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THE ANALYSIS OF THE RELATIONSHIP OF STUDENTS' TOWARDS TRADITIONAL AND CONTEMPORARY TEACHING METHODS

Abstract

Evolutionary processes in the technical and technological sense, especially those from the domain of information-communication technologies, shape the social development, and thus affect the state of the education system. Today, when every child is "born with a computer and a cell phone," and while they grow up, they regularly follow and use the latest versions of the machine and program subsystems, and that represents a problem of determining how students experience traditional forms of teaching and what would it mean to them if the schools in the Republic of Croatia adapted to the teaching that corresponds to the new millennium.

The aim of this research is to determine the attitude of students towards traditional and contemporary teaching methods, and to consider the possibility of improving the teaching process in elementary schools of the Republic of Croatia. The survey was conducted on the sample of 498 students of the 7th and 8th grade of elementary schools of Osijek-Baranja County. The results of the research have shown that students are inclined to combine traditional and contemporary teaching. The results obtained from the survey point to the need for change, and the need to modernize teaching in elementary schools, but also the need for a good combination of traditional and contemporary teaching methods.

Key words: IT equipment, traditional teaching methods, e-learning, contemporary teaching, Web 2. 0

Introduction

The emergence and extremely rapid development of information-communication technology has brought about major changes in the lifestyle of contemporary people. Changes are manifested in all spheres of human activity and are more pronounced in Western civilization. The Republic of Croatia belongs to the group of countries where modern information-communication technologies are widely accepted, and where the younger generations are regular users of the potential of the information-communication technology. However, although information-communication technology is ubiquitous in the lives of people in the Republic of Croatia, due to economic position and backwardness, the Republic of Croatia does not have adequately applied and utilized information-communication technology in all segments of social activity. One of the social segments where there is a lag in application and the use of the potential of information-communication technology is education, especially elementary education. It is evident that the education system in elementary schools is outdated. Although there is a tendency to modernize the eight-year education system through the introduction of digitized education systems or "e-lessons", this process is slow and does not follow the opportunities provided by modern information-communication technology. The application of new forms and methods of education into the educational system of the Republic of Croatia represents many challenges and problems especially for students. We must not forget that the new generation of students are not only faced with a multitude of information and facts they are required to adopt, according to the curriculum, but that the implementation of new forms and methods of education based on the potentials of information-communication technology makes them generate extra efforts for which additional motivation is needed. Indeed, the usual change in educational systems is discussed at scientific and professional levels, and does not involve students in public debates, and also does not ask whether they supported new forms and methods of teaching.

The fact that technological constraints became a growing problem in the process of modernization of elementary schools in Croatia represents a special dimension to that problem. For example, social networks are very widespread among the elementary school students in Croatia. Although they are present, and the technology for their use is in the hands of the students themselves, they are not used enough, and it is necessary to introduce changes that will not only modernize the way teaching and communication between students, and students and teaching staff, but it will also transform the educational system

from reproductive into creative form of the school. Therefore, it is of the utmost importance that the curriculum for elementary schools is made by experts who will, on the one hand, make the adaptation of teaching methods and, on the other hand, accept the students' needs and wishes so that in the end students will learn to gather and use a lot of information in a way that their knowledge becomes operational knowledge. It is precisely students' attitudes and visions that represent an important factor in defining a successful applicational plan and program. This research focuses on determining students' relationship towards traditional and contemporary teaching methods and considering the possibility of improving the teaching process in elementary schools of the Republic of Croatia.

Research Methodology

With the emergence ot the electronic computer in the middle of the last century began a new era of human history characterized by intense, almost turbulent technological development and intense developmental social processes. Though technology rapidly grapples forward, and the average resident of a developed part of human society follows this technological development, some parts of the socially viable systems are unable to keep up with such rapid changes. One of these systems is the educational system. Although the theory emphasizes the need for adapting the educational system more rapidly to new conditions defined by information-communication technology, and although there is a general consensus in society about how this adaptation should be implemented as quickly as possible, there is a question about the attitude of the subjects of these changes, mainly students, that is their vision of the relationship between modern and traditional forms of teaching. Therefore, it is extremely important not to impose an exterior solution, but to find a way to agree with the attitudes and opinions of those to which these solutions relate. In this regard, it is extremely important to look at the attitudes of students of different age groups, and to notice their relationship to traditional and contemporary teaching methods.

