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In the world of digital media.
The role of information technology
in Polish and Czech secondary education

Abstract

Public schools have a basis for creating a new offer of multimedia activities. Every school should plan its development based on its resources and competences. Keeping up with the ever-changing reality, rather than sticking to once chosen directions, is the way to digital school individualization. Only such a school model allows to achieve beneficial for society educational results in the beginning of the 21st century.

The types and scopes of proposed activities depend on the requirements for audiovisual equipment, and the competence of teachers. Multimedia is a combination of several different ways of conveying information in order to provide the audience with better prepared information.

The article presents the results of a survey on the use of Information Technology in upper secondary education by teachers, which shows the extent of teachers' knowledge of media education of young people, the support for this education, and the opinions about it at school.

A selection of two secondary schools with similar fields of study in Poland and the Czech Republic is juxtaposed.

The school should play a major role in the blended learning system by initiating and enabling remote learning (using the equipment of laboratories - computers with Internet access and the knowledge and skills of teachers).

Keywords: teacher competencies, information technology in education, digital school.

I. Introduction

An important issue in the modern world is the problem of functioning from an early age in the new information society and in the new "media" reality. The media, the mass media, are increasingly accessible today, through which they influence the viewer. They shape their attitudes, behavior and beliefs. Our own research confirms the conclusions of the analyzed works, reports and publications of other Authors, who attribute a large role to the information competence of teachers. The article is only a description and diagnosis of the problem, which may prompt further research, studies, and the search for solutions or recommendations.

Many foreign authors have also dealt with this issue. It is worth noting the work of Klobas J.E. and Clyde L.A. (2000) or E.M. Elliott (2005), where the issue of proper learning process was addressed. The authors shift the focus from teaching to learning, exposing the learner's independence in constructing meaning. In such a methodology of learning, the need to use technology is essential. The next work showing that technology in the classroom can perform a dual function: it enhances the efficiency of work in the classroom by simplifying the performance of certain activities, and expands the possibilities of learning, allowing to achieve results that are not possible without the use of ICT is the work of R. McCormick and P. Scrimshaw (2001).

It is unfortunate that teachers often do not try to understand and learn or even openly criticize the legitimacy of using ICT in lessons. In the article by M. Haspekian (2014) we find a number of arguments refuting such criticism. It should be remembered that children and adolescents, are the people to whom the highest degree of familiarity with electronics is attributed. After all, it is only in the case of those born at the turn of the century and later that we have a parallel development of digital technology and its user (generation Z/digital natives). We read about this in the work of M. Prensky (2001). Teachers should familiarize themselves with the above literature, as well as dare to seek advice and guidance on how to improve school work with the help of technological tools, as invited by Dugdale S., Elison S., Davies G., Ward J. and Jones M., (2016).

The development of information and telecommunication technologies and the development of the information society increases the importance of education, especially for sustainable development, and thus leads to the renewal of education including information education. It is important to determine the areas, principles and methods of using multimedia in contemporary educational and upbringing environment, as well as to present opportunities and problems related to the place and role of electronic media in society.

Today, free use of information technology is a basic requirement for functioning in human life, especially in professional activity. Society should have ac-

cess to the creation and reception of media. New techniques of information transmission are entering all areas of life. There is no turning back from this direction of change. In developed countries the information society is replacing the industrial society. Members of the new society will be people who have access to information technology and know how to use it. Preparing active recipients of content, transmitted by mass media, requires many extensive educational activities undertaken by the school (Gajda, 1998, p. 126).

Information technology (TI) – appears as a new cognitive field, as a source of assistance in teaching other fields. Multimedia computer with software, multimedia and Internet are its main components. Taking them into account in education, is connected with determining and designing a place for them, adjusting the way (methodology) of teaching and changes in the organization of the educational process. Advanced information and communication technologies make it possible to create interactive multimedia materials for innovative education (Kuźmińska-Sołśnia, 2006, p. 116).

