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The role and importance of using technology in teaching

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Abstract. This study aims to make an in-depth analysis of the prevalence and nature of the phenomenon of Internet use in teaching. The selected grades are grades VI to grade IX which in the literature are known as lower secondary education. The researcher has used the mixed method model, including qualitative and quantitative research strategies. The study involved n = 164 students and n = 117 teachers from eleven 9-year schools in the city of Prishtina, and n = 117 school staff. The results from the questionnaires with students that are quantitative in nature showed that the use of the Internet in schools is an integral part of the schools taken in the study. Most of the teachers stated that they had not received training to deal with the new models of application of technologies in teaching and a considerable part of them stated that they were unsure how to react in case an obstacle appeared in the non-functioning of technology during the lesson. The sample selected in the research consists of a total of 281 respondents, of which 117 were teachers and 164 students. There are a total of 117 employees and leaders of educational institutions and 164 students who will serve as samples.

Keywords. information technologies, education, application, teaching, programs

Submission of the problem

Information Technology is a key element in our functioning as a society. Nowadays, the impact of IT is becoming more and more pervasive. This impact has not neglected the education process in the country, education which is the focus of the treatment of this study. Information technology infrastructure is poor in almost all educational institutions. Much data is stored and archived mechanically and there is not yet a general coordination of the technological infrastructure. In this context, the development of e - education or online education is still underdeveloped and there is a need to take concrete action in this direction as an important step towards achieving inclusion and lifelong learning.

Research methodology

Purpose of the study. The purpose of this study stems from the need to conduct a study on the use of information technology in teaching. It aims to make an in-depth analysis of the frequency and nature of the phenomenon of how much is applied and practiced the level of use of electronic devices in teaching during school to students in lower secondary education in the city of Prishtina and the attitudes and reactions of teachers. on this phenomenon.

Based on the structure stated for the realization of this paper, initially the research is based on the description of the factual situation and the acquaintance with the technological

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concepts and their application, in this part is applicated the method of documentation analysis. First we collect the documentation on the data and results already existing, related to the problem. This method has a dual approach. First, we have the opportunity to apply the experiences so far. Second, it starts with something new, related to the experimental method, which is used in the functioning of proposals for IT application in Kosovo for education, achieving goals and reviewing the results. Of course, this process requires description to discover the causes, consequences, benefits and conclusions, ie descriptive methods. The case study is also used in the framework of the paper as a method of illustration and verification of the descriptive method of documentation.

Listed:

- Documentation analysis method
- Case study method
- Descriptive method

The need for this STUDY. Schools are complex organizations, as they serve different functions. It is understood that in principle they have the function of academic education, but, in addition, schools are expected to have the function of socialization. The school, except inspiring academic achievement, also enables the fulfillment of different needs of students, from complex social and emotional needs to basic needs for warmth and shelter.

Kosovo is a country with a high degree of technology utilization. According to a report by the Association for Information and Communication Technology in Kosovo (STIKK), it is estimated that 76.6% of the population of Kosovo are Internet users, mainly for entertainment purposes (STIKK, 2013). This scale is at the level of developed countries. On the other hand, in Kosovo schools there is a computer per 46 students, while 57% of the teaching staff are trained for ECDL *(N. Zylfiu, 2016).* Such a situation requires faster movement towards the application of ICT in the classroom, as the opposite may reduce the importance of the school for the future of students.

MEST has drafted the Strategy for e-learning and has equipped schools with various teaching tools and equipment. A significant number of schools in Kosovo are equipped with computers, projectors, equipment for various cabinets, as well as other tools that enable the development of students' competencies. MEST statistics show that 44.4% of schools have technological equipment. However, the problem of poor maintenance of ICT equipment remains.

Besides, many studies around the world have clearly shown the negative effects of not applying new teaching techniques.

The education system is characterized by a low use of information and communication technology and modern technology is not properly integrated into the curriculum, teaching or management of education. The implementation of the strategy for the inclusion of information and communication technology has not progressed as forseen by the initial plan.

The computer-student ratio in Kosovo is 1:46 and is much lower compared to the EU average, where 3 - 7 students use a computer (STIKK, 2013).

In Kosovo: 1 computer = 46 Students. In the EU: 1 computer = 3 - 7 Students

There are three steps of ICT inclusion in educational institutions in Kosovo:

1. Development of ICT infrastructure and services
2. Learning to use it (teachers and students)
3. Use to learn.

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Importance of the study:

The safety of all members in a school environment is an essential condition for presenting the best, most popular and most successful in terms of the values of an effective school, which increases the academic welfare, emotional and social well-being of its students. The Convention on the Rights of the Child emphasizes the importance of protecting the quality of life of the child and their right to be educated in a safe environment, free from violence, without harassment and where they are not ignored or neglected. Applications of technologies such as video projector, smart board, computers, software, internet, tablets, mobile etc. have been placed into the education system, teaching resources have changed significantly. Using technology and the constructivist approach together, the teacher ensures better integration and utilization of technology tools in the classroom in appropriate and effective ways, giving teaching / learning the necessary tool to improve teaching methods that focus on their student.