In accordance with the above mentioned, the aim of the research was to determine the attitude of students towards traditional and contemporary teaching methods, and to consider the possibility of improving the teaching process in elementary schools in Croatia. The research goals were to determine how today's students use modern technology, assess the existing communication potentials, and establish satisfactory ways to apply social networks in the

educational process. Among other things, the research tried to find out the following, through conveying a survey among students:

- Whether students possess and how often they use contemporary technologies
- How students spend their free time
- How do students estimate the influence of various socialization agents on themselves
- What content they observe on television and the Internet, and how often
- Their attitudes on different models and teaching and grading forms
- Their attitudes on the usage of new technologies which could advance the existing forms of teaching.

The research done for the purpose of this paper was performed during the months of May and June of 2017 in 11 elementary schools in the Osječko-baranjska county. Data was gathered by way of a questionnaire. Students filled in the questionnaire in the presence of a teacher or the researcher. Apart from the questions in the questionnaire, the analysis later used newly created variables used to test hypotheses. Thus, a variable was created which grouped the examinees into two groups: the first one made up of students from Osijek, and the other made up of students of the suburbs. According to the data by the Department of Management for Education, Culture, Sport, and Technical Culture of the Osječko-baranjska county, 2694 students attended the 7th grade in the school year 2017/18 in this county, and 2667 the 8th. Therefore, we can say that the sample size of 497 students out of the total of 5361 is 9.2% of the population, and according to the calculation of a satisfactory sample size[1], the margin of error for a sample is 4.1%. The questionnaire called "The comparison between traditional teaching which uses physical aids with contemporary teaching based on the usage of information-communication technologies" was created and it is made up from three parts, with 28 questions in total:

A. Demographic data

B. Relationship with the media

C Traditional and contemporary teaching

1 https://www.surveysystem.com/sscalc.htm

The questionnaire was designed to confirm the responses of the students from the sample on the influence of Web 2.0 in the teaching process and in order to get a response on the future of Web 2.0 within the specter of public opinion on the usage of various programs and media in making teaching contemporary. Questions were made as statements with a Likert scale, as well as open-ended questions. The questionnaire was distributed to a total of 498 students and the stratification was done according to the number of students in individual elementary schools of the Osječko-baranjska county.

Apart from the frequencies for individual questions, other statistical analyses were done (such as the t-test, correlation tests, hi-squares etc.) which tried to determine the existence of possible differences among some of the groups of students according to gender, class and some other factors relevant for this research.

Research results

Modern normative and strategically-developmental documents such as the National Framework Curriculum of the Republic of Croatia (2011) are interlinked and based on the needs of students and teachers, unlike the traditional school where the curriculum was prescribed and based on external factors. Teachers today have greater possibilities of reconstructing the plan and program and selecting the appropriate methods, teaching resources and tools that are in line with the needs of contemporary students (Brust Nemet, Sili, 2016: 164). The contemporary school, as well as the teaching, is the result of historical development. History has shown that new forms of teaching had to be preceded by the training of teachers at universities, and today there is a greater emphasis on information literacy. Peko et al., 2014). The development of information technology changes the paradigm of learning and education by applying the technology in education by introducing the model of the teaching system and other contemporary methods and forms of information-communication based teaching (Pejić Papak, Grubišić Krmpotić, 2016: 153). As shown above, the normative theory accepts the evolutionary needs of the teaching process in accordance with evolutionary social processes, and even the legislative frameworks are inclined towards a change, but it is important to analyze and determine what the end users – students - think about the potential evolutionary learning needs of the teaching process. In connection to that, in accordance with the problem and the research, a survey was conducted in the elementary schools of the Osijek-Baranja County, in 7th and 8th grades.