Multimedia is a way to individualize, stimulate and support the development of the individual and adapt teaching material to the cognitive abilities of young people, with particular attention to a student with special educational needs (Bednarek, 2006, p. 46).

Multimedia at the psychodidactic level provide access to attractive sources of information and their multisensory cognition, which in turn affects the multilateral stimulation of brain centers. This kind of cognition significantly influences the student's intellectual activity and motivation. At the methodological level, the following is emphasized the role of multimedia as a door to creative and imaginative teaching - learning, creating original teaching materials that complement school – textbook knowledge (Błeszyński, 2008, p. 446).

In Polish education there is still lack of top-down prepared strategy of action, corresponding to today's needs or proposals prepared for teachers who would like to introduce media education on their own. Studies on pedagogical specializations do not prepare teachers in the field of media studies and media pedagogy, thus requiring people who are not prepared in terms of merit to realize such a responsible task as media education of the young generation, that is why further steps, reforms are expected from the Polish educational authorities. It is becoming a necessity, especially since today's students expect more dynamic activity and intellectual stimulation than before. The publication of multimedia scripts in itself does not cause a radical change in the organization of the teaching process, but it does enable the implementation of a blended learning program.

The reason for current failures in the implementation of activities related to media education is also the reluctance of educators, who consider it as unnecessary ballast among more necessary activities and also explain that schools do

not have the appropriate equipment and their finances are not large enough to equip classrooms with modern technologies (Sokolowski, 2010, p. 78–79).

The IT education tasks facing the education system today can be put into three groups:

1. Making it possible for all students to learn the basics of information technology and computer science – this is done by separate IT classes at all stages of education
2. Inclusion of information technology in the curricula of various subjects and its integration with these subjects and educational packages (e.g. textbooks)
3. Use of information technology as an aid to learning and teaching other fields in those situations where it is appropriate and beneficial (Białobłocki, et al., 2006, p. 79).

Foreign examples provide us with hints as to how media education should function in Poland. For example, in secondary schools in the Czech Republic, information technology is an essential part of the essential tools in teaching, i.e. such tools that the teacher and the student use to achieve the indicated educational goals. It is important to use different methods and strategies to implement teaching using design thinking methods, problem-based or constructivist teaching is used. It has become necessary to use visual, auditory and audiovisual media, mobile technologies in education. There are various options for cloud-based teaching (e.g. Google Drive, You Tube, forms, advanced search, easy information feeding, online collaboration) (Karvankova, et al., 2017).

International cooperation of schools requires such meetings that will provide help and inspiration to undertake effective implementation of media education in schools. During the meetings there will be an opportunity to exchange their views to reinterpret the content and evaluate the methodological workshop in the work of teachers. These are different ways of understanding the use of information technology as an aid, as the implementation of the global concept of activities, is to improve education, its scientific and didactic workshop.

Important in this process is PARTNERSHIP, which is characterized by interaction and communication. The educational community is a huge communication space through the INTERNET, thanks to which teachers, parents and children send messages through endless channels. This creates a convenient source of inspiration and development, mutual interaction, human-to-human encounter.

The most important prompts for building the Polish model are:
— creation of a national Internet portal (catalog of undertakings, projects, teaching materials, basic information on the state of media education);
— creating a training programme for teachers willing to improve;
— in the field of media education (training of regional educators);
— strengthening the position of media education in the educational system – a clear core;

— curriculum;
— establishment of a single entity responsible on the part of the state for media education at the national level;
— establishing Regional Media Education Centres;
— integrating media education with film education;
— emphasizing media creativity;
— creating their own media education projects.

Man in a clash with a machine that can replace him always loses. The computer will eliminate the so-called "white-collar" workers, because any "white-collar" work, about which it is known in advance how to do it, will be better done by a computer than by a person. We are accustomed to the ubiquity of robots and automatons doing routine work.

Man is left with non-routine work, that is, what is new or unusual. Therefore, school must teach originality, creativity. (Frania, 2012, p. 218).

