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Primary School Students' and Teachers' Opinions About Interactive Boards and Their Possible Utilization in Tuition

Izvirni znanstveni članek

UDK 37.091.33:004

ABSTRACT

Nowadays, the utilization of information and communication technologies in all types of schools has become obvious. Information and communication technologies bring a significant number of positive effects which appropriately complete and support education. The generally declared necessity for integration of new media and new educational technologies into the educational process is a prerequisite for further development of pedagogical sciences and practice. Since, in this context, it is essential to promote new didactic techniques and methods derived from them, it is equally important to follow the development of target group's opinions and attitudes. As the authors of the presented study are not aware of an overall study dealing with this issue, we have decided, based on research execution, to find out primary school students' and teachers' opinions about the introduction of modern didactic tools such as interactive boards into teaching practice. The presented study introduces the progress, the process, and the results of this significant research.

Key words: didactic tools, information and communication technologies, digital technology, interactive board, digital presentation, multimedia

Mnenja osnovnošolcev in osnovnošolskih učiteljev o interaktivni tabli ter možnosti njene uporabe pri poučevanju v osnovni šoli

POVZETEK

Uporaba informacijsko-komunikacijskih tehnologij je v sodobnosti pri poučevanju na vseh stopnjah šolanja precej razširjena. Informacijsko-komunikacijske tehnologije prinašajo veliko koristi, ki ustrezno obogatijo in podpirajo poučevanje. Splošna potreba po vključevanju novih medijev in izobraževalnih tehnologij v izobraževalni proces je nujen predpogoj za nadaljnji razvoj pedagoških znanosti in prakse. Kot je v tem kontekstu bistveno spodbujati nove učne tehnike in iz njih izhajajoče metode, je enako pomembno spremljati, kako se razvijata mnenje in odnos ciljne skupine do teh novosti. Ker avtorji te raziskave nismo seznanjeni z morebitno pregledno študijo, ki bi obravnavala izbrano temo, smo se odločili raziskati mnenja osnovnošolcev in njihovih učiteljev o uporabi modernih didaktičnih orodij (med katere sodi tudi interaktivna tabla) pri pouku. Članek predstavlja potek, postopke ter rezultate raziskave.

Ključne besede: didaktična orodja, informacijsko-komunikacijske tehnologije, digitalna tehnologija, interaktivna tabla, digitalna predstavitev, multimedija

Introduction

Didactic tools (cf. Průcha, 1995; Maňák, 2003; Janiš, 2006) are part of tuition since the beginning of cultural history of mankind and can be generally defined as *“all means and features that provide, require and improve the efficiency of tuition and with the usage of appropriate educational methods and organisational forms; they assist in reaching the pedagogical-educational goals”* (Průcha, 2009). The aim of didactic tools is especially to apply the principles of clearness (Nikl, 2002), as in tuition, if possible, all the senses should be employed in getting to know what reality is. Recent researches relate to this fact and they have confirmed that visual processing of information is more effective because we receive 87 % of information from sight, 9 % from hearing, and 4 % from other senses (Průcha, 2009).

In the information and communication technologies boom, modern didactic tools which are based on digital technologies and *multimedia* (Sokolowsky & Šedivá, 2002) have become prominent for teachers. *“Multimedia is computer-integrated and time dependent or independent media that can be interactively, that means*

individually and selectively, developed or processed” (T. Svatoš, in Průcha, 2009). According to N. and J. Chapman (2001) it is possible to derive particular parts of multimedia presentations that *“are processed by demanding technical composition where computer technology plays the main role – it is the only way to transfer information from different sources into the same process called digitalisation”* (Chapman & Chapman, 2001). Multimedia presentation is thus a “new” type of didactic material that consists of several basic parts enabling the full usage of digital technologies in the educational process. The basic parts of multimedia presentation are (1) hypertext; (2) graphics/image; (3) sound; (4) video; (5) animation (Chapman & Chapman, 2004) and can be defined as *“one of new educational technologies which uses parallel effect of pedagogical information from various media sources in order to reach the educational intentions and these sources are intentionally and practically gathered (usually in an electronic form) and interactively offered to the tutor for the sensual perception and mental process”* (T. Svatoš in Průcha, 2009). Interactive boards are a suitable technological means of presentation for multimedia presentations created and structured in this way (Dostál, 2011). These boards are shortly called i-boards (Finney & England, 2002). Thus, an interactive board is one of the ways to bring innovation into teaching process and make use of all the possibilities of multimedia presentations. *“The word innovation is usually perceived as a development and practical implementation of new features into the educational and learning system. The aim of the innovation is to improve the quality of this system”* (Skalková, 2007).