The students were offered a set of 10 forms of teaching in total which we declared "traditional" for the purpose of the research. Students were supposed to show their degree of agreement with a certain form of teaching on a five degree Likert scale. It should be pointed out that some of the forms stated here use contemporary technologies, but they are used more as means for *ex cathedra* teaching (mostly). Interestingly enough, those forms of teaching proved to be most attractive for students; namely, the highest medium values on a 5 point scale were given by teachers to computer, projector, and presentation usage (x=4,073). They like it considerably less when they have to use the computer and the projector to make presentations on a given topic at home (x=3,331), and documentaries for a certain unit follow. Lisek and Brkljačić state in their paper (2013: 29- 52) that "Paper (1980) feels that computers are a good instrument to encourage the active discovery of the world for children and enable them to oversee their own learning. In the Hugland experiment it was also shown that children who were enabled to use a computer show better results on cognitive tests."

It is interesting that individual work and/or group work are least liked (x=2,837), even though it cannot be stated that they are especially against those forms of teaching.

Table 1 – The intensity of liking different forms of "traditional" teaching

	I don't like it at all (1)	**I don't like it (2)**	**I neither like it or dislike it (3)**	**I like it (4)**	**I like it very much (5)**	**Arithmetic mean**
The teacher teaches using the computer, projector, and a presentation	3,3	5,2	16,9	29,7	44,8	4,073
The teacher sets a topic for which students prepare at home and present the materials to other students by using a computer and projector	12,2	15,9	22,4	25,6	23,9	3,331

The unit is shown in the form of a documentary on television	16,7	15,7	18,2	16,7	32,6	3,329
The teacher teaches and writes on the board	10,9	17,5	22,8	27,3	21,5	3,311
The teacher sets a topic for which students prepare at home and present it to other students using a billboard	20,3	17,7	23,4	20,5	18,1	2,985
The teacher questions students orally	24,3	17,6	19,5	17,2	21,5	2,941
The teacher uses an overhead projector when teaching	19,9	17,6	27,4	22,6	12,6	2,904
The teacher teaches the entire class	21,3	16,3	29,0	20,7	12,7	2,873
The teacher questions the student in writing (test)	28,0	15,0	19,4	17,1	20,5	2,871
The teacher sets materials from the textbook and students work individually or in groups in class	23,0	22,2	21,8	14,2	18,8	2,837

The difference between male and female students are interesting in some questions: namely, it was shown that female students are somewhat more prone to making billboards and presentations at home which they present to others later on.

Given that all of the stated variables mark some traditional methods of teaching, a new variable was created and titled "traditional teaching". This was gained by a sum of all the stated variables. Therefore, the maximum value could

have been 50, and the minimal value 10. In cases when the student did not express an opinion for at least one form of teaching, their values were considered "missing". The given arithmetic mean was 31.44, minimal value was 10 (meaning that four students in total marked all the forms of traditional teaching with the lowest grade) and the maximum value was 50. Interestingly, absolutely no differences were noted which would indicate some connection between gender, class, general success or rather the address with a preference for this form of teaching.

The following set of questions was tied into different forms of the so-called contemporary teaching. "Distance education is often connected to related notions such as distance learning, e-learning, virtual learning etc.", (Zubac, Tominac 2016: 71) feel. As with the traditional teaching forms, a five point Liker scale instrument was used with 18 statements – 1 was the minimum and 5 the maximum value – where the students had to express a degree of liking each statement describing a contemporary form of teaching.

As we can see, the most attractive forms of such teaching were teaching in nature using tablets and the accessibility of the grade book online- such elements were extremely liked by 2/3 of the students and, if we ascribe to them those who rated the aforementioned with just a somewhat lower grade, we arrive at a number of around 80%. Somewhat less, but still attractive is the idea of "quizzes" which would be set by teachers. Also, students liked the idea of using tablets instead of books (using e-books i.e. e-textbooks).

