

## USING COMPUTER TECHNOLOGIES IN THE RESOURCE ROOM

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**ABSTRACT.** This paper proposes an inventory of the resource rooms' infrastructure in Cluj County and resource teachers' attitudes towards computers use, Internet and educational software for students with SEN. 50 resource teachers from Cluj County completed the same questionnaire in 2010 and 2012. The data obtained in this research can be used by schools managers, by developing educational software specialists and training centers for teachers. Resource teachers increasingly realize the importance of using educational software in the instructive educational process and they are willing to participate in training courses for computer and educational software use and electronic resources development for students with SEN.

**Keywords:** *resource teachers, computer assisted technology, resources*

**ZUSAMMENFASSUNG.** Das Benutzen von Computer Technologien im Hilfsraum. Das Ziel dieser Studie ist ein Inventar der Infrastruktur des Hilfsraumes im Cluj Kreis und die Einstellung der Lehrer gegenüber die Benutzung der Computer, Inteneet, und die didaktische Softwares für Studenten SEN. 50 Lehrer aus Cluj Kreis haben denselben Fragebogen in 2010 und 2012 ausgefüllt. Die bekommene Dateien können von Schulemanagers benutzt werden, um die Entwicklung von didaktische Software Spezialisten und Übungszentren für Lehrer. Hilfslehrer werden immer mehr aufmerksam auf die Wichtigkeit der Benutzung von didaktischen Softwares in dem behelrendem Prozess und sie nehmen teil eigenwillig an die Trainigskurse für Benutzung von didaktischen Softwares und die Entwicklung der elektronischen Hilfsmittel für Studenten mit SEN.

**Schlüsselwörter:** *Betriebslehrer, Computer unterstützte Technologien, Hilfsmittel*

### Conceptual specification

Adăscăliței (2007) defined computer assistive technologies as a teaching method that develops modeling and analysis cybernetic principles in education in the context of using information and communication technologies characteristic

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for the contemporary society. Ebenezer S. O. Collier (2004) considers that traditional educational instruction completed with appropriate computer assistive technology is more efficient than traditional instruction. Preminge, Weiss, & Weintraub (2004) demonstrate that using the computer assistive technology, especially the keyboarding in the writing process is an effective alternative for students with written language disorders.

Goldberg, et al. (2003) found that students who use computers in the writing process are more engaged and motivated to write; they also found that all compositions written by students on the computer are quantitatively and qualitatively better prepared compared with students who did not use computers. Participants in these studies were students in second grade. In addition to these studies Hetzroni & Schrieber (2001) concluded that the use of computers by older students (12-13 years) positively influence the quality of writing compared to the students who use pen and paper to write.

Hetzroni and Shrieber (2004) continued Owston and Wideman's (1997) research argues that a comparative longitudinal study between two primary groups of students with and without access to word processing has demonstrated that students who have had access to a word processor demonstrate significant increase in writing skills in the following areas: meaningful writing, quality of content, form of writing and writing organization.

Zhang (2000), Montgomery & Marks (2006) studied the link between the access technologies and students with learning disabilities motivation in writing tasks. All these researchers concluded that using computer information technology motivates students with learning disabilities to participate effectively in writing tasks which were sometimes refused. Students have more confidence in themselves; they are no longer afraid of mistakes or sloppy handwriting and are eager to show the results to their colleagues.

### **Motivation**

Because the new technologies are developing very fast, some classrooms are equipped with smart boards, iPad or e-readers, it is important to know the resources available in the resource room, resource teachers' attitude towards computer use, Internet and educational adapted software for students with special needs. Using communication and information technologies has proved to be very effective in special education, while educational software for children with SEN in Romanian is very limited.

The questionnaire was elaborate and used to collect data in 2010. These data were used to elaborate electronic lessons "Let's write correct orthograms!" using SIAC software for the PhD thesis "Using computer technology in writing language disorder".

Many teachers who answered to this questionnaire in 2010 expressed their will to participate in some training to learn how to develop new software and to use new software, so the same questionnaire was used in 2012 to identify some changes in resource room resources and in teacher training in the computer technology field.