Technology can help and helps the learner to develop all kinds of skills from the simplest to the most complex. However, for technology to be successful, the teacher must make informed choices about the pedagogical approach, student needs, and learning outcomes. For the teacher, as important as it is to know what he will use technology for, it is equally important to know how learning can be improved through technology. Integrating technology into the classroom means a lot to different teachers. When teachers are asked if they integrate technology into their subjects they give numerous answers such as:

- I use the computer in the classroom to reinforce the issues I have explained.
- Students use the computer to find information.
- Students use the word to do homework.
- Use power-point to make presentations in class

But, the real issue does not lie in whether technology is used in the classroom, but whether it is being used to improve the learning process (Portali Shkollor, 2018).

A well-designed computer curriculum is engaging and interactive and has two important qualities for students who have difficulty in concentrating or have a residual history and have lost their motivation. For example, a math or spelling program may use images (pictures), sounds, and features of the nature of the game to keep the attention of a student with deficit disorder. Digital interactive media programs teach deaf people how to use sign language. Mexhuani, A. (2014). Many programs do not use sound, so students with hearing impairments can take full advantage of visual lessons. Students who have difficulty reading can use programs that "pronounce" unfamiliar words to them, if they click on them. With this opportunity for instant help, students are more likely to practice reading, which they need to prevent lagging behind (Woolfolk, 2011).

Technology is more than just another way of presenting information; it is the system through which information is presented. Technology, as part of the constructivist theory of teaching, is the framework of the teaching / learning methodology which provides the ability to support all the major forms of this theory. (Portali Shkollor, 2018).

Methodology of study organization

This paper introduces us to the purpose, general and specific objectives, as well as the research questions of the study. He then explains the research strategies that have been selected as a result of the research model, acquaints us with the instruments used to conduct the study and with the tests performed to ensure its validity and reliability, with the selection of the sample, with the collection and with data analysis, as well as with ethical issues for the subjects and with the limitations of the study.

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Purpose and objectives of the study

The main purpose of this study stems from the need to conduct a study on the phenomenon of using the level of new technologies in teaching in the context of Kosovo. It aims to make an in-depth analysis of the frequency and nature of the phenomenon of technologies in 5-9-year schools in the city of Prishtina, as well as the attitudes and preparations that teachers have for this phenomenon. The selected grades are grade V to grade IX, which in the literature is known as lower secondary education. These classes were selected because according to the world literature have the highest percentage of internet use.

Research methods

The researcher has used the mixed method model, including qualitative and quantitative research strategies. Gay, Mills & Airasioan (Gay, Mills & Airasioan, 2009) claimed that the goal of mixed methods is to create a synergy and power that exists between qualitative and quantitative research methods. In this model, qualitative and quantitative data were collected simultaneously throughout the study. Referring to O Donout and Punch (O`Donoghue & Punch, 2003), the mixed method explains human behavior more clearly and comprehensively, studying it from more than one point of view and giving it more details and a more balanced picture of the situation. Researchers usually use the mixed method because they think that the data obtained from one method alone would be insufficient and inadequate to present the whole problem.

Quantitative data.

Since the study is basically of the descriptive type, then, to understand in more concrete terms the degree and level of use of technological equipment with students in the classroom, quantitative data were used. Quantitative data were obtained using anonymous questionnaires in students from grade VI to grade IX, as the best method for data collection, due to the nature of this study.

Sample size and selection.

The definition of a sample is based on Greveter and Forcanoja (Gravetter & Forzano, 2003), according to whom a sample is a group of individuals taken from a certain population, who constitute the study population. 26 Schools were selected through a stratified / stratified random sampling among the 9-year schools of the city of Prishtina from grade VI to grade IX. This population does not include 9-year private schools and schools with non-classical profile (artistic or special). In order for the margin of statistical error of the sample not to be greater than +/- 3.3%, with a confidence level of 95% (p = 0.05) it was necessary for this /for the correct calculation were taken statistical tests to be used, the criteria for the selection of the sample and the fact that in a class with an average of 35 students-40 students 27, the smallest number of questionnaires that had to be distributed to make an accurate measurement of the phenomenon about the application of teaching techniques according to new teaching technologies was twenty questionnaires (half of the class) for each class, by increasing the number of sample in respondents, of which there were 117 teachers and 164 students. There are a total of 117 employees and leaders of educational institutions and 164 students.

Quantitative data analysis

The data collected from the questionnaire was thrown into a program called CSPro (CENSUS47 and Survey Processing System-Census and processing surveillance system). This

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program can be used to cast, publish, calculate and disseminate census data or other studies. The database created in the CSPro program was exported for further analysis in the 19th version of the SPSS program (Statistical Package for the Social Science).

