OWNERSHIP AND USE OF NEW MEDIA BY TEACHERS IN RURAL AND URBAN AREAS OF CROATIA

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Abstract

The development and use of new media in the class emphasizes independent learning based on the activitiesofthestudents, constructivistlearningand student-centredlessonsin general. Using new media in the class does not prompt more efficient learning and teaching in itself, but can initiate the learning processes by didactically shaping the class with regards to student and teacher motivation, previous knowledge, aims, methods and content. Thus,the media changes the role of the teacher, who becomes the organizer of students' independent learning activities. On the other hand, differences have traditionally been seen between teachers from rural (village) and urban (towns/cities) areas. This research was carried out to investigate how often new media are used by elementary school teachers in rural and urban areas (N=158), and what the differences are between those two subgroups of teachers in terms of ownership of new media. The research was conducted in February 2012by using a questionnaire.The studydemonstrates that there is no difference in terms of ownership of any of the new media items relating to the area in which the school is situated (rural or urban). The results show that computers, mobile phones and the internet are owned and used toa greater degree than social media, smartphones and tablet computers. Teachers who work in rural and urban areas use personal computers, the internet and multimedia software in their classes most often, while they do not use tablet computers, smartphones, social networking or mobile phones as frequently. The results show that using new media decreases the traditional differences between teachers from rural and urban areas, which implies that students can learn in classes organized with the help of new media, regardless of where their school is situated.

Keywords:*new media*, *teachers*, *rural and urban areas*, *student centred teaching*, *learning*.

INTRODUCTION

Over the past few years the media environment in which we live has changed significantly. New media have become a vital part of everyday life. The possibility of receiving and sending information has increased, so that all information has become available to us, communication has become quicker and easier, and the possibilityfor informal learningexists. Within the new multimedia environment, new possibilities are available for learning, teaching and education. It has been shown that today the new media (mobile phones, computers, the internet, etc.) contribute a great deal to meeting precisely these basic human needs. Therefore, it is the task of schools to guide the development of children and adolescents in that direction. Pupils not only own an increasing quantity of new media, but they have well-developed competences in using them. Pupils see the new media not only simply as digital equipment, but also as a social phenomenon. Today's children are becoming acquainted with the world by using new media every day. They construct their own realities as they use them. Children come to school with these media and these well-developed competences, but it needs to be asked how far schools recognize this fact when organizing lessons. It is extremely important for each school to provide quality education, regardless where that school is located, whether in a city or a village, a developed or undeveloped area, or a rich or poor neighbourhood, as pointed out by Sahlberg (2012), commenting on the Finnish education system. An important role is played here by trained and good quality teachers.

NEW MEDIA, LEARNING AND TEACHING

The rapid development of new media heightens the importance of what is new inmedia and digital equipment. What was new yesterday is already old today. Ridout et al. (2008) point out that pupils no longer see media and digital technology, such as mobile phones, only from the point of view of their primary function, but from the point of view of access to the internet, as a small computer, dictaphone, videocamera, camera, etc. In other words, they see them as new media (multimedia). So, Ito et al. (2008, p. 8), in their report, define new media as:

> "*a media ecology where more traditional media, such as books, television, and radio, are "converging" with digital media, specifically interactive media and media for social communication (...). We have used the term "new media" rather than terms such as "digital media" or "interactive media" because we are examining a constellation of changes to media technology that can't be reduced to a single technical characteristic. Current media ecologies often rely on a convergence of digital and online media with print, analogue, and non-interactive media types. The moniker of "the new" seemed appropriately situational, relational, versatile, and not tied to a particular media platform*".

In teaching, as a joint activity shared between the pupil and the teacher, the teacher becomes the organizer of the environment and the external and internal conditions of learning. The new media make this form of learning possible. The cooperation between the teachers and pupils is emphasized in constructing knowledge. In traditional teaching, the teacher organized

the lesson which was aligned to the average pupil in the class. In this form of class, there were various problems, misunderstandings, a lack of interest, and there was no respect for the individuality of the pupils (their abilities, capacities, needs, desires and interests). Teaching by using new media places precisely the pupil in the foreground (he is approached individually: his needs, capacities and abilities, but also his desires and interests are respected). In order to implement this individualized approach, the teacher has to know the pupils in the class, constantly monitor their progress and development, take account of their individual interests and the needs of each individual, and organize lessons where the pupils are active and where they work, that is, student-centredteaching (Matijevi &Radovanovi , 2011).