All the presented facts impose new demands on teachers who have to be prepared to work with modern didactic tools and technologies and create appropriate educational materials for such tuition. This need stems not only from didactic practice but also from the necessity to accept modern paradigms of teaching where constructivism is its flagship (Průcha, Walterová & Mareš, 2003), understanding the importance of student’s inner conditions of learning as well as their contact or interaction with the environment. That is why this modern teaching paradigm creates a new set of requirements for the teacher and even though they do not necessarily need to be ICT experts, they should be able to make use of those tools in teaching, assuming the role of students’ advisors, above all (Jonassen et al., 2003). These demands can be defined via the so-called TPACK model (Technological Pedagogical Content Knowledge) by L. Shulman (1986), in Czech – technological-didactic knowledge of content, according to Zounek and Šedřová (2009) or Janík (2005), which was further elaborated by P. Mishra and M. Koehler (Mishra & Koehler, 2006). This model uses three dimensions: (1) pedagogical dimension; (2) content dimension; and (3) technological dimension, which all accept the fact that teaching is a complex activity requiring various types of knowledge (understanding, skills, and attitudes), *“and understanding its principle means to penetrate into the complex net of their inter-relationships”* (Šimonová et al., 2010).

According to Brdička (B. Brdička, in Sojka, Rambousek eds., 2009), integration of ICT in tuition is possible only based on real modification of teaching processes. According to above given TPCK, the newly outlined content that educates teachers is composed of four parts. The first one is the previously mentioned didactic knowledge of content (Pedagogical Content Knowledge – PCK) that stems from the original Schulman's concept. This concept, according to Mishra and Koehler, contains knowledge on how to approach educational content and organise it in order to be transmitted as effectively as possible. The second part deals with the interconnection of teaching and technologies (Mishra & Koehler, 2006). As a result, technological content knowledge or TCK is formed. To be more specific, this knowledge describes which technologies are appropriate for a particular educational content. This means that the principle is not only in the knowledge of the taught subject or topic, but also in the way the subject is adjusted using the ICT. The next part connects the field of didactic knowledge with the technological knowledge (Mishra & Koehler, 2006), which results in a new educational field, the so-called technical-didactic knowledge (Technological Pedagogical Knowledge – TPK). This field represents not only the knowledge of the existence of various technologies that can be used in education, but also the knowledge of the fact that these technologies have various tools and possibilities applicable in tuition. This means that it is necessary for a teacher not only to have knowledge of various technologies, but also to be familiar with their possibilities and limits that apply to tuition. The last part is an intersection of the three above mentioned fields. Mishra and Koehler (2008) talk about the so-called technological-didactic knowledge of the content (Technological Pedagogical Content Knowledge – TPCK) made by a new form extending significantly further than its three parts. According to the authors mentioned earlier (Mishra, 2006; Koehler, 2008) the technological-didactic knowledge of the content is the foundation of effective education that requires from the teacher, above all, an understanding of the usage of technologies. *“Only the combination of all necessary knowledge (technological-didactic-subject) makes the teacher a unique and irreplaceable master of their field who is able to help transfer learning towards higher forms in the current world conditions”* (Brdička, 2009). The knowledge required for exploration of truly modern and effective tuition in schools in fact comprises also multimedia presentation preparation and its usage in the educational process through an interactive board.

Interactive whiteboard in tuition

Interactive board is a touch-sensitive surface that enables active communication between a user and a computer, aimed at providing the maximum possible objectivity of the presented content (Dostál, 2009). It is usually used together with a computer and a projector. Through an interactive board, the user is able to influence the computer and the running programs. Thanks to the projected image on

the interactive board (especially where changes are in progress) it is possible to follow the current state on computer output in real time (J. Dostál, in Klement et al., 2011a).

The traditional connection “interactive board - projector - computer“ is still accompanied by other features such as voting machine through which we can very quickly and precisely find out the rate of gained knowledge and consequently involve students in tuition.

