 teacher "We do practice in the classroom, we use both together make application there as well ... First I use in order to create a basis for consolidate and I'm using for again" stated in the form of an opinion. Kearney, Burden and Rai (2015)in computer training exercises used in the study and stated that again. The results obtained from this study are consistent with studies in this regard in the literature.

### 3.3. Views on the Causes of Inability to use the Computer Teachers

Distribution according to this code of teachers with codes that make up the views on the causes of inability to use the computer of the teachers are presented in Table 3.

**Table 3: Distribution Including views on the Reasons for not Using the Computer Teachers**

Codes	T1	T2	T3	T4	T5	T6	T7	T8	Total
Technological infrastructure and computer failure	✓	✓	✓		✓	✓		✓	6
Incompatibility of combined classroom	✓	✓	✓	✓	✓		✓		6
Lack of experience related to the integration of computers in mathematics education	✓								1
Lack of class time							✓		1
Would result in the loss of computer time thinking							✓		1
The low computer literacy of teachers	✓	✓	✓	✓	✓		✓		6
The low computer literacy of students				✓			✓		2
Not suitable for the use of computers in mathematics course content combined class	✓	✓					✓		3

Table 3. As can be seen teachers more opinions about the reasons for not using the computer "Technological infrastructure and computer failure, lack of proper computer use of combined classroom and teachers have low computer literacy" form. T1, T2, T3, T5, T6 and T8 technological infrastructure and teachers have said enough handlebars benefit from the computers in mathematics classes due to computer failure. These teachers T3 teacher "because I do not use enough school. I'm just getting output due to the current circumstances; I'm giving the kids out. I do not use the computer for the current circumstances are not sufficient enough. The possibilities that allows behold the state, but that's it. I'm getting out of the Internet, I'm helping him ... For example, children who are going the way of overhead or should play, show could play as them. But not. Children understand better the game. That is not our technology, we do not have the computer can use. The state can provide something about it Hani can prepare CDs as well. But a year do you use that CD, second and third year remains missing."The form of expression, the school where the teacher teaching technology and it is understood that do not meet the computer infrastructure.



**Figure 1: T9 Class Teacher an Image of IT**

Similarly T8 teacher "Cannot use because of lack of computers in the classroom. There are projections; but we can use the computer can bring ourselves ... We make use of the computer, of course, if we used last year Opportunities for instance. Shortages this year because we cannot use that." In the form of expression, the teacher's computer due to a computer failure has been detected in the school cannot use effectively. Indeed, field studies in the literature, the technological infrastructure and computer underlines the failure is one of the obstacles to education in technology or computer use. (Bingimlas, 2009; Karagiorgi & Charalambous, 2004; Becker, 2001; Çakır & Yıldırım, 2009). Unlike the teachers said that there were insufficient opportunities for technological and computer teacher T9 "Is not something not to. In my school there are classes of information. They gave me I wanted. Whether they were given computers to others." The form of expression, it is understood that the teacher in the school and the technological possibilities of computers is sufficient. T9 the image of teachers in the school class information is shown in Figure 2. T1, T2, T3, T4, T5 and T7 why teachers have not been able to connect the computer to use is enough to be suitable for the use of combined classroom computer. For example, T1 teacher "That does not have to be combined classes for computer use the opportunity to in math class. So staying in them have to pass quickly ... to be the class of the two-class computer is the main cause of my being unable to use the math." in the form of expression, from the computer in the teacher made in the combined grade math lesson is understood not benefit too much. Similarly, T4 teacher "In case I'm using in Turkish education, but I do not use enough at math ... Detached so if I do not multi-grade classes that separate the whole class. But I can not do the math lesson in multi-grade classrooms." The idea of the form, reveals the use of computers in mathematics classes would be difficult because of the multi-grade classroom in schools.

T1 teacher does not have a lot of experience in dealing with the integration of computers in mathematics education, to ensure that integration is taking any course and if this lack of experience has stated that fail to sufficiently use computers in mathematics. T1 teacher "Did not take any courses in mathematics for computer use. Not in my experience. Maybe my experience difficulty using math lesson on the computer this is the main reason." in the form of expression also support this view. Çakıroğlu, Güvenand Akkan (2008), Ilgazand Usluel (2011), Karagiorgiand Charalambous (2004) teachers working in them being able to integrate computers into education, teachers attributed to the lack of experience in this field. Stated that the use of a computer teacher T7 "Already course I can not stay enough time to use my computer. Also leads to loss of computer time in class for me. I do not use him because of the computer." in the form of opinion, because this teacher's lessons from the lack of time and thought it would lead to a waste of time because the computer is understood that the use of computer use. Will cause some loss of time teachers in the use of computers. Indeed, studies of some teachers have been identified in many studies to have the opinion (Aslanbaş, Akkan, & Çakıroğlu, 2011; Bingimlas, 2009; Kaleli-Yılmaz & Güven, 2011). T1, T2, T3, T4, T5 and T7 teachers stated they were unable to use the computer enough due to the low level of computer proficiency. T5 teachers' "computer features, well I apply if I knew how I could use better. But the current situation is not good computer proficiency I'm having trouble using my computer class." and T7 teacher "I can apply what I take the training. I did not receive computer training that I give computer training.