This study is essentially quantitative and aims to provide a clear picture about the level of use of new technologies in teaching with students in lower secondary education in the city of Prishtina. The results of this chapter are divided into four sections, pertaining to the first four objectives of the study.

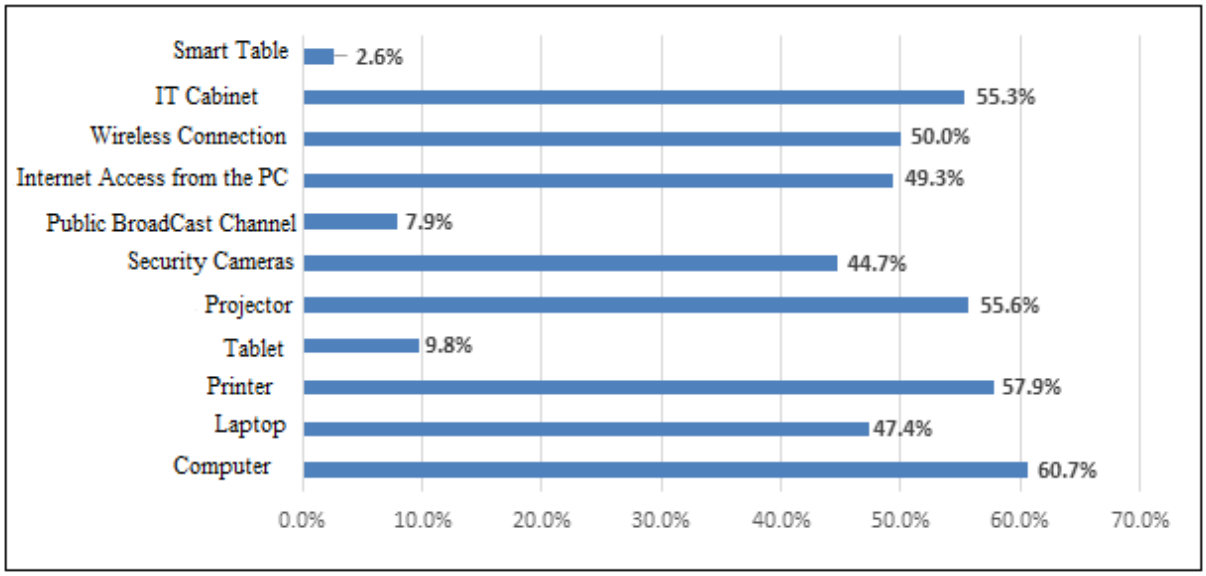
1. The first section gives us clearer information which technologies are most practiced in schools.
2. The second section gives us an overview of the application of new teaching techniques,
3. The fourth section gives us a general overview of some specific characteristics (such as student popularity at school, race, level of student approval and self-assessment of school learning outcomes), which make a student to be better prepared in the application of new technologies.

SECTION 1: Results with employees and leaders of educational institutions

Employees and leaders of educational institutions involved in the research are from Kosovo. In the e-mails that they declared as personal, the instructions and the link to access the questionnaire were sent to them. There are 117 of them who have responded to the request. The reason why the research is focused on them is that the basis of general knowledge and knowledge is gained in pre-university education, while later only profiling is gained, so mainly the teachers are primary and lower secondary schools.

Information Technology that can be found in Educational Institutions

Recently, state investments and foreign donations in Kosovo schools have been made mainly in equipping schools with computers and computer laboratories. The results from this research point show that the Desktop computer as an electronic device is found in about 60% of schools while the Laptop as a more compact device in a smaller percentage.



Graph 1: Technologies that can be encountered in Educational Institutions

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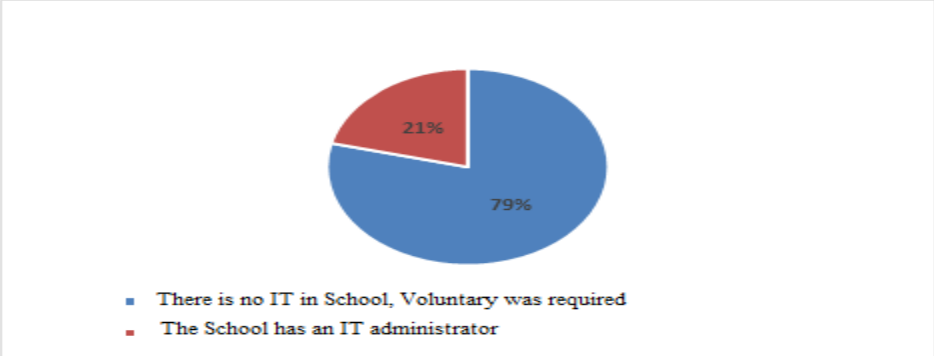
Problem Management with Information Technologies

These devices and technologies require proper use and constant maintenance. The situation in Kosovo in terms of addressing these issues does not seem to be good, this could lead to another situation where we can see and touch the equipment but not work with it because there is a risk that they will not be in functional condition.