In this new media environment, the teacher's role changes. His or her task will be to create a stimulatingenvironment for learning (Jonassen&Land, 2000),encouragethedevelopmentof metacognitive skills, develop communications skills and help the pupil to construct his own knowledge (to learn by discovery and research). In other words, the emphasis is on constructivistlearning (Fosnot& Perry, 2006; Simons et al, 2000). According to Dillon and Gabbard (1998), quality inthe use of new media in lessons will depend on the individual abilities of each pupil whilst learning (foreknowledge, motivation, etc.). The new media are being used increasingly in teaching, in the whole process of education. However, it is difficult to ascertain with certainty which of them is the most useful. Certainly, all the new media can be used in the teaching process, in both teaching and learning. However, the quality of their use depends on a variety of conditions, circumstances and factors, and the medium itself is one of these. It cannot be ascertained with certainty that a certain form of new media makes it possible to learn new lesson content better. If the teaching content is mastered well, this may be the result of the interaction of various factors, conditions and circumstances.

THE TRADITIONAL AND CONTEMPORARY (IN)EQUALITY OF SCHOOLS IN RURAL AND URBAN AREAS

In traditional theory and empirical research, the advantages and disadvantages of schools in urban and rural areas have often been described. The disadvantages of schools from rural areas have been mentioned most often. It appears that city schools are better equipped with new media than village schools (but that does not mean they use them in lessons). Moreover, the better material resources of urban schools have been shown, so the pupils have better opportunities to make progress in terms of culture, sport, education and other areas, as well as having more opportunities to have access to and use newmedia (Trentham&Schaer, 1985). It should be mentioned that McCracken and Barainas (1991) discovered that traditionally there are certain differences between pupils from urban and rural areas, that is, pupils from cities (urban areas) strive towards higher education and higher paid work.

Over recent years, an increasing number of theoreticians and practitioners have been involved in research and studying new media in teaching and education in populations of teachers, pupils, and future teachers (students), with regard to schools and teachers in rural and urban areas.

A total of 198 Malaysians took part in research undertaken by Zakaira et al. (2009), of whom 106 teachers were from rural environments and 92 from urban environments. The results showed that teachers from rural and urban areas do not differ regarding their opinions on the implementation of multimedia in lessons. However, both pointed out the importance of developing skills for using the new media (IT competence).

Can (2010) believes that new media have taken on a significant role in education. As a result, he undertook research into the opinion of future teachers on the use of new media in class. The research was undertaken on a sample of 184 future teachers. The results showed that there was no difference between students from rural and urban areas. Nor was there any difference in terms of gender. In other words, students, regardless of their place of residence and gender, have a positive opinion about the use of new media in lessons, in their teaching (projectors, computers, the internet, etc.).

Howley et al. (2011) undertook research into the attitudes of teachers from rural and urban areas on the integration of new media into lessons, and their effect on the elementary schools in those areas. More than 500 third grade teachers were interviewed. The analysis compared the results from teachers from rural and urban areas, and showed that teachers from rural areas have a more positive attitude towards the integration of new media into lessons. Further results showed that attitudes, the teachers' readiness to use the new media and the availability of new media were positively linked to the integration of new media. On the other hand, the distance of the school from the teachers' homes, and their socio-economic status, did not have any significant connection. However, it was shown that teachers from schools in rural areas had limited access to new media.

From the theory and results of research undertaken so far, we may conclude that the capacity of teachers to use new media in their teaching is key for the use of new media in lessons, and may be linked with owning new media and its further use. We therefore decided to undertake this research.

METHOD

Aim of the Study

The aim of the study was to examine the differences in ownership of new media between teachers working in schools in urban and rural areas, and to examine the frequency of use of new media in lessons in those two subgroups of teachers.