### **Participants**

There were 50 resource teachers from Cluj County present in a biannual meeting who answer these questions in October 27, 2010. 41 teachers were female and 9 teachers were male. The same number of teachers was presented in May 30, 2012 for the same biannual meeting and they answered the same questions. This time 43 were female and 7 were male.

### **Instruments**

#### ***Questionnaire for resource teachers***

The questionnaire was elaborate using some studies Knezek, G. and Christensen, R. (1997), (Attitudes Toward Information Technology at Two Parochial Schools in North Texas, Denton, TX: Texas Center for Educational Technology, The International Committee Japanese Association of University Women Information Communication Technology Education) precum și Leping Liu, D. LaMont Johnson, Cleborne D Maddux (2002), (Evaluation and Assessment in Educational Information Technology, The Hoaworth Press Inc., N.Y).

The questionnaire is composed of five parts:

- Personal data
- Computer access, software and Internet access
- Resource teacher's attitude towards computer
- The frequency and type of activity the resource teachers experience on the computer
- The frequency and type of activity the resource teachers experience on the Internet

### **Hypothesis**

1. All the resource teachers have a computer, specific educational software and Internet in the resource room in 2012.
2. The majority of resource teachers have a positive attitude towards computer.
3. The majority of resource teachers use frequently the computer in the instructional process.

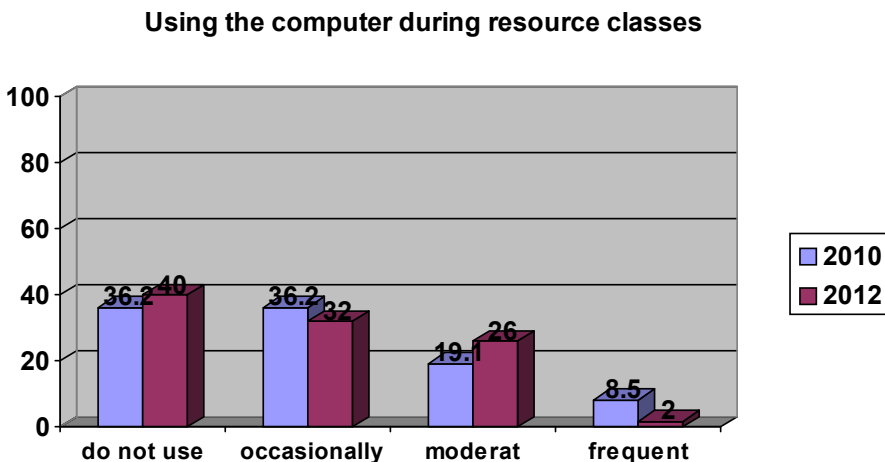
## Results

The percentage of teachers who had a computer in the resource room was 62% in October 2010. This percentage does not change significantly in May, 2012, when 66% of teacher answer positive to this question "Do you have a computer in the resource room? "

Although wireless internet connection is increasingly common in public institutions, the percentage of computers connected to the Internet in the resource room is decreasing from 48% in 2010 to 46% in 2012. The same percentage of 92% of teachers say "I like to write at the computer" is recorded to the application of both questionnaires.

It is gratifying that the percentage of resource teachers who use, or who wish to use educational software increased from 90% in 2010 to 100% in 2012. Also, it is important that a high percentage of resource teachers want to attend the beginner/advanced courses in computers, 76% in October 2010 and 78% in May 2012. The percentage of resource teachers who want to develop electronic lessons for students with SEN, increase from 86% in 2010 to 92% in 2012. Resource teachers consider unanimously that the use of computers in the educational process is beneficial for all the students with SEN.

In 2012, most teachers do not use computers during classes (40%), while 32% use the computer occasionally (1 hour per week or less), 26% of teachers use the computer moderate (2-5 hours per week), and only 2% use the computer frequently (more than 5 hours per week) as shown in Fig. 1.



**Fig. 1.** The percentage of resource teachers' answers for the item:  
Using the computer during the resource classes

The percentage of resource teachers who made worksheets on the computer is growing as it is presented in Fig. 2.

