

# DIGITAL MEDIA IN SCIENCE AND SOCIAL STUDIES TEACHING

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## **Abstract**

Digital media affect the development of all areas of human life, including the field of education. For many years, efforts have been made to incorporate digital media in actual face-to-face teaching. Considering the development of digitalization of the teaching process, a new branch of education has developed – multimedia didactics, which deals with didactic shaping and design of media for independent learning. Digital media can be integrated into the learning and teaching process in a variety of ways. The subject Science and Social Studies (SSS) in the Republic of Croatia is an interdisciplinary subject in the first educational cycle, which integrates scientific knowledge of the natural and social sciences, humanities, and information technology. The interdisciplinary character of this subject offers a lot of possibilities for the use of digital technologies in teaching. This paper analyses the phenomena of digital media and their implementation into the Science and Social Studies teaching in primary schools. It presents the results of research aimed at determining the teachers' opinion on the use of digital media in teaching this school subject, and at examining the possibilities, frequency, and methods of their use in everyday teaching practice. The research was conducted on a sample of 123 primary school teachers from the Republic of Croatia. The obtained results show that primary school teachers show positive attitudes towards the appliance of digital media in Science and Social studies teaching. They believe that digital media have a positive effect on students' motivation, their achievements, the development of more complex forms of thinking, the development of competencies, and the individualization of learning. Teachers also recognize that digital media enable various forms of learning, such as game-based learning, project and collaborative learning, learning by research, and problem-solving. The results of this research showed that there is a connection between the use of digital media and teachers' qualification level and length of service. The majority of teachers have a possibility to use at least one digital media with Internet access and they also claim that they often use digital media during their teaching. However, their use of digital media mainly serves as a support to traditional forms of teaching, instead of as a teaching tool for organizing a modern teaching process aimed at active student learning.

Keywords: digital natives, digital media, information and communication technologies, Science and Social Studies teaching.

## **1 INTRODUCTION**

The advent of the Internet has influenced the development of the media, causing communication and information transfer to become even faster, and the media have become able to influence the wider population. The media that were created and developed before the advent of the Internet are called old media, and those that were developed after the advent of the Internet are called new media. One of the basic characteristics of new media is digitality [1] or numerical representation [2]. Any information that is transmitted by means of new media, whether it is text, image, audio or video, is a series of binary system numbers. Because of this property, new media are also called digital media. Numerically formatted information is easy to store and share, making new media more efficient than the old ones.

The students who are involved in the educational system today were born at the time of global digitalization. They grew up surrounded by digital media, using them from the earliest childhood. Members of this generation are called digital natives, while members of the generation born before the digitalization of everyday life are called digital immigrants [3]. Digital natives, who have been surrounded by digital media from the early childhood and who use them frequently, have developed several specific characteristics, abilities and skills, many of which are related to learning. Digital natives are distinguished from digital immigrants by a higher speed of learning, performing multiple tasks simultaneously, a nonlinear approach to learning, the ability to quickly process visual information, networking, collaboration, exploratory learning, and game learning [4]. Also, members of this generation like to learn and work in teams with their peers, and when learning they like to know what needs to be done to achieve a certain goal. Furthermore, interactivity and speed of learning are important to them and they feel more confident when learning with image-saturated materials than with those that are text-saturated [5].

Digital media affect the development of all areas of human life, including the field of education. Beside the fact that the use of digital media in teaching prepares students to be successful citizens and workers in the digital world, their application has several other benefits for students. The use of information and communication technology (ICT) in teaching promotes constructivist teaching and enables active, collaborative, integrative and evaluative learning [6]. ICT promotes active learning because it helps teachers to continuously monitor the progress of each student, facilitate the delivery of teaching materials to each student, and enable the creation of virtual social communities, while modern digital tools offer learning opportunities in different contexts and provide assistance to students whenever they need it [7]. Digital media enable students to collaborate in the virtual world, significantly facilitating collaborative learning because the connection between learners is possible anywhere and anytime. Also, digital tools with a multitude of information and sources from different fields make integrative learning easier and more effective. These forms of learning existed even before digital media began to be used in teaching, and they can still be implemented without their use. In these forms of learning, digital media facilitate the delivery of learning. However, the emergence of digital media has led to the creation of a completely new form of learning, E-learning, which involves the deliberate use of information and communication technologies for learning and teaching [8].