Based on a series of direct tuition observations, where an interactive board has been used (Klement et al., 2011b), the following advantages of interactive board usage have been observed (J. Dostál, in Klement et al., 2011a):

- students can be motivated more effectively using an interactive board appropriately;
- study material can be visualised; it is possible to use animations, move objects; the principle of objectivity is applied;
- this tool enables to keep the attention of students for much longer;
- earlier created materials can be reused or easily corrected;
- students can get actively involved in tuition more easily;
- the text written during the actual tuition can be easily saved and shared with other students through the Internet;
- students develop their information and computer literacy (which are crucial nowadays) while working with the board.

It proves that the trend in equipping schools with interactive boards can result in the fact that using interactive boards will become essential for teachers. Until now, we have witnessed merely isolated attempts which mainly dealt only with partial integration issues within particular segments of learning material. Some of the so far realised surveys (Klement et al., 2011b) clearly show high students' and pupils' interest in tuition supported by interactive boards and multimedia presentations. This kind of tuition is considered by some authors to be a *new complex method* that should offer students tuition and learning which is more fun and less routine (cf. Maňák, 1997; Betcher & Lee, 2009; Klement et al., 2011a). It should involve students in cooperative lesson formation which will result in students' motivation to study.

Even though there is a generally declared necessity for incorporating new media (or multimedia) and new technologies (or interactive boards and their accessories)

into the educational process and promoting new didactic techniques and methods derived from them, the whole matter raises the question whether these technologies really make difference from students' and teachers' perspective. Since the authors of the presented study are not aware of any empirical analyses dealing with this issue, we have decided to carry out a survey which would help discover students' and teachers' opinions about the pros and cons of modern didactic tools and the implementation of digital technologies into the didactic process. This research has been carried out thanks to a joint project of the Department of Technical Education and Information Technology at the Faculty of Education of the Palacký University in Olomouc and 17 primary schools in the Olomouc region. It focused on increasing teaching quality through the use of new didactic methods and multimedia techniques, as well as on effective ICT utilization when teaching general and professional subjects at the second level of primary schools. The project has been dealing with formation of educational interactive modules for the following primary school subjects: the English language, the Czech language, mathematics, physics, biology, and geography. We have asked the students and the teachers from these schools about their opinions and attitudes regarding modern didactic tools and digital technologies applied to education, and the real impact on the educational process in the above mentioned subjects. The progress, the process, and the results of this analysis are detailed further on.

Research methodology

Based on the above stated starting points we have carried out an analysis of primary school students' and teachers' opinions and attitudes regarding the execution of tuition supported by modern didactic tools and digital technologies in two categories, as follows:

The opinions of students from 17 primary schools about tuition using interactive boards and multimedia presentations,

The opinions of teachers from 17 primary schools, who have used this type of tuition, about the contribution and the efficiency of tuition supported by interactive boards and multimedia presentations.

A questionnaire (Foddy, 1994) designed for each category separately was used in order to get the necessary research data that would produce reliable and valid results. The questionnaire was anonymous, which ensured maximum objectivity. The respondents had to answer dichotomous (yes/no) questions (Horák & Chráska, 1983).

We presume that this method is sufficient for this specific example and it provides sufficient overview of students' and teachers' opinions and attitudes towards cer-

tain type of activities which could improve education quality. As a matter of fact, an analysis of the frequency of survey responses and their percentage rate in form of graphs and charts was used for static data processing. For the above mentioned reasons, we did not form classic research hypotheses but rather used classic closed i.e. dichotomous questions which had been marked in the questionnaire. Based on this, the following analysis considers only those results where 60 or more per cent of respondents in our research sample answered a given question with YES or NO.

Student survey sample comprised 2,011 primary school boys and girls from 5th to 9th grades, coming from 17 primary schools, who demonstrably took part in tuition supported by interactive boards and multimedia presentations. In these schools, the respective didactic tools became the main tool for presentation or interaction with the curriculum both from the student's and the teacher's point of view. In total, 2,100 questionnaires have been distributed at the first stage of the survey and 65.8 % of them have returned. The questionnaire was distributed between September 2010 and May 2011. The structure of our survey sample is shown in Table 1 below.