The lowest average values were assigned to additional teaching by way of Skype, communicating with a teacher by way of e-mail and writing homework in the form of a blog and/or uploading it to the school website, but there is a larger number of those supporting this form of teaching than those who don't.

Table 2 – Intensity of liking different forms of contemporary teaching

	Not at all (1)	I don't like it (2)	I neither like it or dislike it (3)	I like it (4)	I like it very much (5)	Arithmetic mean
When the weather is nice and a subject enables it, students go on field trips, bring tablets and learn in nature	6,0	6,4	8,3	13,4	66,0	4,270
The grade book is available on the school website so that students can see their grades (but it is password-protected so that only they can see them)	11,5	2,8	8,7	10,9	66,1	4,173
The teacher made up a game, like a quiz, for revision which teaches the correct answers to me through a trial and error method	7,3	7,3	13,7	19,3	52,0	4,011
Instead of books, students bring tablets to school	11,0	6,5	12,7	12,7	57,2	3,985
Books are in e-form on tablets	11,4	7,8	12,0	12,8	56,0	3,943
If something is unclear, I can see how other teachers taught the material I am unclear on	6,8	9,2	18,6	21,1	44,3	3,870
Classes are recorded so that students can see it from home if they are sick or on a trip (for instance, using Skype)	14,3	7,2	12,8	16,2	49,5	3,793
A portion of the materials is made into educational games on a computer/tablet	13,0	9,7	11,9	18,4	47,0	3,766
Testing is done on a computer using programs similar to a quiz	9,6	10,9	16,3	20,0	43,1	3,763
All the tasks and materials are on the school website	12,0	8,9	17,7	20,0	41,4	3,698

The professors are on Facebook, they leave homework in our group and answer questions by students, provide instructions for what to bring to class etc.	17,8	9,0	11,3	13,1	48,8	3,662
Professors recorded their classes and uploaded them on YouTube so that students can re-watch something if it is unclear to them	17,8	8,7	11,9	13,8	47,8	3,650
Students are expected to find an answer on the Internet instead of cramming	15,1	11,7	18,5	16,6	38,1	3,509
Students work out things in group and revise using Facebook (large group repetitions – the better help the worse)	17,0	13,1	13,5	17,0	39,5	3,489
I can do additional classes with a teacher personally using Skype, from home	20,3	9,4	14,9	16,8	38,6	3,441
The professor usually communicates with students via e-mail (answers student questions)	18,4	14,7	15,2	17,9	33,8	3,340
Homework is done on a computer in the form of a blog or set up on the school website	24,3	13,3	14,8	15,4	32,1	3,178

Similarly like in the case of traditional teaching, a new variable with the title "contemporary teaching" was created. It was the sum of all the stated variables, 17 in total. Therefore, the maximum value could have been 85, and 17 the minimum. In cases where the student did not express an opinion for at least one form of teaching, their values were considered missing.

The minimum recorded value was 17 (all the stated ways of teaching were graded with the lowest grade by one student) and the maximum possible value was recorded in as many as 28 cases i.e. 6.6% of the sample. The average value was 64,30, which would mean that the average value for each variable was 3,76.

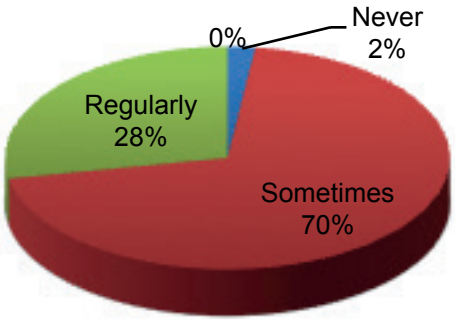
The tests done showed the following things: the difference between the schools in Osijek and in other places are not statistically significant, even though

this average is 66,252 in the rest of the county and 63,359 in Osijek. There is almost no difference in genders, nor in the other variables.