Digital media can be integrated into the learning and teaching process in a variety of ways. Puentedura [9] presents a SAMR model that demonstrates four stages of digital media integration in teaching – substitution, augmentation, modification and redefinition. The first two phases (substitution and augmentation) do not significantly change the learning and teaching process, only improve it, while the last two phases (modification and redefinition) significantly transform it. Substitution does not bring major changes in the learning and teaching process, and digital media are used only as a replacement for traditional ones. For example, a student learns from digital sources or writes notes using digital media. Augmentation refers to the enrichment of the learning and teaching process; for example, digital media is used for showing photos or videos. In the third phase of integration (modification), learning and teaching are more adapted to digital media. At this stage, students present the results of their research using digital tools and creating new digital content. Redefinition is the highest stage of integration of digital media into a learning process that completely transforms traditional ways of learning and teaching. The classroom becomes the whole world, and students collaboratively learn and explore in an online environment with classmates from around the world.

The subject Science and Social Studies (SSS) in the Republic of Croatia "is an interdisciplinary subject that integrates scientific knowledge of the natural and social sciences, humanities, and information technology" ([10], p. 5). It is a compulsory subject during primary education in the Republic of Croatia (first four grades of elementary school). Simply put, the teaching of Science and Social Studies is a teaching "in which students aged from 6 to 11 acquire basic knowledge of the natural and social environment" ([11], p. 27). At the global level, there is no agreement on terminology and organization of such a form of teaching. The interdisciplinary character of this subject offers a lot of possibilities for the use of digital technologies in teaching [12].

Although digital natives have been surrounded by digital media from the earliest childhood, this does not mean that they know how to use them safely, responsibly, and effectively. For that they need appropriate education. Teachers need to help and support them in learning how to use digital media, and the Council of Europe has recognized this as one of the biggest challenges for teachers today. That is why a project called Education on Digital Citizenship was launched in 2016, and all members of the Council of Europe, including Croatia, have committed themselves to promoting digital citizenship in their countries. A digital citizen is a person who has developed a wide range of competencies that are needed to be active and act positively and responsibly in online and offline communities [13].

## 2 METHODOLOGY

This paper presents the results of a research aimed at determining the opinion of teachers on the use of digital media in the teaching of Science and Social Studies and at examining the frequency and methods of their use in everyday teaching practice.

The following research problems were derived from the general research aim:

- 1 What is the opinion of teachers about the use of digital media in teaching SSS (positive/negative/undefined)?
- 2 What is the opinion of teachers about the impact of digital media on the students' learning process?

- 3 What is the opinion of teachers about the possibilities of implementing different forms of learning by using digital media?
- 4 What media are available to teachers for use in school?
- 5 How often do teachers use digital media in teaching SSS?
- 6 Is there a statistically significant difference in teachers' attitudes towards the use of digital media in SSS classes with regard to their work experience and education?
- 7 Is there a statistically significant difference in the frequency of use of digital tools in SSS teaching, with regard to the length of service and education level?

For the purpose of this research, a questionnaire was constructed based on a similar questionnaire from the European Commission [14] and a questionnaire from the research conducted by Nikčević-Milković, Perkušić and Jurjević [15]. Certain questions were taken from these questionnaires and adapted to this research. Survey questions related to the examination of the frequency of use of digital media in teaching and the examination of the use of digital media in teaching were taken from the European Commission questionnaire. Statements expressing positive and negative attitudes towards the use of digital media were taken and adapted from both questionnaires.