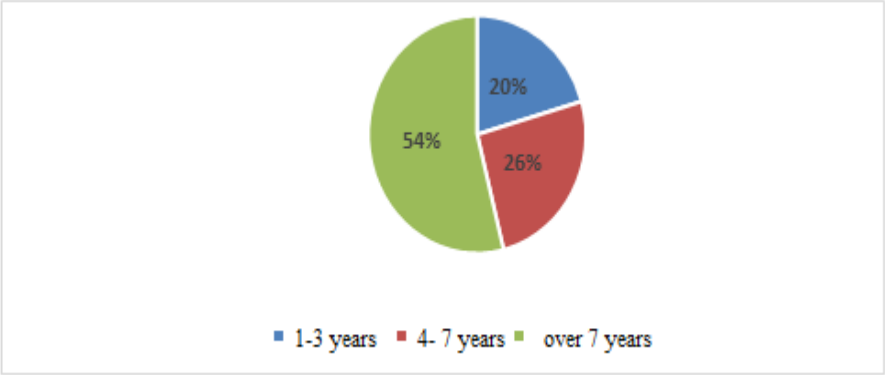
So for the management of problems with information technologies, teachers in the largest percentage about 79%, have reported that the school does not have IT, they fix the problems voluntarily.



Graph 2: Information Technology Problem Management

Obsolescence of equipment

Asked about the age of technological equipment in the respective educational institutions, most of them, more specifically 54% state that they have technological equipment over 7 years old since the last investment have not received new investments, 26% state that they have equipment with age of investment from 4 to 7 years and 20% who have new equipment 1 to 3 years in terms of use.



Graph 3: How old are the technological equipment in your school?

ICT trainings

Approximately 74% of teachers who state that they have held trainings in the field of ICT and 26% of them state that they have not been part of these trainings.

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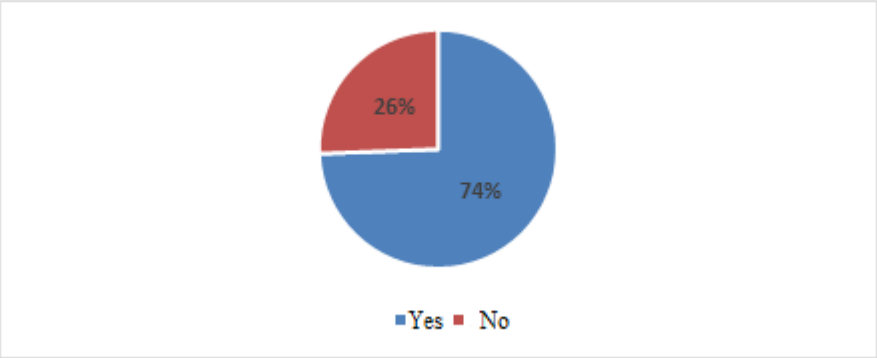


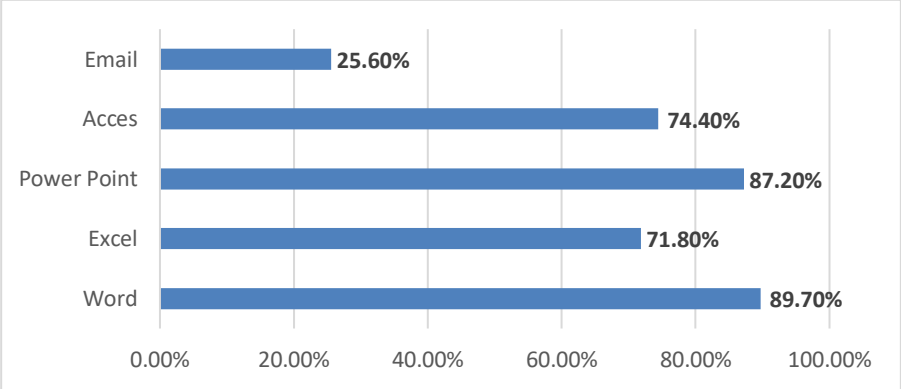
Graph 4: Have you completed ICT trainings?

Computer use

For the level of computer use, a form of self-assessment from 1 to 5 was required. 21.1% were declared as excellent users (5), 39.5% were declared as level 4, 31.6% were declared as level 3, level 2 were declared 2.6% and 5.3% declared themselves as weak users.

Programs used

When asked which programs they use the most, the opportunity for answers has been open allowing options to be free of what respondents give. The programs they use most in their work are likely to be closely related to the trainings they have conducted in ICT. E - mail turns out to be with 25.6%, the program for managing Acces databases with 74.4%, the program for presentations Power Point 87.2%, Excel with 71.8% and Word 89.7%. High percentages are observed in this top five of application programs.