I am not proficient in computer use" in the form of statements from the teachers to use computers due to low qualifications for the computer it is understood that they are not hot.

Bingimlas (2009) according to one of the obstacles to the use of computer teachers, teachers of computer proficiency is low. Baki(2002)based on the computer of teachers trained through the course they are not, they will not want to use the computer represents the future life as a teaching tool. The T2 teacher will not need a computer equipped teachers in the teaching process stated as follows: "I think I was sufficiently equipped.

I heard her for the computer too need ... As noted previously I visualization sometimes the computer, I use exercise and purpose again." in this sense, T2 the teacher himself the center will form secure applications and computer are thought to try to adapt as a tool in conventional methods. Also be using the computer for the purpose of teacher shows students just thought it could be used again as a tool for homework task. The T4 teacher that students tend to use the computer because of the low level of computer literacy or readiness "of the computer to which the student is sufficient readiness generally avoid using" said. T1, T2 and T7 teachers have not been able to connect the computer using another reason enough to be suitable for the use of computers in mathematics course content in combined classes. For example, T1 teacher's "Partners can be an event. But they often are more in life science courses. Hani mathematics is becoming more difficult to find some common activities. Because I teach multiplication division to a group such as the number of teaching others. That is quite a difference together ... but it can be a common form of matter. So if you can handle common issues may be subject to appeal to all grade levels. Need to address at least one of two classes." formexpression, lends support to this idea.

#### 3.4. Teachers' use of Computers Disadvantages / Advantages Related Views

Teachers' use of computers disadvantages / advantages by forming the views of teachers and distribution of codes, these codes are presented in Table 4.

**Table 4: Teaching Computer use those Advantages / Disadvantages, Including its Views on the Distribution**

	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	Total
<b>Disadvantages</b>											
Classroom discipline problems						✓					1
Incompatibility of combined classroom	✓										1
Causing loss of time				✓						✓	2
<b>Advantages</b>											
Learning / persistence in providing information								✓			1
Save time			✓								1
Convenience in the expression of the difficult issues			✓		✓		✓		✓	✓	5
Draw the interest and attention of students						✓		✓			2

Table 4 examined the teachers' computer use was determined that an opinion could be both advantageous and disadvantageous about. Expressing that multi-grade classroom use of computers in schools could lead to discipline problems T6 teacher's opinion, "Discipline is having problems ... I want to have all said at the same time; but does not have enough computers in the classroom. Draws attention to the computer but irrelevant when order is broken and it's hard to pick up again."form. T1 teacher "Disadvantaged in combined classes. Because it is functional multi-grade classes in other classes while the teacher in a classroom at school. E ... I can not look for them to interfere with other kids that I reflect on the board. Obstacle to doing their homework. It's hard when two classes together." in the form of expression would be difficult due to the unsuitability of the combined use of computers in the classroom is understood that class. Committed in the course of the multi-grade teachers expressing T10 can not find enough time "We can not give what we want in terms of time in the combined class. It is advantageous if we can find enough time ... not enough time to use the computer they use them constantly. Common issues they are trying to get. I'm trying to use on common issues." the form of expression, the teacher's computer use will lead to loss of time due to the combined use of computers in the classroom is clear that the disadvantaged. Similarly, T4 teacher also think it would be a time-consuming use of computers in multi-grade classrooms.