Gender	The number of respondents in each grade		Total number	Percentage
	Grade	Number		
Male	5 th grade	125	829	41.2 %
	6 th grade	184		
	7 th grade	171		
	8 th grade	201		
	9 th grade	148		
Female	5 th grade	178	1,182	58.8 %
	6 th grade	263		
	7 th grade	242		
	8 th grade	287		
	9 th grade	212		

Table 1: Survey sample structure - primary school students

The teacher respondents sample comprised teachers from the 17 afore-mentioned primary schools, who taught the above mentioned students. The teachers could fill in up to 9 evaluative questionnaires for each class separately. In this way, they could compare students' progress and the contribution of interactive boards and multimedia presentations used in tuition. The first round of evaluation took place from September 2010 to November 2011 (evaluation of at least 3 classes), the second round from January 2011 to February 2011 (evaluation of at least 3 additional classes) and the third, last round from March 2011 to May 2011 (evaluation of yet another 3 classes at the least). The structure of this research sample is demonstrated in Table 2 below.

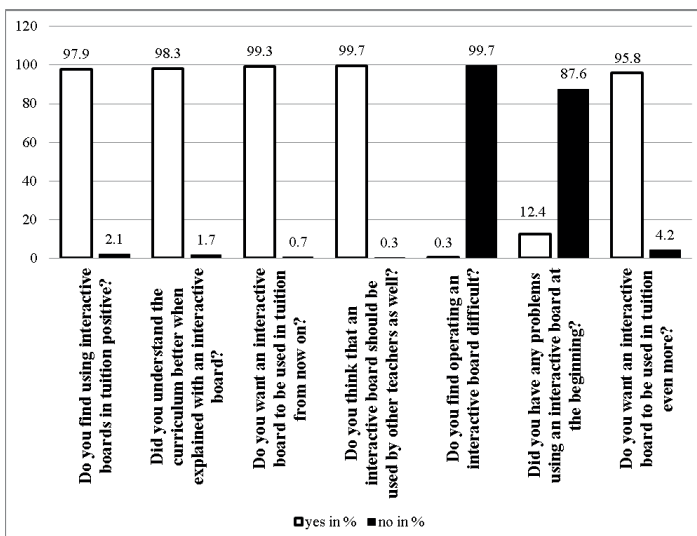
Gender	Total number	Percentage	The number of questionnaires* filled out	Respondents / questionnaires in total
female	27	77.1 %	250	35 / 325
male	8	22.9 %	75	

Table 2: Survey sample structure - primary school teachers

The following part of the analysis provides a summary of the most important results of the survey.

Survey results

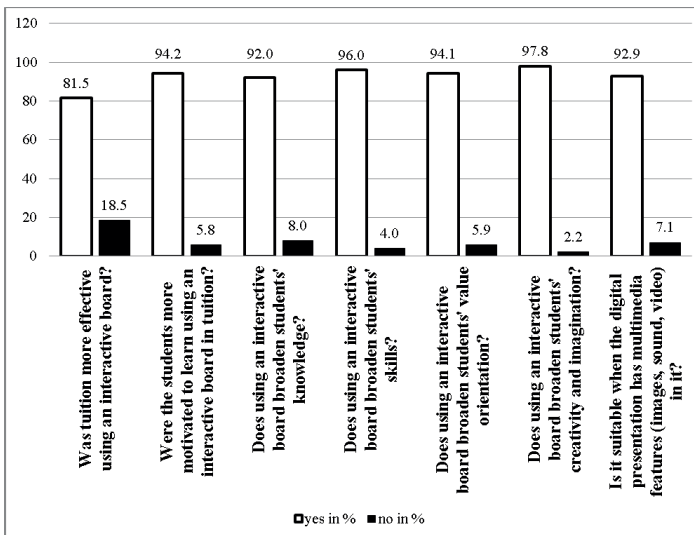
From the analysis carried out it is obvious that primary school students generally consider tuition supported by interactive boards and digital presentations a significant advantage. As much as 97.9 % of students evaluated it positively, while only 2.1 % of students refused it. The efficiency of such tuition can be considered high, as 98.3 % of all students responded they understood the curriculum better with the support of interactive boards and digital presentations, and only 1.7 % of the students said their understanding was worse. As much as 99.3 % of all students responded they understood the curriculum better with the support of interactive boards and digital presentations, and only 0.7 % of the students said their understanding was worse. As much as 99.7 % of the students were in favor of tuition which is supported by interactive boards and digital presentations and its utilization in classes, while 99.7 % of them responded that other teachers also should incorporate these tools in their tuition. Furthermore, students did not experience any difficulties in operating these modern didactic tools, as 99.7 % responded that they had no problems even after using them only shortly. The whole situation is much more clearly illustrated in Graph 1 below.