The questionnaire consists of 4 parts. The first part of the questionnaire collected respondents' socio-demographic data. The second part of the questionnaire examined teachers' attitudes towards the use of digital media in SSS teaching. Teachers expressed their opinion on a five-point Likert-type scale (from 1 = strongly disagree to 5 = strongly agree). The third part of the questionnaire examined the possibilities of using digital media in SSS classes, and the last part of the questionnaire examined the frequency and manner of using digital media in SSS classes. In the third and fourth part of the questionnaire, teachers gave their answers on a five-point Likert scale from 1 to 5 (1 = never, 2 = rarely (1-2x in a semester), 3 = sometimes (1-2 a month), 4 = often (1x a week), 5 = always (every class)).

The research was conducted by surveying a sample of primary school teachers (N = 123) in the Republic of Croatia. The sample is dominated by female teachers (97.56%). According to the length of service, the respondents were classified into 4 categories: 32.52% of respondents belong to the 0-10 years of work experience category; 16.26% of respondents had from 11 to 20 years of experience, 32.52% of respondents had from 21 to 30 years of experience, and 18.7% of respondents had more than 30 years of experience. Most respondents (60.97%) indicated that they have obtained a university degree, while none of the respondents have obtained the Doctor of Science title.

### 3 RESULTS

#### 3.1 Teachers' opinion about the use of digital media in SSS teaching

Teachers' opinions on the use of digital media in SSS classes were investigated by means of a series of statements divisible into two opposite sub-scales from which it was possible to estimate whether teachers advocate the use of digital media in SSS classes or prefer teaching SSS without digital media. The obtained results are shown in Table 1.

Table 1. Teachers' opinion about the use of digital media in Science and Social Studies classes.

<i>Teachers' opinion</i>	<i>M</i>	<i>SD</i>
Opinion in favour of teaching SSS with the use of digital media	4.29	0.79
Opinion about teaching SSS without the use of digital media	2.29	1.27

This data seems to indicate that the teachers' opinion on using digital media in teaching SSS classes is mostly positive (M=4.29; SD=0.79), while the opinion on teaching SSS without the use of digital media is mostly negative (M=2.29; SD=1.27). The results obtained for the sub-scales are fully compatible and mutually confirming; hence, the obtained results indicate a positive attitude of teachers and their acceptance of the important role of digital media in modern SSS teaching. A further analysis examined teachers' opinions on the positive aspects of the impact of digital media on the learning process in teaching SSS (Table 2).

Table 2. Teachers' opinion about positive aspects of the impact of digital media on the learning process in teaching SSS.

Rank	Items	M	SD
1	The use of digital media in teaching the Science and Social Studies class has a positive effect on student motivation.	4.54	0.72
2	Students' attention is increased during SSS classes.	4.16	0.82
3	The use of digital media in teaching the Science and Social Studies class has a positive effect on the individualization of learning; learning is adapted to the abilities of each student.	4.09	0.79
4	Students feel more independent in their learning process (they can repeat the exercise if necessary, they can explore a topic in more detail...)	4.02	0.93
5	The use of digital media in teaching the Science and Social Studies class has a positive effect on the development of student competencies (learning how to learn, social competence...)	3.99	0.92
6	The use of digital media in teaching the Science and Social Studies class has a positive effect on the effort students invest in developing their competencies.	3.98	0.84
7	The use of digital media in teaching the Science and Social Studies class has a positive effect on students' academic achievements.	3.93	0.92
8	The use of digital media in teaching the Science and Social Studies class has a positive effect on the development of more complex forms of thinking (critical thinking, content analysis, problem solving...) among students	3.93	0.96
9	Digital media promote a positive classroom atmosphere during SSS classes.	3.88	0.93
10	The use of digital media improves students' understanding of the concepts of SSS which they are learning.	3.86	0.84
11	The use of digital media improves students' acquisition of skills and abilities during SSS classes.	3.74	0.90
12	Digital media increases collaboration between students during SSS classes.	3.52	1.01
	Total	3.95	0.91