**Figure 2: A view of the Teacher's Class T6**

T8 teacher *"Provides stability in computer mathematics. It is therefore advantageous"* than he has stated, it is understood that the computer's thought provides persistence in learning mathematical concepts. The T6 and T8 teachers draw students' interest and attention of the computer, have stated that it is a tool that encourages a desire to learn and requests. T6: *"Islay of students attending the course and increasing the computer usually wants and desires. Exit attracts the attention of a lot of children out of the classic thing."* submission that represents this situation. In this sense, it creates a lot of interest in T6 teacher's class object, as shown in Figure 3 and the computer is in active use are outstanding effort. T3 teacher *"Yes, it is advantageous. I'm doing my own hand up to a point. The computer saves time."* The form of expression will create an advantage in the use of computers to save time It is understood. T3, T5, T7 and T9 teachers stated that enables a computer to facilitate the expression of the issues in the difficult mathematics. T9 teacher *"I can not use in each lesson. But I am forced to provide very supportive computer issues."* and T10 teacher *"Each lesson or not we use in each subject; but by ourselves we identify issues, we can use the computer issues we are struggling."* one form of expression, will facilitate the use of computers in the expression of the subject during the training of these teachers who are understood to have said. If this is the case T2 teacher will provide the advantages and disadvantages of using computers has stated as follows: *"Instead of according an advantage; but also going to be disadvantaged."*

### 3.5. Computer Programs used by Teachers / Software are the Opinions

Another category is the category for the use of computer-related computer programs used by teachers. The only Office program of the teachers participating in the study of the data obtained in this study as Word, Excel and Power Point is identified they can not use any software program for mathematics able to use out of it. Maher, Phelps, Urane and Lee (2012)in the work they have done too often teachers Office software, except that they use the software have found that less use. The results obtained in this study are consistent with the literature in this context field. We also have a world of almost all of the teachers who are learning object does not have any information about the warehouse, but very few teachers is involved in interactive activities that Ministry of Vitamin education support platform has been determined to be aware of the website.

## 4. Conclusions and Recommendations

The multi-grade teachers in the school mathematics courses in computer made to elicit their views on the use of the results of this study, a case study generalization rethink purpose of this study includes only the teachers who participated in the study. This study will provide visibility to the case for the use of computers in mathematics courses in multi-grade schools and will work in these areas will be important in terms of providing guidance to researchers. Combined grades participated in the study task teacher least one of which stated that nine other teachers use computers in mathematics classes also stated that they never use the computer though. Most of the teachers in the school, only one or two computers are also found to many schools access to the internet for this computer. Only one class found that this information can be used as a class in a school shows that computers can provide the necessary school. Projection device, nearly all computers in schools are also available. When analyzed interview data obtained from the study, the opinions of teachers' computer use "the need to use a computer, computer intended use, computer use because the use of computers disadvantage/advantage and computer software programs used" are divided into five categories. Computer multi-grade teachers working in schools often said that they need to use the idea to contribute to individualized instruction.

Teachers use the computer while expressing more visualization and to embody concepts; teachers to address the different intelligences, to save time, it was found that they plan to use the computer to draw attention to exercise and do it again.

Teachers computer use causes the technological infrastructure and computer failure, incompatibility of combined classroom, computer, lack of experience in dealing with the integration of mathematics teaching, lack of teaching time, will cause the computer to loss of time thinking, low teacher computer literacy, student computer literacy mathematics course content and combined classes in the low demonstrate that no appropriate computer use. Teachers' classroom discipline problems, incompatibility of combined classroom and thinking that it is disadvantageous to use the computer to cause loss of time; learning / retention of providing information, saving time, convenience of explanation of the issues that are difficult, the students attention and the attention they noted that the advantages of using computers. Also participating in the study of mathematics education teachers only use Office programs other than that they did not know they stated that they could also use other programs so. Most teachers in mathematics courses that prepare Power Point presentation indicated that they contribute to teaching aid that is offered. This study was conducted with 10 classroom teachers in multi-grade schools in Bayburt. The results obtained in this study is aimed at teachers who participated in the study was analytical generalization. Calls to support the collection of data for the study and classroom observations made can not be selected by accessible sampling of teachers participating in the study are one of the limitations of this study.

The multi-grade classroom teachers in schools participating in the study had difficulty in the use of computers in mathematics teaching and their use is determined enough. Technological possibilities and concepts of school teacher efficacy as the reason for this situation come to the fore. In this context, the introduction of a sufficient level of technological capabilities of the Republic of Turkey Ministry of Education, the school is quite necessary for the use of technology in mathematics education. However, it only enough to bring education to technology integration infrastructure does not stop make it ready for use elements such as software and hardware (Ilgaz & Usluel, 2011). In-service training and pre-service teachers should be trained as equipped to use computers in mathematics (Baki, 1996; Kaleli-Yılmaz, 2012). However, the teachers are not aware enough of the software can be used for teaching mathematics teaching is another conclusions reached in this study. In this context, teachers, be aware of and use of instructional software, this software is proposed to be given training so that they can be integrated into mathematics teaching.

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