II. Assumptions, tasks and realization of media education – teachers' competences

Changes in technology, present in every aspect of human functioning in society, cause education to become a continuous activity, at every stage of life. The growing role of basic skills in ICT (Information Technology), and more broadly, Information and Communication Technology (ICT), as well as awareness of the growing role of its applications is reflected in curricula.

It is recommended that media education should be as practice-oriented as possible and linked to economic, political, literary, social, artistic and information and technology subjects, and suggests that a future solution is the creation of a special subject "media education" and an interdisciplinary approach linked to extracurricular projects (Godzic, 2011, p. 45).

Provisions in the core curriculum on the use of information technology in learning about different fields (subjects) and in other activities of students and teachers at school should be coordinated with provisions on separate IT classes (from computer science and from information technology). The place of information technology in school education can be determined using R. Taylor's classification. He proposes four applications of computers in education, the so-called 4 x T:
— Tutor – a teaching system, an electronic teacher who, by means of ready-made programs, imparts specific knowledge and skills to students.
— Tutee - the ability to program the computer according to the needs of the student. The student has to teach the computer, e.g.: to make graphs or solve a problem.

— Tool – a tool designed to enable certain actions to be performed more quickly, accurately and efficiently (word processor, graphics editor).
— Toy – a toy, teaching through play (puzzle games, strategy games, etc.) (Kędzierska, 2005, p. 42).

Information technologies as Tutor, Tutee, Tool and Toy can be perfectly used to support education. The core curriculum is an educational standard in which information technology appears in almost every field of teaching and is cross-curricular in nature, integrated into various disciplines and skills.

M. Stankiewicz, notes that the teacher can use the computer in two ways:
— As a tool for preparing teaching materials (student work sheets, foliograms, presentations, etc.);
— As a technical means of education, in which the message carriers are multi-media educational programs (Stankiewicz, 2005, p. 225).

Both of these strategies qualify to understand TI as a technical means to support education. In the first way, ICT is used to improve the didactic process, in the second way – to increase the effectiveness of teaching and learning.

Information technology expands students' abilities and skills in: learning, thinking, searching, acting, improving, communicating, cooperating, which should be taken into account both in curricula and educational packages, as well as in the activities of the school and other school administrations.

The use of modern technology, however, is not an attempt to push away traditional methods of teaching, it is just a support for them. New technologies make traditional learning much more interesting and varied. Interactive media can quickly satisfy the thirst for knowledge, because the answer to a given question is obtained faster with the use of modern technologies, and the answer to a given question can be found almost anywhere and at any time, which is extremely attractive for many people. (Bochenska-Wlostowska, 2012, p. 92).

In 2017, the conditions for conducting so-called Innovations were simplified, a new objective was placed in the educational law:

> Innovative activity is to be an integral part of school activity, and by removing formal requirements, conditioning, according to the current regulations, the implementation of innovations, to unleash the creativity of students and teachers.
>
> Competencies and qualifications of people constitute a special kind of capital, the importance of which is growing in the conditions of global competition.
>
> Competences and qualifications must be constantly improved to enable individuals to meet the challenges of changing technologies, complexity of economic and social processes.
>
> Thus, learning in different forms, places and throughout life to develop competences and qualifications becomes the key to sustainable economic growth and the development of civil society.

In order for a teacher to be able to use technical means skilfully, he or she must have the right competence, i.e. the right experience and knowledge to do

the job properly. The term "competence" is quite broad and subject to various typologies, but according to Dr. Antoni Ludwiczyński it means

> dispositions in terms of knowledge, skills and attitudes, ensuring the implementation of professional tasks at an effective and (or) distinctive level, according to the standards set by the organization for a given position. It is worth mentioning that many authors, in addition to the above three components of competence, additionally distinguish experience, motivation, or personality traits, which are included in the three basic components of competence.