According to the results shown in Table 2, we can see that teachers' opinion on the impact of digital media on the learning process is mostly positive ( $M=3.95$ ;  $SD=0.91$ ). Teachers fully agree that the use of digital media in teaching SSS has a positive effect on student motivation ( $M=4.54$ ;  $SD=0.72$ ); they generally agree that the positive impact of digital media is particularly visible in the development of student attention ( $M=4.16$ ;  $SD=0.82$ ). The lowest arithmetic mean of respondents' answers is associated with the statement that the use of digital media contributes to the development of student skills and abilities ( $M=3.74$ ;  $SD=0.90$ ) and that digital media contribute to the development of collaboration between students ( $M=3.52$ ;  $SD=1.01$ ). Although teachers generally agree with the previously mentioned statements, the last two statements show a slight tendency towards a neutral opinion. The only statement that teachers fully agree with refers to the positive impact of digital media on student motivation. Using digital media, teachers can very easily create and search a variety of multimedia content to motivate students such as videos, quizzes, simulations, educational digital games and similar. Today's students, digital natives, are familiar with technologies and therefore respond well to technology-enriched activities [3]. Teachers least agree with the statement that digital media increase cooperation between students, which is reflected in the results of this research which show that teachers most often use digital media in frontal teaching, and less often in other forms of teaching in which students use them (individual learning, learning in pairs and groups). Although teachers believe that the use of digital media in teaching can contribute to the achievement of learning outcomes, they rarely or almost never organize classes in which students use digital media [16]. Also, teachers have expressed their interest in using ICT in teaching, but only a quarter of them confirm that students also use technologies during classes [17].

Table 3. Teachers' opinion on the possibilities of implementing different forms of learning with the use of digital media (N=123).

Rank	Items	M	SD
1	Digital media in SSS classes enable learning through play.	4.41	0.74
2	Digital media in SSS classes enable project learning.	4.40	0.71
3	Digital media in SSS classes enable learning through research.	4.36	0.78
4	Digital media in SSS classes enable learning through problem solving.	4.15	0.75
5	Digital media in SSS classes enable collaborative learning.	3.89	0.86
	Total	4.25	0.80

Teachers' opinion on the possibilities of implementing different forms of learning in SSS classes with the use of digital media is shown in Table 3. Based on the results shown in Table 3, we can see that teachers generally agree that the use of digital media allows them to implement different forms of learning (M=4.24; SD=0.80). Teachers believe that learning through play (M = 4.41; SD = 0.74) and project learning (M=4.40; SD=0.71) are the most conducive to this, while organizing collaborative learning (M = 3.89; SD=0.86) is the least conducive to different forms of learning. Collaborative learning means that students are studying together, most often in groups, and organizing students' work in such a form with the use of digital media still poses a significant challenge for teachers. Therefore, teachers see it as the least conducive to the use of digital media. This result can also be related to the previously mentioned tendency towards a vague opinion among teachers on whether the use of digital media can contribute to the development of collaboration between students.

### 3.2 Use of digital media in teaching Science and Social Studies classes

To determine what opportunities teachers have to use digital media in SSS classes, we examined how often certain digital media are available for use in school during SSS classes. Teachers often (once a week) have a desktop computer with internet access (M=3.80; SD=1.68). They can use smartphones only sometimes (1-2 times a month) (M=3.39; SD=1.76), while tablets for all students (M=1.30; SD=0.90) and a computer lab (M=1.42; SD=0.94) are never available. Only one respondent stated that no digital media is ever available. The graphic presentation in Figure 1 shows how many teachers, at least sometimes (rarely, sometimes, often or always), have access to certain digital media in SSS classes.