Graph 5: Which computer programs do you use

Inclusion of ICT in education

The opportunity to respond to the forms of how ICT is applied in the learning process has been open. Respondents were free to express the forms of how they apply ICT. In drafting plans and curricula and various exercises with 57.9%, drafting tests with 84.2%, for e-mail communication 55.3%, for drafting projects 52.6%, for research and to follow new methods in teaching field 55.3% and for illustration and presentations 57.9%,

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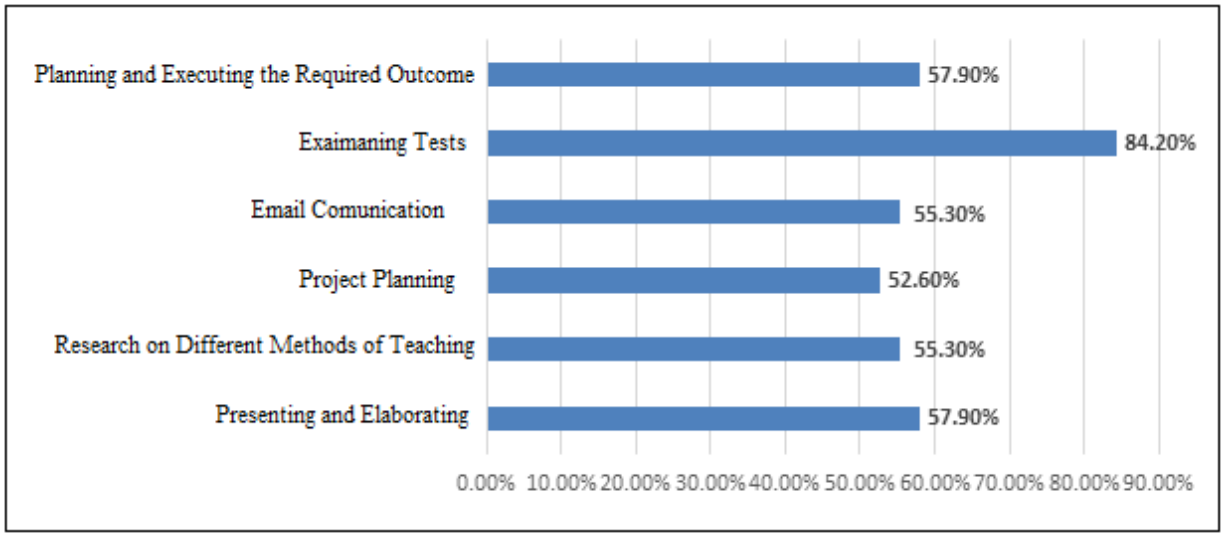
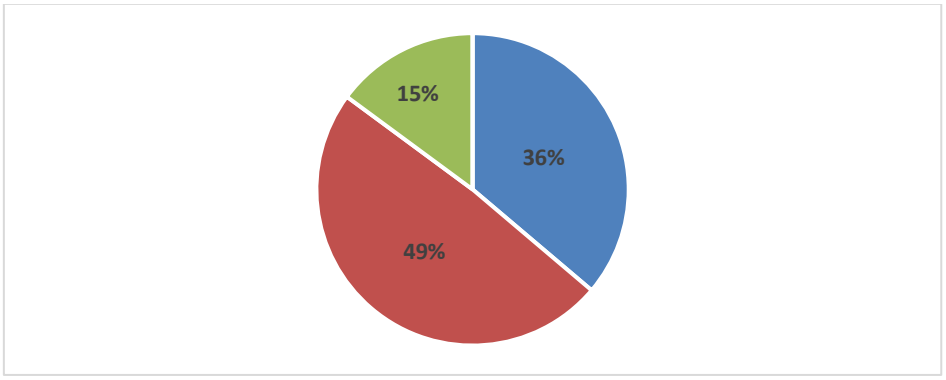


Graph 6: How do you incorporate ICT into teaching?

Distribution of electronic materials, exercises or tasks

Among the ways that find the most use for the distribution of electronic materials is the orientation for internet use according to certain instructions with 49%, while the classic form of distribution of materials with CD or USB is present in the mass of 36% but also a modern form is noticed of creating groups or online forums where collaboration and exchange of materials and ideas is more efficient.



Graph 7: How you distribute electronic materials, exercises or assignments to students

IT application help or complication?

When asked if the ICT application is a help to them, 88% of respondents said yes, it is a very big help and 12% of respondents said no, the ICT application is not a help to them.