W. Strykowski distinguished media and technical competences from content-related competences, psychological and pedagogical competences, diagnostic competences, planning and designing competences, didactic and methodological competences, communicative competences, control and evaluation competences, assessments of school curricula and textbooks, and self-educational competences. These competencies refer primarily to the teacher's efficient use of new technologies. The teacher must take care of the development of his/her pupils in the context of knowledge and skills of using new technologies, but also take care of his/her own development in this field (Mzyk, 2018, p. 8–10).

B. Siemieniecki clearly separates competences shaped in the course of media education, pointing to "practical media competences, which a modern man should be equipped with, and intellectual competences, such as critical reception of information". In this way, he includes within the scope of media education, apart from the cognitive theory of media communication, theory and practice of mass culture and methodology of media education, also "information technology, which deals with the tool side of collecting, processing and presenting information by humans". (Siemieniecki, 2007, p. 137).

The teacher who is to fulfill his tasks effectively in the information society must stop being

> the ruler in the school classroom, […] the master on the lectern, and become the student's helper in the learning processes undertaken by him. His work will become more transparent, and at the same time he will have to learn continuously. (Pachocinski, 2001, p. 4).

Therefore, it is necessary to introduce upbringing in the media, using: the computer with safety rules and selected educational programs, developing their interests. One should teach the formation of will, feelings, activity, the formation of appropriate attitudes, which are the most important result of the educational process. Media education means forming appropriate attitudes towards the mass media. The attitude itself means a relatively permanent human attitude (negative or positive) to a particular object.

It is necessary to cause the permeation of information technology in the classes of other subjects, the school and the teachers are to prepare for the anticipated and unexpected changes in technology and in the ways of education.

The importance of schools that engage in new, innovative areas of activity, which finally adapt effectively to the environment through the skillful use of ICT to increase their competitiveness, is growing. An example here may be activities based on:

— cards, prepared in the form of online games and quizzes;
— participation in eTwinning projects;
— use of ClassDojo platform;
— conducting debates with other teachers using blogs, e.g. language blogs.

Information technology has brought about changes also in pedagogy, therefore the components established by F. Scott (Juszczyk, 2000, pp. 22, 51) appear:

— from student to learner (passive recipient turned into active learner),
— from a learning object to a learning task that takes into account the learning objectives and the learner's prior knowledge,
— from teacher to learning environment, which may include new media (video, computer),
— the scope and level of education, which implies a systemic treatment of the educational process, such as vocational training or university education.

Media pedagogy has basic tasks: preparation for proper (critical) reception of media and preparation for using media as tools for intellectual development and professional work.

III. The use of information technology at school in the opinion of the respondents – own research

According to Krzysztof Winnicki,

in modern didactics there must be a place for using the means of information technology. The interests, abilities and capabilities of individuals are different, but the education system should provide equal educational opportunities for all students and create various possibilities to make up for possible deficiencies and solve specific problems. (Winnicki, 2009, p. 155.)

The aim of our research is to gain knowledge about the use of information technology at school. What is the extent of teachers' knowledge of media education of young people, what is the support for this education, and what are the opinions about it at school, the Teachers of the K. Miarka District School Complex No. 2 in Pszczyna (PZS2) and Albrechtová Stredni Skole in Český Těšín (ASS) were asked. In order to conduct the research, a diagnostic survey method was chosen. The basis of the research is a questionnaire survey filled in anonymously by the teachers. The teachers of PZS2 and ASS completed the questionnaire containing 9 questions. A total of 60 respondents were surveyed. These were humanities teachers who had previously participated in IT training courses. In the

Polish school, additionally, teachers took part in the LEKCJA ENTER project (which was supposed to broaden their workshop on the subject). On the other hand, 30 teachers at the Czech school took part in the Programming Course for Teachers. Teachers who did not participate in the above-mentioned courses at the Polish and Czech school did not constitute a group of respondents.

The research sample is not large, but the material is very interesting and its analysis yielded interesting results.