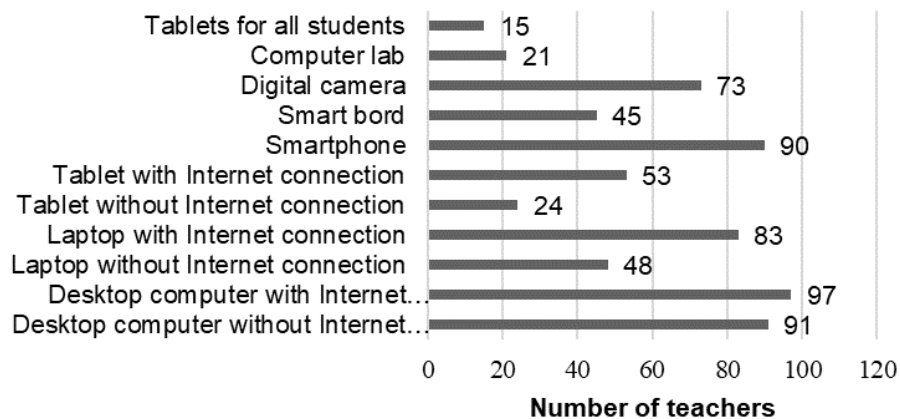


Figure 1. Availability of digital media in school during SSS classes.

Of the total number of respondents, 9 of them (7.32%) stated that they never use digital media in their SSS classes, and they failed to answer the remaining questions in the questionnaire.

The research further examined the percentage of SSS classes in which teachers use digital media (N=114). The largest percentage of teachers state that digital media are implemented in 21-50% of SSS classes (28.9%) and 51-75% of SSS classes (28.1%). The smallest number of teachers use digital media in 1-10% of SSS classes (4.4%). 18.4% of teachers use digital media in 11-20% of SSS classes, 41.9% of teachers use them in 76-100% of classes, and 5.3% of teachers could not determine the percentage of SSS classes in which they use digital media. The results are graphically presented in Figure 2.

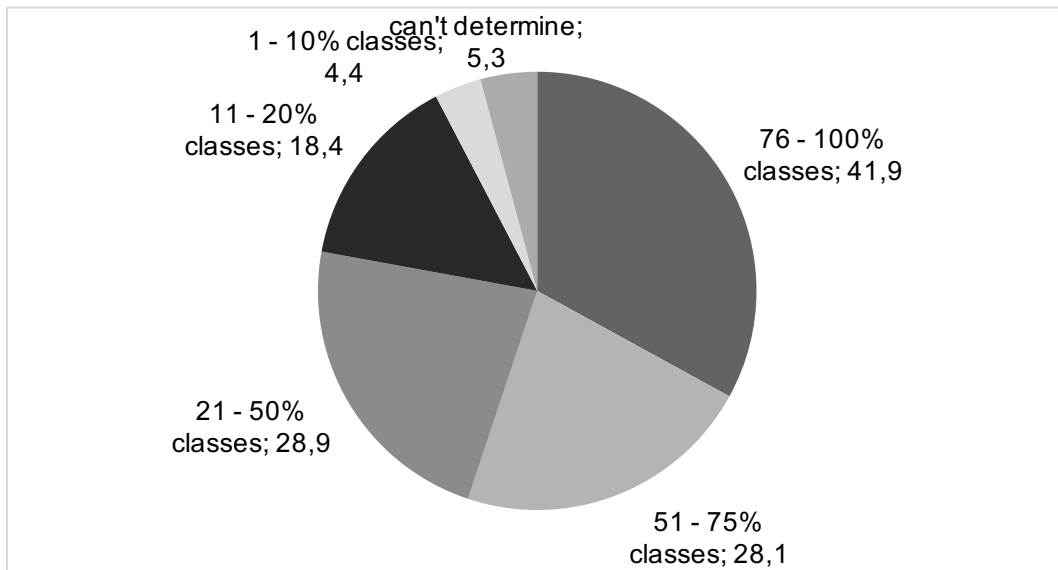


Figure 2. Percentages of use of digital media in SSS classes.