Graph 1: Research results with the group of primary school students

The results obtained were objective with regard to respondents' gender, owing to the use of Student's t-test. There was not a single case of answers being gender-related, which means the opinions are completely unaffected by the gender of respondents. The responses of all students included in the survey clearly indicate the necessity for interactive boards and digital presentations to become an integral part of tuition, as students seem to understand the curriculum better when using these tools. Their opinions were compared to teachers' opinions and to observation results.

Results analysis revealed that the teachers also find using interactive boards and digital presentations in their tuition very useful. In total, 81.5 % of the teachers stated that interactive boards made their tuition more effective, while as much as 94.2 % of them consider their students more motivated. Furthermore, 92 % of the teachers said that interactive-board-supported tuition broadened not only students' knowledge but also their skills and value orientation. To be more specific, 96 % of them think that interactive boards improve students' skills and 94.1 % believe they improve their value orientation. As far as improved creativity and imagination is concerned, however, only 2.2 % of the teachers said that neither students' creativity nor their imagination was being broadened. The teachers also think that presentations which include multimedia features were very useful and efficient. The whole situation is better illustrated in Graph 2 below.



Graph 2: Research results with the group of primary school teachers

In this case also, the results were analysed in terms of teachers' gender impartiality. Again, we might say that there was not a single case of gender-related responses thanks to Student's t-test, so the results we collected are impartial and they equally

represent both men's and women's opinions. In fact, we can say that teachers in general find using interactive boards and digital presentations very useful and suitable part of tuition which is in turn not only more motivating and effective but also a great source of knowledge, skills, and attitudes.

The objective value of the results is supported by reliability analysis of the questionnaires used which was also carried out. The reliability was surveyed using Cronbach's alpha coefficient, where the value for the first questionnaire (primary school students) was 0.92 and the value of the second questionnaire (primary school teachers) was 0.94. These values indicate high reliability of the results obtained.

Discussion

The idea of natural ICT usage among students of today, which involves the use of modern didactic tools, is a fact supported by two main arguments. The first one draws from the fact that nowadays, children use and handle modern IT with absolute certainty and self-confidence.

The second reason is based on age-related ICT usage statistics which shows that unlike the older generations, almost all children today can use the Internet and computer (Lupač, 2011). American author Don Tapscott (1998) based his theory on these two arguments in 1998, claiming that the 'powerful family' model is corrupt because it is the children who educate their parents how to live in a digital environment. His label *N/GEN* and *digital generation* was soon supported by others, such as *digital natives* (Prensky, 2001), *homo-zappiens* (Veen & Vrakking, 2006), *digitally born* (Palfrey & Glasser, 2008) and others. "*Digital natives are used to getting information very quickly. They like doing more activities at the same time (multitasking). They prefer working with the picture material before text. They also prefer random attitude towards information (hypertext) and they like working in the net environment (online) best. They expect immediate praise and frequent appreciation of their own work*" (Prensky, 2001). Prensky's and Tapscott's ideas have become very influential and several researchers have tried to support or disprove their thoughts with variable success (Bennett, Maton & Kervin, 2008).

Even though the authors of the study presented herein are neither supporters nor opponents of the idea of varied attitude towards educating "digital natives", they think that educational practice in primary schools might create excellent environment for opening professional discussions about this phenomenon. This issue goes hand in hand with the "new" role of teachers in the educational process, which is based on thorough utilization of modern didactic tools such as interactive boards or digital presentations. The results presented herein clearly indicate that both primary school teachers and students find tuition supported by modern didactic tools effec-

tive and motivating, as it helps develop several features of student's personality in an attractive way. The question remains whether this is true for all schools where such tools are used. In this respect, we cannot have a straightforward answer, since our survey was focused on schools where teachers underwent extensive training and attended several workshops on the use of such tools and on preparing suitable digital materials in form of digital presentations. In context of the above mentioned facts, the aim of this effort was to develop the so-called digital wisdom and form a group of teachers (Prensky, 2009) who would better understand the way that students – digital natives – think. Such extensive and goal-oriented training is not very common within the school system, which is why there may be some schools where interactive boards are used for static picture projecting which is not digitally adjusted and there may be teachers who do not have the necessary competences for the preparation or the execution of didactic-tools-supported tuition where the interaction among teachers, curriculum, and students is vital.