In relation to the above research problem, I posed a number of specific research questions:
— What is the knowledge and competence of the respondents in the field of media and media education?
— Are the respondents aware of the need for media education?
— What is the support for media education at school and what is the content of these classes?
    — How do the respondents think media education should function at school?
The interviewed teachers defined media education as:
— The use of audiovisual equipment during the educational process
— Training computer and multimedia skills
— Preparing to function in the information society
— Providing basic information about media and media communication
— Teaching media literacy
— The process of shaping the ability to use media consciously and critically
— Making children and young people aware of the consequences of irrational media use and its influence on our lives
— Rational use of Internet resources. Raising awareness of what is good and what is bad online
— Teaching about the possibilities and ways of conveying and searching for information in various social media Learning to distinguish truth from falsehood in information Teaching about heckling and how to react to it.

Responses in this area were given by 95% of the teachers surveyed. Of these, 92% were unambiguous definitions of correct. It should be noted that the majority of those who responded, in the first place – connect it with education, which involves the use of multimedia equipment in the educational process and learning how to use it. The interviewed teachers see many positive aspects of the use of media. Interestingly, both Polish and Czech teachers answered similarly, so their statements could be combined. Only one teacher from Český Těšín answered that:

> media education is very problematic, I want to show students something interesting, and they reject my examples by showing their own, I admit, much more interesting examples, which I have not found on the Internet, so it is a field for me to amaze me and ridicule me in front of young people.

This statement was the only one tinged with considerable pessimism, which may indicate the teacher's underdeveloped IT competence.

Multimedia devices used by teachers to prepare lesson activities:

The most popular means to implement information technology in humanities classes, is the TV with DVD, (75%) in Poland declare using it, as well as respondents advocate using a computer/laptop (55%). Czech Teachers overwhelmingly (97%) opted for a computer/laptop, which shows better equipment in classrooms than in Poland. Also popular is an interactive whiteboard in science and mathematics classes, (65%) respondents declare using it in Poland, while Czech teachers chose the blackboard 99% of the time. Czech respondents also stated in response: "Overhead projector" (5%) and "Speaker that connects to your phone via bluetooth" (8%).

According to the respondents, the use of information technology, in class, gives students:
— Faster assimilation of material.
— Understanding the lessons to a greater extent. Makes classes more attractive.
— A feeling that school is not boring. Classes become more attractive.
— Students can more quickly understand topics that are seemingly difficult.
— Expands knowledge, shows pictures as an extension of the text.
— Students learn the material easily and are more curious about classes.
— Classes are more appealing to them and they focus their attention more easily.
   — Students are more engaged in activities.
Responses from Czech they added:
— Gives more options (images, sounds, etc.). Develops skills in using and familiarity with information technology. Shows different possibilities.
— Helps, facilitates mastering some of the curriculum content e.g.: school reading, mathematics.

Most of the statements made by teachers from Poland and the Czech Republic are positively in favor of technologies during school activities. One Czech respondent added a surprising argument:

> I think that if he put a programmed robot instead of a teacher, the students would be happy, they wouldn't notice the difference, probably only at the moment when they wanted to insult him they wouldn't see such a reaction as they see in us teachers, those emotions that we have to keep inside. I don't know if this is the direction we should go in, I think that technological tools should not dominate our classes though.

Teachers admit that using information technology during classes gives them:
— The possibility to prepare more interesting classes and to convey knowledge in a more attractive way,
— Access to photos, music, art reproductions, films and applications
— More room for maneuver in the way of conveying messages. Quick access to information,

— It is possible to repeat the material in an interesting way and check the student's knowledge.

Varies the teaching process, facilitates the transfer of teaching content, helps in student assessment.

Teachers unanimously claim that they have never met with disapproval of students during classes with the use of technology. There were also answers about the fact that students themselves ask for classes in this form and that students prefer such methods more than traditional ones.