Sample

The sample groups consisted of teachers from elementary schools in north-west Croatia (N=158). That is to say: teachers from the Varaždin, Me imurje, Koprivnica-Križevci and Zagreb Counties and the City of Zagreb. Of the total number of subjects, 70 (44.3%) lived in a village and 88 (55.7 %) in a town or city, and 86 worked in village schools (54.4%), and 72 (45.6%) teachers worked in urban schools. In the sample, there were 134 (84.8%) female subjects and 24 male subjects (15.2%).

Instrument

For this research, we used a questionnaire consisting of questions on personal data (socio-demographic characteristics), and questions on ownership and use of new media.For the questions on personal data (socio-demographic characteristics), the subjects indicated if they were male or female. Further, they indicated where the school where they worked was located (village or city). They indicated ownership of new media (a computer, internet access, mobile phone, multimedia software, a tablet computer and smartphone) and whether they used a social network with a Yes/No answer. The subjects indicated the frequency of use of each new media on a four figure scale (1 = never, 2 = rarely, 3 = often, 4 = almost all the time).

Procedure

The questionnaire was conducted in February 2012. The teachers completed the questionnaires in school. The head teachers of the schools where the research was being undertaken were informed and acquainted with the form and purpose of the research, and the research was completely voluntary and anonymous.

RESULTS

It was shown that teachers who work in schools in both villages and towns most often use a computer, multimedia software and the internet in their lessons. Significantly fewer use mobile phones, and they almost never use a tablet computer, smartphone or social networks (Table 1).

Table 1. The frequency of use of new media by teachers working in schools in villages and in towns

		Village	City
Computer	Never	4.7 %	2.8 %
	Rarely	36 %	34.7 %
	Often	43 %	51.4 %
	Almost always	16.3 %	11.1 %
Internet:	Never	9.3 %	13.9 %
	Rarely	48.8 %	40.3 %
	Often	32.6 %	40.3 %
	Almost always	9.3 %	5.6 %
Mobile phone	Never	69.8 %	75 %
	Rarely	25.6 %	20.8 %
	Often	3.5 %	2.8 %
	Almost always	1.2 %	1.4 %
Multimedia software	Never	11.6 %	23.6 %
	Rarely	26.7 %	22.2 %
	Often	44.2 %	33.3 %
	Almost always	17.4 %	20.8 %
Tablet	Never	95.3 %	93.1 %
	Rarely	3.5 %	4.2 %
	Often	0 %	1.4 %
	Almost always	1.2 %	1.4 %
Smartphone	Never	94.2 %	93.1 %
	Rarely	4.7 %	4.2 %

	Often	0 %	2.8 %
	Almost always	1.2 %	0 %
	Never	86 %	91.7 %
Social network	Rarely	9.3 %	6.9 %
	Often	3.5 %	1.4 %
	Almost always	1.2 %	0 %

The chi-square test of independence (Table 2) shows that there is no statistically significant difference regarding ownership of a computer, internet or mobile phones between teachers who work in rural schools and those who work in urban schools. There is also no statistically significant difference regarding ownership of multimedia software, tablet computers, smartphones and social network profiles. In other words, the teachers who work in villages and those who work in towns or cities own each form of new media to an equal extent. It was shown that the largest number of teachers, both those who work in villages and those who work in towns, own a computer, have internet access and a mobile phone. Slightly fewer own multimedia software and have a social network profile. Far fewer teachers, both those who work in villages and those who work in towns, own a smartphone. The fewest teachers had a tablet computer.