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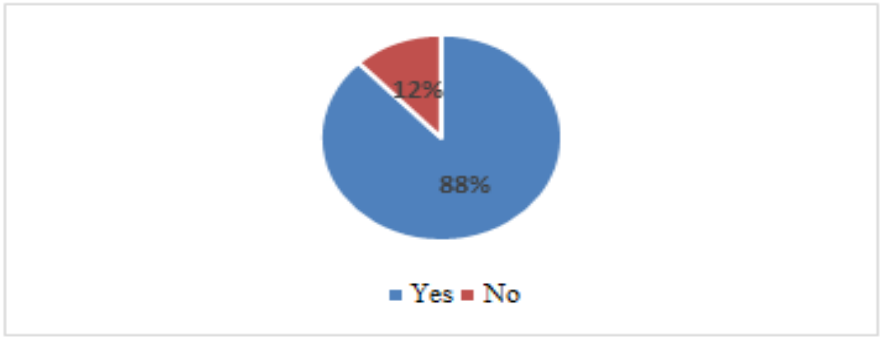


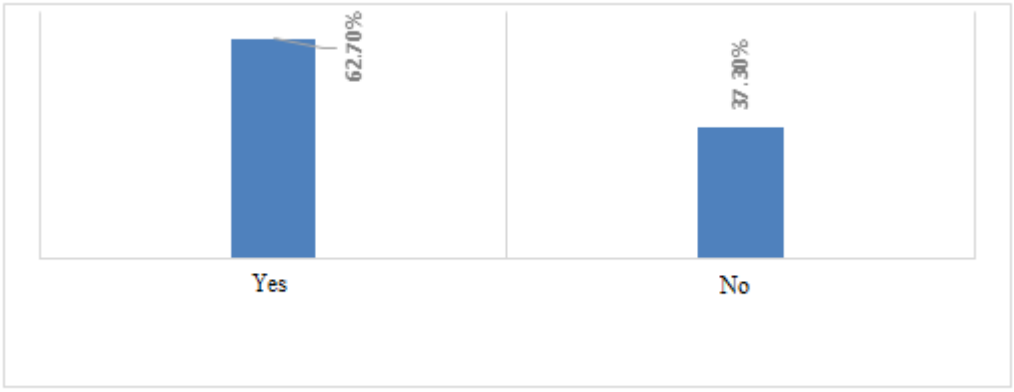
Graph 8: Do you think that the application of IT has helped in your work

Questionnaire results with students attending school

This part of the research included 164 students from Kosovo of different ages. The focus of the questionnaire has been because young people are spending a lot of time online dealing with non-educational content about life in general. The following are the graphs with the respective results:

Computers in schools

When asked if there is a computer in the school where you attend classes, 62.7% of the total respondent's state that they have computers while 37.3% state that they do not.



Graph 9: Do you have a computer in your school?

In the same question, teachers stated that approximately 61% of schools have computers. We can conclude that this is a real situation.

Computer use

Asked about the level of knowledge for computer use, 37.3% rated themselves with level 4 out of a total of 5 levels that were, 28.4% stated 5, 26.8% stated 3, 5.2% rated themselves 2 and 2.3% with 1. We can freely say that we are dealing with a very good majority of computer users and a very small minority who have evaluated themselves poorly.

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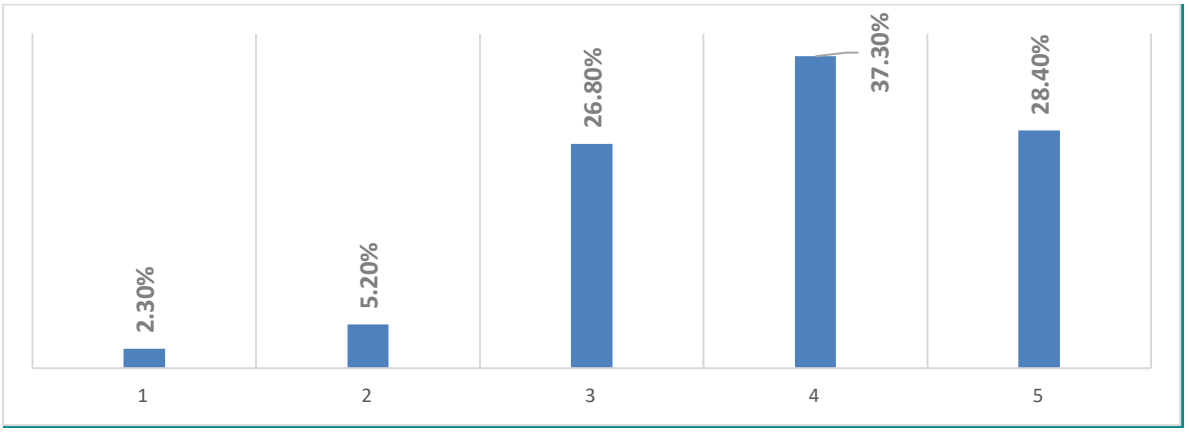
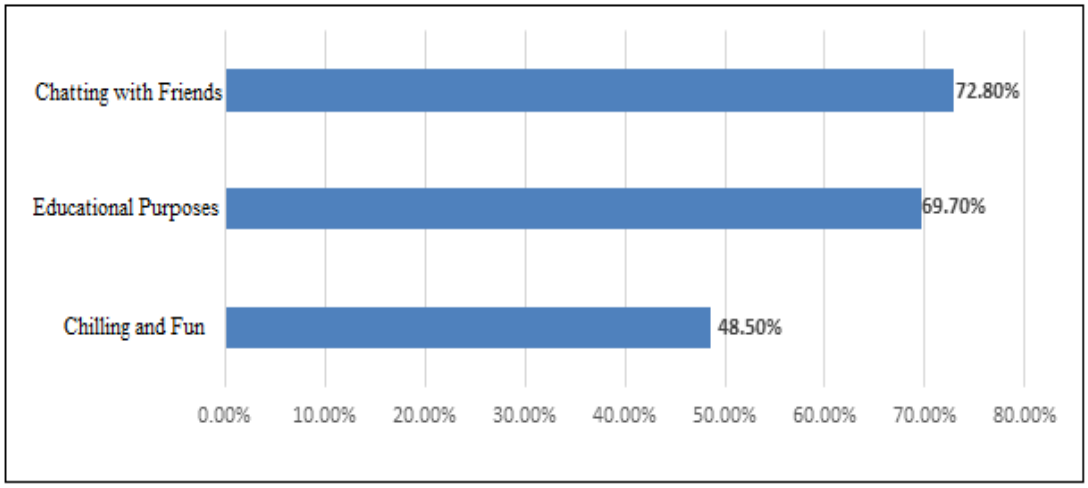