As a result, we perceive the above mentioned facts as an impulse to develop further discussions and as a stimulus to develop a reliable and balanced attitude towards the needs of second level primary school students. Even though the latter may not be really digital natives and the current issues regarding school systems and their results may originate elsewhere, we cannot disprove this fact either. That is why it is necessary to continuously observe this area, evaluate the attitudes of those engaged in this type of tuition, and try to find the best ways to meet their expectations.

Conclusion

The survey carried out clearly indicates that students see the use of interactive boards as something positive and consider them a very good motivational factor. The results of this part of the survey can be summarised as follows:

- Students perceive the utilization of interactive boards clearly as something positive, which is why these didactic tools should be used in tuition more often,
 - Students understand the curriculum better if presented through interactive boards and for this reason, it would be very effective to use this method to present the curriculum,
 - Students would like to use interactive boards in tuition in the future, which is why it is necessary to accept this idea and try to incorporate modern didactic tools and digital presentations as integral part of educational practice in our schools,
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- Students do not find any problems operating interactive boards and their accessories, so these didactic tools can be used in all subjects and other didactic and educational processes.

Similarly, pedagogical workers (teachers) also see the utilization of interactive boards in practice very positive. Our observations indicate that interactive boards are used effectively from their point of view. The results of this part of the survey can be summarised by the following points:

- The teachers came to the conclusion that using modern didactic tools in tuition significantly increases its efficiency,
- Modern didactic tools significantly increase students' motivation to study,
- Absolute majority of teachers utilize multimedia features when creating digital presentations,
- The utilization of interactive boards and digital presentations in tuition clearly develops students' knowledge, skills, imagination, creativity and value orientation. Thus, we may say they represent a fully capable tool to reach various educational goals and to employ different strategies.

DALJŠI POVZETEK

Uporaba informacijsko-komunikacijskih tehnologij pri poučevanju v šolah je dandanes očitna. Informacijsko-komunikacijske tehnologije prinašajo veliko koristi, saj bogatijo in podpirajo poučevanje. Splošna potreba po vključevanju novih medijev in izobraževalnih tehnologij v izobraževalni proces je nujen predpogoj za nadaljnji razvoj pedagoških znanosti.

V času eksplozije informacijsko-komunikacijskih tehnologij so postala moderna didaktična orodja, ki temeljijo na digitalnih tehnologijah in multimediji, pomembna za učitelje. Multimedijske predstavitve so »nov« tip izobraževalnega gradiva; sestavlja ga več osnovnih elementov, ki omogočajo popolno uporabo digitalnih tehnologij v izobraževalnem procesu. Osnovni elementi multimedijske predstavitve so: nadbesedilo (hipertekst), slika, zvok, video in animacija. Interaktivne table (na kratko jih imenujemo i-table) predstavljajo ustrezno tehnologijo za multimedijske predstavitve, ki so zasnovane in strukturirane na ta način. Interaktivna tabla je pravzaprav eden od načinov inovativnega pristopa k učnemu procesu ter izkoriščanja vseh možnosti, ki jih ponuja multimedijska predstavitvev.

Vsa navedena dejstva predstavljajo dodatne zahteve za učitelje, ki morajo biti ustrezno pripravljeni za delo s sodobnimi didaktičnimi orodji in tehnologijami ter pripraviti tudi ustrezna učna gradiva za tak način poučevanja. Ta potreba ne izhaja

zgolj iz prakse, temveč tudi iz potrebe po sprejemanju sodobnih paradigem poučevanja, kjer je glavno vodilo konstruktivizem, izpostavlja pa tudi pomembnost notranjih pogojev posameznika za učenje ter njegov stik oziroma interakcijo z okoljem. Iz tega razloga ta sodobna učna paradigma ustvarja nove zahteve za učitelje. Čeprav ni nujno potrebno, da so IKT-strokovnjaki, morajo učitelji, ki naj bi bili predvsem svetovalci učencem, znati uporabljati ta orodja pri poučevanju.