Table 2. The frequency and differences in ownership of new media by teachers working in villages and teachers working in towns

NEW MEDIA	Teachers in villages			Teachers in towns			Differences in ownership		
	Yes	No	Total:	Yes	No	Total:	X^2	Sig.	Df
Computer (%)	98.8	1.2	100	100	0	100	0.843	0.359	1
f	85	1	86	72	0	72			
Internet (%)	98.9	1.2	100	100	0	100	0.843	0.359	1
f	85	1	86	72	0	72			
Mobile phone (%)	100	0	100	97.2	2.8	100	2.420	0.120	1
f	86	0	86	70	2	72			
Multimedia software (%)	88.4	11.6	100	93.1	6.9	100	1.000	0.317	1
f	76	10	86	67	5	72			
Tablet (%)	4.7	95.3	100	6.9	93.1	100	0.384	0.536	1
f	4	82	86	5	67	72			
Smartphone (%)	24.4	75.6	100	16.7	83.3	100	1.425	0.233	1
f	21	65	86	12	60	72			
Social network (%)	62.8	37.2	100	55.6	44.4	100	0.851	0.356	1
f	54	32	86	40	32	72			

Discussion

From the results it is clear that there is no difference in terms of ownership of individual forms of new media between teachers who work in schools in rural and urban areas. In other words, they own certain forms of new media equally, in contrast to the results of earlier research (McCracken&Barcinas, 1991; Trentham&Schaer, 1985), whichindicated traditional differences between teachers and pupils from rural and urban areas. On the other hand, although there is no difference in ownership of some forms of media, these results show some

differences in relation to individual forms of media. Both subgroups, teachers from rural areas and urban areas, own some forms of new media more than some others. So it was shown that the largest number own a computer, mobile phones, internet access and multimedia software. Somewhat fewer of them have a profile open on a social network, whilst very few of them, almost no one, own a smartphone or a tablet computer. This may be explained by the fact that computers, mobile phones, the internet and multimedia software have become important in everyday life, but also because they are more accessible in financial terms. On the other hand, tablet computers, smartphones and social networks are considered to be relatively new, but also financially inaccessible due to their high price on the market. It is possible that younger teachers have social network profiles to a greater extent than their older colleagues. Further, it was shown that all teachers who work in rural or urban areas equally often use individual forms of new media in lessons. Of course, it must be said that they use some new media more often than others. Computers, multimedia software and the internet are used significantly more often in lessons, whilst mobile phones, tablet computers, smartphones and social networks are used much less frequently. These results should be interpreted with caution since this is a question of the use of new media in lessons. Therefore, it is emphasized that simply using new media in lessons does not mean more effective teaching or learning (Tamin et al. 2011). Accordingly, teaching without new media, which is organized well in a didactic sense, may also prompt the learning process in pupils. An example of this is the pedagogy of Rudolf Steiner and Waldorf schools, which use media extremely little in their teaching, but this does not indicate poorer outcomes or lower pupil satisfaction. This pedagogical concept would be the same if the school was located in a village or in a town. In fact, this contributes to didactic and pedagogic pluralism in education. Of course, whilst recognizing the characteristics of the use of new media in the teaching presented above, we can notice from the results that some media are both owned and used to a greater extent.

CONCLUSION

The successful integration of new media in teaching and more successful learning depend on the didactic organization of the teaching process using new media, in view of the aims, content, methods, individual characteristics of pupils, but also the attitudes and abilities of the teachers in using new media in lessons. The teacher, in that form of teaching, is the organizer of activities, where the pupils, through their work, resolve problems, and construct their own knowledge through cooperation. Studies from thirty years ago showed differences between teachers in schools from urban and rural areas. In this study,the results show that there is no difference in terms of ownership of individual forms of new media between teachers who work in schools in rural and urban areas. Both groups of teachers own each form of media to an equal extent.Computers, internet access and mobile phones are new media which are owned by the largest number of teachers. In contrast, the fewestteachers own a tablet computer.Further, it was shown that all teachers who work in rural or urban areas use individual forms of new media equally often. When teaching, teachers most often use computers, multimedia software and the internet, whilst tablet computers and smartphones are used least in lessons. However, it has to be mentioned that teachers do not use all media equally: computers, multimedia software and the internet are used more often in lessons than

the other new media. In other words, to a certain extent it is possible to say that new media reduce the traditional differences between teachers/schools in rural and urban areas. However, it is necessary to point out that a digital divide exists at a global level between developed and undeveloped countries. Therefore, students at teaching and education faculties (future teachers) should learn how to teach pupils using new media, that is, they should study multimedia didactics (Issing 1994; Matijevi 2008). In this way, teachers would know how to successfully organize teaching activities with new media.

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