Graph 10: What is your level of knowledge about computer use in teaching, during the lesson with students

Purpose of use. Addressing the correct use of this knowledge would be a great success. To a very large extent, 72.8% state that they mainly use it for conversations with friends on social networks, 69.7% for educational purposes and 48.5% mainly for entertainment.



Graph 11: For what purposes do you use information technologies

Programs used

It was seen that the purpose of use may be different and to achieve their purpose users will use a certain instrument. An instrument can be a specific computer program. It is noticed that the target is Google which is used to the maximum through which they realize the desired access using it as a search engine. The question was open-ended and the respondents gave their options that created this graph:

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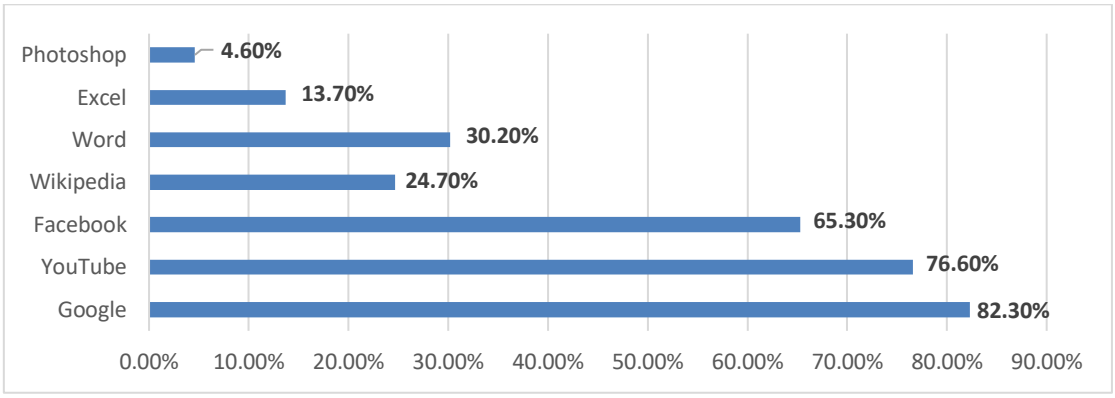
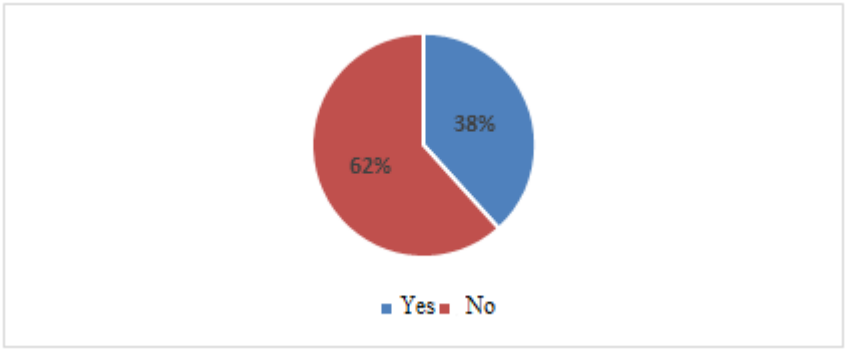


Graph 12: Programs you use

IT application

The inclusion of IT elements in the learning process, such as projectors or computers, does not seem to be satisfactory. A large proportion of 61.7% state that the teacher does not use teaching methods that include the use of the computer.