However, there was a significant positive correlation established between the created variables "traditional teaching" and "contemporary teaching". The Pearson coefficient of correlation was 0,147 and it is statistically significant on a 0,01 level. Therefore, it may be concluded that the students who rate traditional teaching forms highly do the same for contemporary teaching methods.

One of the questions from the questionnaire was: "Do your teachers teach using the computer (a presentation)?". This was designed to find out in what measure do teachers even today use modern technology, even though it could not be determined if they are able to, within the framework of this research. As can be seen in the graph, most teachers occasionally use projector for presentations (70% of them), and 28% of them use it regularly. There is a very small number of people who don't use them at all – only 2%, which states that projectors are practically already a part of contemporary teaching.

Graph 1 – Do your teachers teach by using the computer (presentation)?

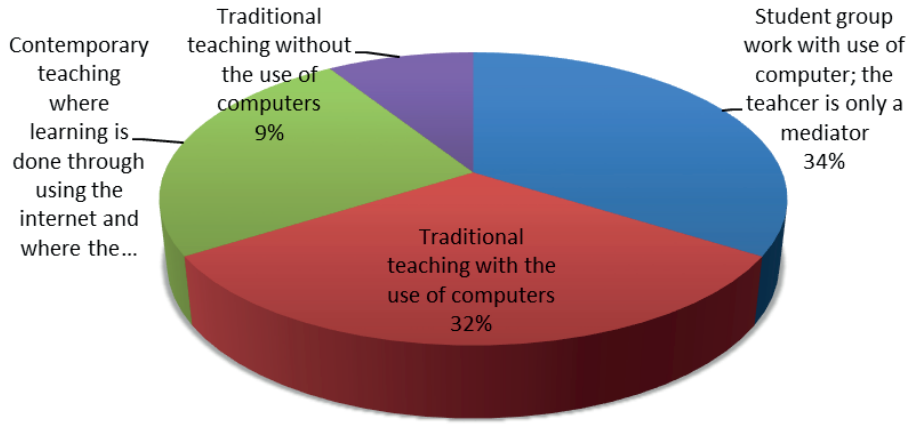


The following piece of data is interesting: while, according to the answers of students, 22,6% regularly use a computer and a projector during teaching in Osijek, that number is even higher in other places in the county – 36,5% of them.

It is interesting that female students are significantly less interested in e-learning as the preferred form of teaching; namely, while that form of teaching would be desirable to 65,7% of students questioned, that very same thing would be the proffered form of teaching for 48,2% of female students.

However, the indicative thing is that only the excellent students are the ones where more than half of them prefer everyday learning in class (54,8%) and that preference decreases in a linear fashion with the reduced success in the previous grade. It should be pointed out that only three students finished the grade with a 2 (sufficient), but even when we exclude them from the Hi-square test, we gain a statistically significance showing either that the students who have lower grades are more interested in e-learning as a model of teaching or that they are simply less interested in attending class in the current form.

Graph 2– Preferred form of teaching students would like in their school



The most preferred form is group work with the usage of computers/tablets to search for information, whereby the role of the teacher is to aid the students if they cannot find what they are looking for or if something is unclear (34%).

When it comes to teaching in the schools of Osijek-Baranja County, there is an interesting information about the frequency of teachers' preference of the use of modern technology in teaching. When we talk about teaching within our schools, it is interesting to see how often our teachers prefer contemporary technology in teaching. The attempt was made to find out in what measure do teachers today use modern technology by way of student answers, even though it could not have been established within the framework of this research. "Technical achievements and a new view of the world brought us to changes in the theory of learning and teaching, as well. The teachers stopped being the creative center of the educational process; they became the moderator of that very same process in the center of which is now the person acquiring the knowledge" (Korljan, Škvorc 2009: 12).