Different teaching media are used for teaching SSS, but priority should always be given to the teaching in actual reality. If teachers use actual reality whenever it is possible in teaching SSS, and combine other teaching media when this is not possible, it logically follows that digital media are not used in a large percentage of teaching, which has been further proven by the results of this research. Results show that most of the teachers (57%) use digital media in 21 to 75% of SSS classes.

Digital media can be applied in various forms of teaching. The results show that teachers sometimes (1-2 times a month) use digital media in frontal teaching, in which they teach all students at the same time with the help of digital media (M=3.41; SD=0.93). Sometimes digital media are used for the organization of individual learning (M=2.63; SD=1.02) and during students' presentation of research results (M=2.59; SD=1.18), but the arithmetic mean values show a slight tendency to infrequent use of digital media in the previously mentioned forms of learning. Digital media are rarely (1-2 times in a semester) used during students' group learning (M 2.43; SD=1.02). These findings may be related to teachers' vague views on whether digital media can influence the development of collaboration between students. In frontal teaching it is the teacher who uses digital media, while in other above-mentioned forms of learning it is the students use them. When teachers use digital media, they employ their own digital competencies and adapt the use of digital media to themselves. If the teacher wants students to use digital media during teaching activities, it is necessary to adapt the activities to the digital competencies of students. This is of course more demanding for the teacher and requires greater preparation for the successful realization of such a process.

Digital media can be used during teaching in an illustrative and modern way [12]. Illustrative application is a traditional form of application of digital media in which the teacher uses digital media to project teaching content. The modern application of digital media is associated with constructivist teaching in which digital media are integrated into the teaching process as a tool by means of which students learn and develop competencies. The use of digital media in frontal teaching corresponds to illustrative application, while the use of digital media during individual work of students, work in pairs or groups corresponds to the modern application. Modern teaching should be focused on students and their active role in the process of learning and developing competencies. The student should be a constructor of his or her knowledge and skills, while the teacher should be a moderator and enable this through the organization of the learning process. These results show that the use of digital media in teaching SSS classes is still rather traditional, while the modern use of digital media is much less common.

To investigate how often and in which manner teachers use digital media, the frequency of use of various digital tools (platforms, applications, websites, etc.) during SSS classes was examined (Figure 3).

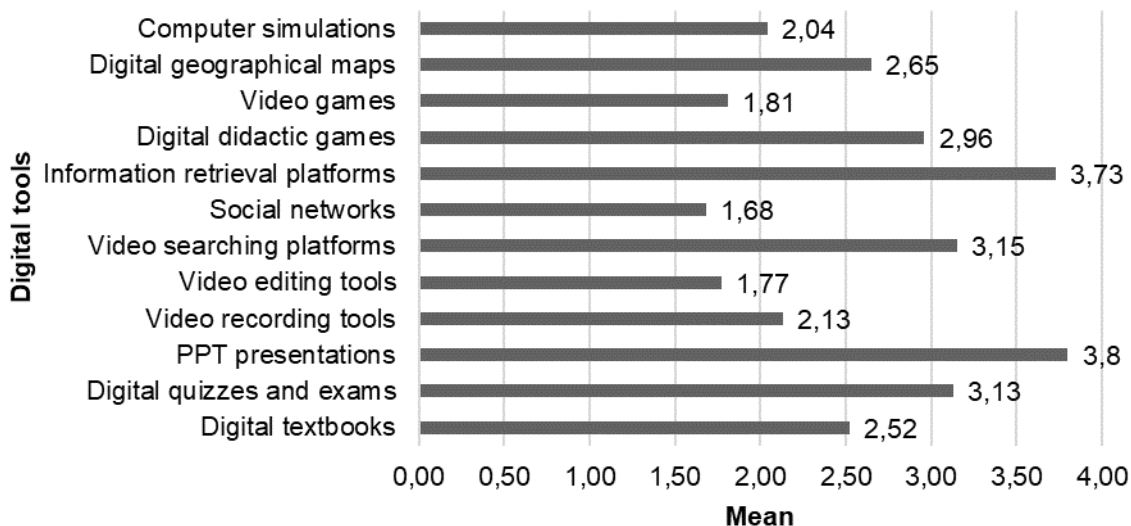


Figure 3. Frequency of using digital tools shown by means of arithmetic means (N=113-114).