To dokazuje, da gre trend opremljanja šol z interaktivnimi tablamami v tej smeri, da bo uporaba interaktivnih tabel za učitelje postala neizogibna. Do sedaj smo bili priča le osamljenim poskusom delne integracije znotraj posameznih segmentov učnega gradiva. Nekatere dosedanje študije jasno kažejo veliko zanimanje študentov in učencev za učenje s pomočjo interaktivnih tabel in multimedijskih predstavitev. Tovrstno poučevanje nekateri avtorji označujejo za *novo kompleksno metodo*, ki naj bi učencem ponujala bolj zabavno in manj rutinsko učenje.

Na podlagi pogostih pobud s strani osnovnih šol, ki tesno sodelujejo s Pedagoško fakulteto Univerze Palacký v Olomucu, smo začeli razmišljati o možnosti izvedbe raziskave, s katero bi preučili interes teh šol za nove tehnologije in učne metode. Na podlagi omenjenih izhodišč smo se odločili izvesti podrobno analizo potreb za izvajanje učnega procesa s sodobnimi didaktičnimi orodji in digitalnimi tehnologijami, kjer smo se osredotočili na dve vprašanji:

- zanimanje ravnateljev osnovnih šol za vpeljavo interaktivnih tabel in multimedijskih predstavitev v učni proces,
- zanimanje učiteljev za poučevanje, ki temelji na uporabi interaktivnih tabel, in potrebno pripravo multimedijskih predstavitev.

Za pridobivanje informacij, na podlagi katerih bi pridobili zanesljive podatke, smo uporabili vprašalnik; pripravljen je bil za vsako skupino posebej. Bil je anonimen, kar je zagotovilo maksimalno realno vrednost. Vprašalnike smo razdelili med posameznike v ciljnih skupinah in jih po izpolnjevanju obdelali. Razdeljenih je bilo več kot 100 vprašalnikov, kar zagotavlja visoko realno vrednost dobljenih rezultatov, ki so navedeni spodaj.

Izvedena analiza jasno kaže na interes ravnateljev osnovnih šol za moderna didaktična orodja in tehnologije, saj jih kar 63 % trdi, da že uporabljajo sodobne tehnologije, vendar le 40,7 % njihovih učiteljev zna te tehnologije tudi uporabljati. Ugotovili smo tudi, da ima samo 18,5 % šol učitelje, ki so sposobni pripraviti ustrezna učna gradiva za tovrstno poučevanje. Poleg tega je kar 92,6 % ravnateljev izjavilo, da bi bili zagotovo veseli diplomantov pedagoške fakultete, ki bi znali uporabljati didaktična orodja in digitalne tehnologije oziroma ki bi znali delati z interaktivnimi tablamami in pripraviti ustrezne multimedijske predstavitve. Zaznali smo tudi zanimanje sedanjih osnovnošolskih učiteljev za sodobna didak-

tična orodja in uporabo digitalnih tehnologij. Čeprav jih je kar 64,2 % navedlo, da so se že srečali s tovrstnimi didaktičnimi orodji, jih le 39,5 % priznava, da znajo te tehnologije tudi uporabljati. Poleg tega je le 21 % učiteljev odgovorilo, da so sposobni pripraviti ustrezno učno gradivo za tako poučevanje. 82,7 % učiteljev trdi, da jih resnično zanimajo sodobna didaktična orodja in izobraževanje za delo z digitalnimi tehnologijami, kar 90,1 % pa se jih posebej zanima za izobraževanje za pripravo ustreznih učnih gradiv.

Na podlagi rezultatov študije o uporabi sodobnih didaktičnih orodij (kot je na primer interaktivna tabla z dodatki, ki predstavlja sodoben način učenja oziroma učno metodo), pridobljenih iz več kot 100 vprašalnikov, ki smo jih razdelili učiteljem od prvega do četrtega razreda osnovne šole in njihovim ravnateljem, lahko trdimo, da je zanimanje zelo veliko. Vse ciljne skupine, ki so sodelovale v študiji, kažejo veliko zanimanje za izvedbo učnega procesa s pomočjo sodobnih didaktičnih orodij in uporabo multimedijskih predstavitev.

LITERATURE

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