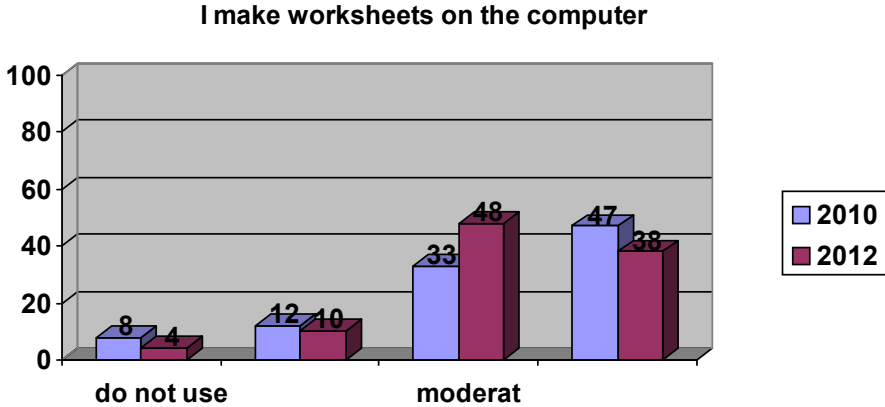


Fig. 2. Percent representation for the item: I make worksheets on the computer

A slight upward trend of teachers who use computers for school documents presentation and storage (grades, notes) as data are presented in Fig. 3.

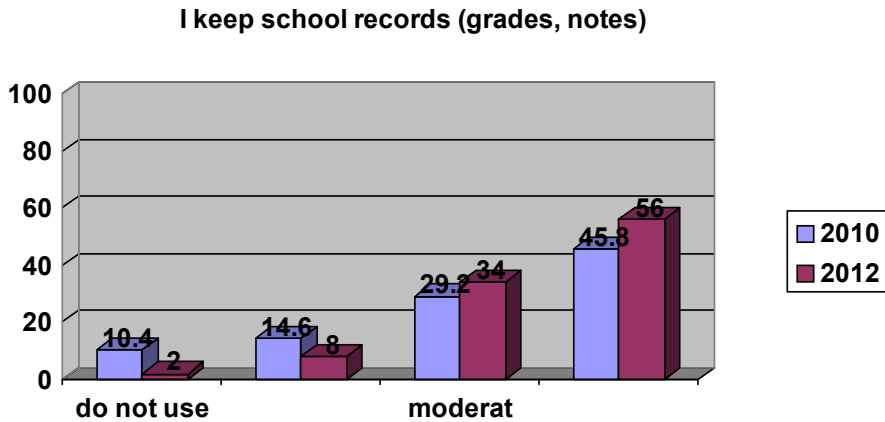
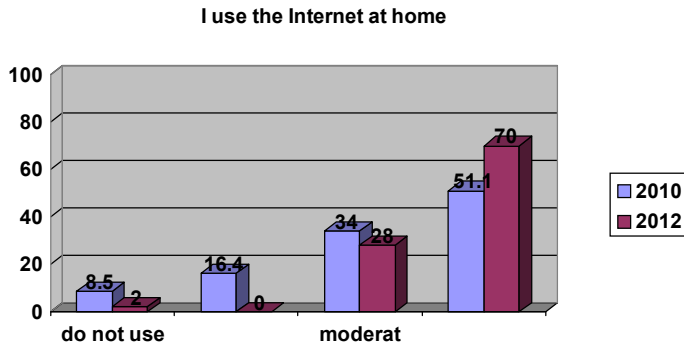
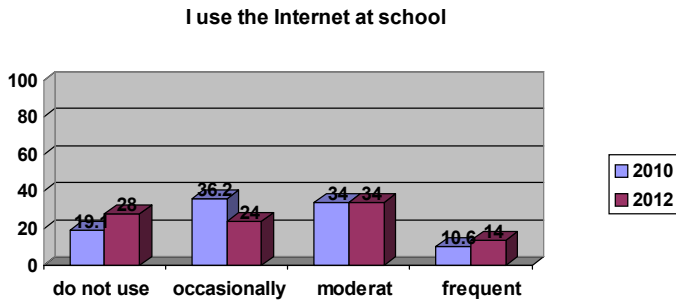


Fig. 3. Percent representation for the item: I keep school records

All percentages relating to the frequent use of the Internet by resource teachers questioned for this surveyed are increasing. Percentage of teachers who frequently use the internet at home increased from 51.1% in 2010 to 70% in 2012 (see Fig. 4) compared with the percentage of teachers who frequently use the Internet at school 10.6 % in 2010 to 14% in 2012 (see Fig. 5).