Graph 13: Does the teacher use teaching methods that include elements from IT

IT Integration Form

Methods for applying during the lesson can be different. Asked how teachers apply IT in the learning process, 29.8% stated that they do not apply it at all because they are not so clumsy in using the computer, 26.9% stated that the teacher guides them and seeks to bring research from the Internet, 14.3% apply the projector and 10.1% apply the radio

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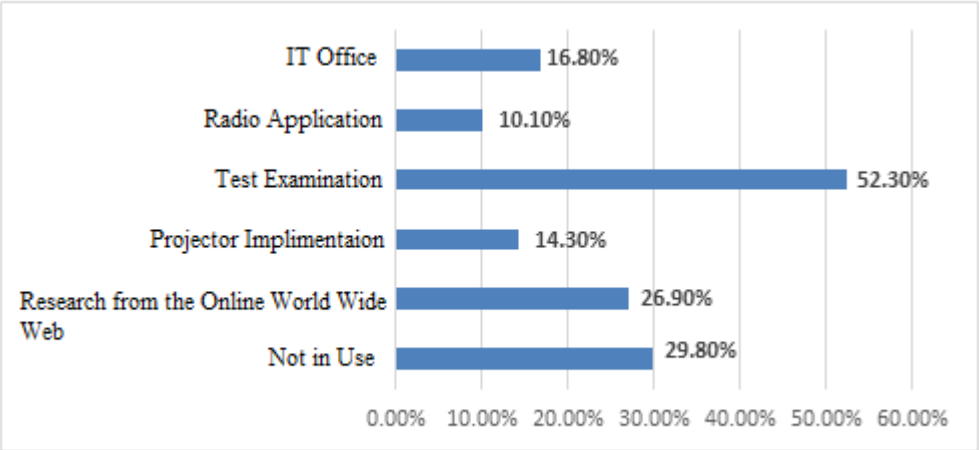
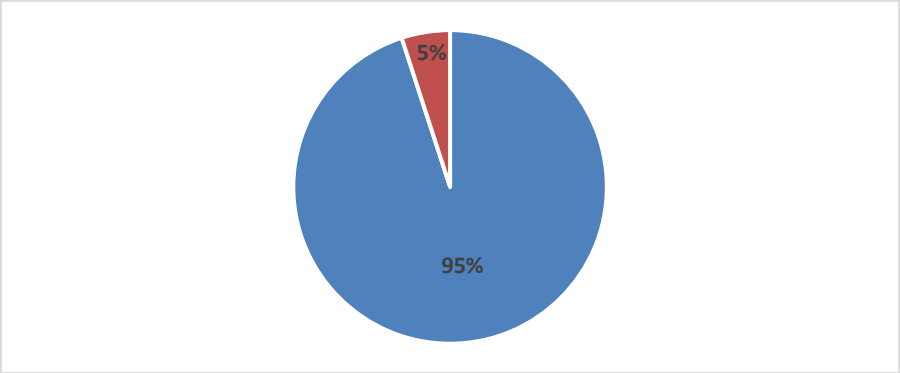


Graph 14: How teachers apply IT in the learning process

Application of IT help or complication, during the lesson. IT application is seen as helping students, so at least 95% of them have stated.



Graph 15: Application of technology as support in work environments

Conclusions

Until nowadays, great progress has been made in the application of IT in educational institutions. This field has gained momentum over the last decade and has progressed rapidly. However, in order to further improve the situation, the process of drafting policies, strategic plans and taking concrete actions or measures within the application of IT, not only in the management of educational institutions, but also during the teaching processes and learning. At the same time, it is worth noting that further reform in this area is intended to be achieved through taking certain measures in different directions. These directions are within the ICT infrastructure in educational institutions, teacher training and qualification, development and standard setting, or application of best practices.

Taking further measures in the framework of improving the ICT infrastructure in the education system should focus on:

- increase of internet speed in educational institutions and quality of service;
- equipping teachers with laptops;
- equipping classrooms with projectors;
- equipment with output devices such as printers, speakers
- and other accompanying tools

Taking further measures in the framework of teacher training and qualification should focus on:

- trainings that should always be planned in accordance with the professional standards of teachers
- annual training planning
- Profesional identification of professional needs.
- Training of teachers and managers of educational institutions

Need for training - Increasing and developing knowledge in the field of Technology would increase work efficiency.

The training will facilitate the transition from manual work with piles of papers in their offices to the way of electronic work, digitalized as well as in facilitating the use of applications, use of online service on the Internet, etc. User-level trainings would increase teacher's self-confidence in the work done as well as help and encourage the use of other applications necessary for working with students. The training would help them in their basic work, Computer. Training and certification in the ECDL Program would meet their needs.

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