The results show that none of the offered digital tools is always used (none of the arithmetic means is higher than 4.5). Also, there are no digital tools which are never applied (none of the arithmetic means is lower than 1.5). Teachers rarely use: tools for recording (M=2.13; SD=1.08) and editing (M=1.77; SD=0.97) videos, social networks such as Facebook and Instagram (M=1.68; SD=1.08), video games (M=1.81; SD=1.04) and computer simulations (M=2.04; SD=1.14). Sometimes teachers use digital textbooks (M=2.52; SD=1.48), digital quizzes and tests (M=3.13; SD=0.91), platforms for searching, watching and publishing videos such as YouTube (M=3.15; SD=1.07), digital didactic games (M=2.96; SD=1.09) and digital maps such as Google Maps (M=2.65; SD=1.14). It is only Power Point presentations (M=3.80; SD=0.85) and search engines such as Google (M=3.73; SD=0.90) that are frequently used by teachers (once a week). The use of digital tools in teaching is associated with the digital competencies of teachers. If the teacher is not familiar with certain tools, it is very likely that they will not use them in teaching or they will use such tools less frequently. The use of Power Point presentation and search engines in teaching requires lower digital competencies than the use of video games, computer simulations, video recording and editing tools, so this result may indicate a lower digital competence of teachers. Also, PPT presentations and Google are tools which teachers use more often in everyday life and are more familiar with these tools. In addition, it is simpler to implement those tools in teaching because it requires less preparation of the teacher for the teaching process.

### 3.3 Examination of a statistically significant difference in the frequency of use of digital media in teaching SSS classes

In order to examine the statistically significant difference in teachers' opinions on the use of digital media in teaching SSS classes, with regard to length of service and qualification level, we divided respondents into those with a bachelor's degree and those with a qualification that is higher than a bachelor's degree. A larger number of categories was not possible due to the small number of respondents in certain subgroups.

Having tested the normality of distribution in questions related to the frequency of use of digital tools, a Mann Whitney U test was conducted to determine the statistical significance of differences in the responses of respondents with different qualification levels. The results show that, with regard to teachers' qualifications, there is a statistically significant difference in the frequency of using the following digital tools: digital quizzes and tests ( $Z=-2.52$ ;  $p<0.01$ ), Power Point presentations ( $Z=-2.76$ ;  $p<0.01$ ), video recording tools ( $Z=-2.17$ ;  $p<0.05$ ), video editing tools ( $Z=-2.41$ ;  $p<0.05$ ) and digital didactic games ( $Z=-2.13$ ;  $p<0.05$ ) in favour of high-level teacher qualifications (master) and professional and scientific master's degree. Teachers improve their digital competencies during university education. Through various courses, they get acquainted with the use of digital tools in teaching, and as students they use various digital tools for learning, research, presentation of research results and similar. The duration of training of teachers with a high-level qualification (a master's degree) and a professional and scientific master's degree was longer than the education of teachers with bachelor's degree. Due to the longer duration of training, these teachers had more opportunities to develop digital competencies. Also, a

bachelor's degree in teacher education in the Republic of Croatia was introduced more than 25 years ago. At that time, there was not such an abundance of digital media, nor were they often used in schools. Therefore, teachers who completed their studies in that period acquired digital competence through self-learning or at professional conferences on such topics, and the degree to which this was done is unknown to us.