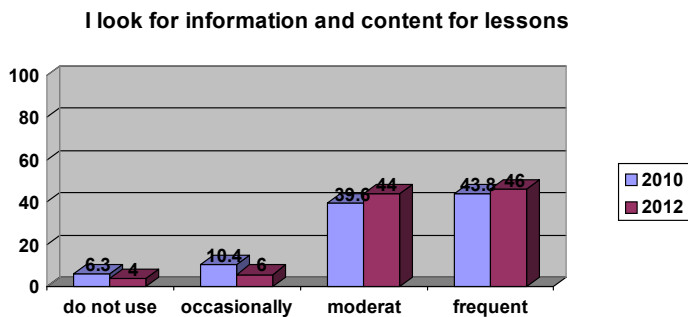


**Fig. 4.** Percent representation for the item: I use the Internet at home



**Fig. 5.** Percent representation for the item: I use the Internet at school

46% of respondents frequently communicate with family/friends over the Internet in 2012 compared with 25% of respondents in 2010 and 46% search for information and content for lessons through the Internet in 2012 compared to 43.8% in 2012 as can be seen in Fig. 6.



**Fig. 6.** Percent representation for the item: I look for information and content for lessons

## Discussion

The first hypothesis is not confirmed. Only 66% of resource classrooms are equipped with computers in 2012, 4% more than in 2010. Only 46% of resource teachers have Internet connected computers in 2012, so there is a 20% of resource rooms equipped with computers, but not connected to the Internet, although all the schools have Internet connection. A small percentage, 44% of respondents say they have specific educational software for students with SEN.

The second hypothesis concerning teachers' attitude towards computer is confirmed. Resource teachers responded unanimously on the following items: "I like / I'd like to use educational software", "I think it is important to learn how to work the computer" and "I believe that the use of computers in instructional education is beneficial." 78% of the resource teachers want to participate in open beginning/advanced courses in computer use.

The third hypothesis, most teachers frequently use the computer to support instructive educational process is not confirmed. It is worrying that, in 2012, 40% of the resource teachers say they do not use the computer during the resource classes.

Figure 1 presents the results recorded as percentages for computer use during resource class. While 66% of the resource teachers say they have a computer in the resource room and 40% of the resource teachers in this survey say they do not use computers during resource classes, we see a small percentage of 6% of resource teachers that although have a computer in the resource room they do not use it during resource classes. Perhaps, the absence of appropriate educational software for students with SEN determines these teachers to use only traditional teaching aids during resource classes.

## Conclusions and perspectives

As the anonymity of the respondents, it is not known if the same teachers were present at the first and second application of the questionnaire. Regardless if there were the same people present for the first meeting when the questionnaire was given for the first time and the second meeting for the second questionnaire application, infrastructure issues for the resource rooms are the same. It is absolutely necessary to create an infrastructure to allow full access to Internet-connected computers for all resource teachers.

Although most resource teachers want to use educational software and they want to develop electronic lessons for students with SEN, they do not have access to a lessons generator to enable them to develop electronic materials depending on the particular group of students or depending on the

particular student needs in a short time and with less effort. There is a lot of educational software for students in regular education in the stores and on various websites, but that software cannot be used for students with SEN.

Resource teachers increasingly realize the importance of using educational software in the instruction process and they are willing to participate in training courses in the use of computers and educational software for students with SEN. The resource teachers use personal computers to buy various products online and to pay bills online.

Authorized institutions must take into account the need to introduce new courses and training in the computer-assisted technology for resource teachers.

In the future it will be important to interview the school managers and to justify the importance of computers in the resource rooms. Teachers need support to establish the exact form and purpose to the work of educational computer use. Planning and teaching should include computers and educational software sequences based on the educational needs of a group of students or one depending on the particular student needs.

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