Students are mostly familiar with the notion of e-learning as well – 73,4% of them in this research said that they know exactly what this means, and the remaining 26,6% stated they didn't. When asked "How would you rather learn?", more than half of them, 55,6%, responded "at home using a computer (e-learning)" and everyone else i.e. 44,4% chose the other answer "in class every day". "The readiness of a student to engage and put in effort is an important component of the learning process. Students oriented towards *studying* study because they want to acquire new knowledge.

Conclusion

Nowadays, when the information-communication technology changes the world from its roots, and when there are efforts at the academic and legislative level to accept these changes, and the implementation of technological progress in the teaching process, it is extremely important to see how subjects of the curriculum view their position and the possibilities of their advancement. In connection with this, a research was carried out aiming at determining the relation of students towards the traditional and contemporary teaching methods and considering the possibility of improving the teaching process in elementary schools of the Republic of Croatia.

The conducted research show that students prefer both forms of teaching and that they expressed the highest degree of dissatisfaction with teaching done by contemporary technologies in a traditional form. The implementation of contemporary teaching in the educational system inspires creativity and interest for students, they use all their senses, remember things quicker, they are more motivated and they show better results.

Sadly, teaching seems to be insufficiently expertly organized. Expertise does not only relate to the knowledge of teachers, but to didactic-methodic abilities. (Brlas, 2005: 66). "A teacher is not static, his competence determines a readiness for lifelong research and learning. One of the most important ideas of a learning organization is lifelong education" (Mlinarević, Borić, 2007: 423).

"The old pedagogical model taught the teacher to stand and teach; that model is dead. Today, you are the catalyst of learning, and your students are the stars of teaching" (Jensen, 2003: 4). Students should be enabled to have the experiences sought later in life during their education: the experience of responsibility, justice, solidarity, decision-making, consistency, and cooperation; the abilities

to judge, think, observe, and act alone; to discover your own talents, to accept others and those who are different (Šojat, 2005: 95-96).

In order to provide for long-distance education, a certain infrastructure is needed which would consist of the essential hardware, as well as software, components (Čamilović, 2013). By using new Internet applications, we can easily and cheaply develop services for the children and the young on Web 2.0 (all that it takes is enthusiasm, time, and the will to learn something new), as (Kolarić, Šimić, Štivić, Žentil Barić 2013: 99) conclude. In the best case scenario, students may become literate in their elementary schools and, by way of media education ensure the differentiation between the good and bad media content (Tolić, 2009).

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ANALIZA ODNOSA UČENIKA PREMA TRADICIONALNIM I SUVREMENIM OBLICIMA NASTAVE

Sažetak

Evolutivni procesi u tehničko-tehnološkom smislu, posebice oni iz domene informacijsko-komunikacijskih tehnologija, oblikuju društveni razvitak, a kroz to utječu i na stanje u obrazovnom sustavu. Danas, kada se svako dijete „rodi s računalom i mobitelom" i kada djeca stasaju, prate i redovito koriste zadnje inačice strojnih i programskih podsustava, postavlja se problem utvrditi kako učenici doživljavaju tradicionalne oblike nastave te što bi za njih značilo kada bi se škole u Republici Hrvatskoj adaptirale na nastavu koja odgovara novom mileniju.

Cilj je stoga provedenog istraživanjima utvrditi kakav je odnos učenika prema tradicionalnim i suvremenim nastavnim metodama te sagledati mogućnost poboljšanja nastavnog procesa u osnovnim školama Republike Hrvatske. Istraživanje je provedeno na uzorku od 498 učenika 7. i 8. razreda osnovnih škola Osječko-baranjske županije. Rezultati su istraživanja pokazali da su učenici skloni kombinaciji tradicionalnog i suvremenog izvođenja nastave. Rezultati dobiveni ispitivanjem ukazuju na nužnost promjena i potrebu osuvremenjivanja nastave u osnovnim školama, ali i na potrebu kvalitetne kombinacije tradicionalnih i suvremenih oblika nastave.

Ključne riječi: informatička oprema, tradicionalna nastava, e- učenje, suvremena nastava, Web 2. 0