### **3.4 Correlation between length of service and frequency of use of digital media in teaching SSS classes**

Furthermore, by calculating the Spearman correlation coefficient, we wanted to check whether there is a correlation between the respondents' length of service and the frequency of using digital tools in the SSS classes. It was found that the following are negatively related, i.e., decreasing as the length of service of respondents increases: the frequency of using digital quizzes and tests ( $r=-0.21$ ,  $p<0.05$ ) and the frequency of using Power Point presentations ( $r=-0.23$ ,  $p<0.05$ ). The age of the teacher is also associated with the length of service. Younger teachers tend to have less work experience than older teachers. Digital media are seen as new media, and their broad use is a new phenomenon. Therefore, we can assume that younger teachers, who have less work experience, became acquainted with the digital media at an earlier stage of their lives and started to use them in everyday life. For them, the use of digital media in everyday life is more natural than for older teachers, which is why they are more likely to use digital tools more often during teaching.

## **4 CONCLUSIONS**

The use of digital media and of the Internet makes the school system modern and appropriate for today's students. It has been recognized that the use of digital media in teaching encourages active, collaborative and personalized learning. Due to its interdisciplinary nature, the Science and Social studies subject offers a lot of opportunities to create a high-quality and modern, student-oriented teaching process. The first prerequisite for the digitalization of the teaching process is a teachers' positive attitude towards the use of digital media in teaching, and the results of this research show that this prerequisite has been met for teaching SSS classes. Teachers generally have a positive opinion about the use of digital media in teaching SSS classes and they agree with the positive aspects of the impact of digital media on the learning process in SSS classes.

With regard to the digital equipment of schools, the Republic of Croatia is below the European average in most segments. In Europe, an average of 35% of primary schools are highly digitally equipped and connected, while the average in Croatia is significantly lower, 18% [18]. This is supported by the results of this research, which show that teachers often (once a week) only have a desktop computer with Internet access during SSS classes. The reason for this is the financing of digital equipment of schools, which is an expensive and long-lasting process, and Croatia's opportunities for such expenditures are significantly lower than in developed European countries. In the school year 2011/2012 the web application "e-Dnevnik", the classbook in electronic form, was introduced in schools throughout the Republic of Croatia. The assumption is that this is the reason why most teachers can use a desktop computer with Internet access, because schools needed to provide them with technology to use the "e-Dnevnik" application. Although the possibilities for the use of digital media in teaching SSS classes are not ideal, most teachers employ them nonetheless. According to the results of this research, only 7.32% of teachers never use digital media in teaching SSS. Power Point presentations and search engines such as Google are most frequently used (once a week). Such results indicate that teachers use simple programs and platforms and that the use of digital media is basic, serving as a support to traditional forms of teaching instead as a teaching tool for organizing a modern teaching process aimed at active student learning. Similar results were obtained in some other surveys conducted among teachers in Croatia (e.g. [19], [16]), which shows that this is the practice in Croatian schools.

The results of this research also showed that there is a connection between the use of digital media and teachers' qualification level and length of service. Teachers with a university degree and with less years of service are more likely to use some digital tools. These are younger teachers who have learned about the use of digital media in teaching during their university education, and many of them have been surrounded by them for a large part of their lives and use them in everyday life. Pereira [20] comes to similar results indicating that teachers with less years of work experience use the computer more often in pedagogical activities and are more open to the integration of ICT in teaching. These results tell us that teacher education is an important predictor of the use of digital media in teaching. New media in themselves are not crucial for the quality of learning and teaching but should be viewed in combination



with other factors [21]. In addition to investing in the digital equipment of schools, it is important to invest in training teachers how to use digital media.

The school system of the Republic of Croatia is currently undergoing the process of a complete curricular reform called "Škola za život" (School for Life). The project started in 2018 as an experimental program, and by 2021 all primary school classes will be encompassed by the reform. The project is co-financed by the European Union from the European Social Fund, and the result of the project is the increased digital equipment of schools and a larger number of teacher trainings that affect the development of their digital competence. In 2015, the Ministry of Science and Education launched a project entitled "e-Schools: Complete computerization of school business processes and teaching processes with the aim of creating digitally mature schools for the 21st century", and the project aims to digitally transform teaching in all schools in the Republic of Croatia by 2022.

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