Analyzing the answers, it can be concluded that teachers, as far as information technology is concerned, mostly take various courses. The largest number of teachers receive training in using the interactive whiteboard. Such training was conducted by 70% of the respondents in Poland, because the interactive whiteboard is becoming more and more popular in schools and teachers have to use it skillfully, regardless of the subject. Czech teachers responded that they train at educational councils, they have the opportunity to enroll in courses and they do, which is helpful for them and they have it written into their duties.

Teachers are reluctant to use social media, although it is natural for pupils to use such services and they are not aware of the risks.

Internet activity brings dangers that are usually underestimated.

For a large group of respondents, media are a valuable aid teaching, allowing access to interesting multimedia programs that help students learn and expand their knowledge. In addition to the educational advantages teachers also mentioned the communication dimension of the network. Teachers, both Polish and Czech, often emphasized that the media facilitates communication and enables them to maintain social contacts socializing. Almost all respondents are of the opinion that the media are an irreplaceable source of entertainment and relaxation. An aspect of the media rarely indicated by teachers was new development opportunities and the formation of attitudes.

Teachers consider the following to be the greatest threats:
— violence on the Internet (85% PZS2) (91% ASS).

According to 81%, a serious problem is students misusing the Internet.

Of the teachers mentioned the following as threats,
— 58% PZS 2 (63% ASS) of the teachers mentioned self-mutilation, suicide, extreme dieting, online pornography, drugs, racist messages as threats.

The teacher from Poland added that the danger is also copying mindless behaviors, lifestyles, setting values and lives like other "idols". Young people become similar to them, they want to look and behave like them, they enter a world of illusion that is shown as if it were real.

This is certainly an important observation, especially since little is discussed with young people on this subject, which causes them to have breakdowns and lack of self-acceptance.

The respondents indicated the sources of knowledge from which they get information about media knowledge and media education.
Literature 11.5(%) PZS 2   13% ASS
Media 8.5(%) PZS 2   10.5% ASS
Training 79.5(%) PZS 2   82% ASS

IT education in PZS 2 in Pszczyna, keeps up with changes in the scope and methodology of IT education, it does not come down only to computer literacy. The situation is similar in the Czech Republic. Teachers (stated by 87% PZS2 and 91% ASS) often use the methodology of solving problems with the help of computers.

Education appeals to real-world applications that students encounter on a daily basis in the use of computers and the Internet in other subjects. Through such activities an increase of interest in computer science is observed among students.

In addition, at PZS 2 in Pszczyna there is an offer of additional, extracurricular classes in computer science, as well as an offer of extracurricular classes, offered by teachers from other schools, with the District Extracurricular Work Center (POPP), which aims to develop and implement an interdisciplinary program to develop modern tools and methods in the field of information and communication technologies (ICT).

One of such projects for extracurricular education is Technology+, which aims to improve the key competencies of high school students in the field of computer science and its applications, necessary for further education in computer science and technology or for employment, and to create innovative opportunities for gifted students to develop their interests in this area. This program is a form of extracurricular education.

Only a few (8% PZS 2) teachers, despite being aware of the need for media education and a critical evaluation of the involvement of Polish schools in media education, do not introduce elements of this education during their classes.

The omission of the subject of media education during classes is justified by educators in various ways.

Sometimes the educators justify neglecting the media education classes with
— lack of time to implement additional content, since the curricula are overloaded with material anyway. One of the most frequently given reasons for neglecting the subject of media education is
    — lack of proper preparation, staff training in this field.
Additionally, teachers suggested, giving counter-arguments, that:
— little teaching of skills of creative use of technology
— too much information in the absence of knowledge leads to pseudo-science
— we do not teach enough skills of being in a digital space
— it is easier to manipulate in the digital world.

However, Polish teachers, despite participating in numerous projects and training courses on information technology, are reluctant and rarely take the trouble to introduce new techniques in their classes, which would certainly translate into more attractive lesson delivery. Czech teachers are more open to technological innovations and together with their students try to apply the tools, meeting the demands of the educational market.

Multimedia will not replace natural means of teaching in the near future. However, there are a number of didactic situations in which the use of indirect forms of describing reality is advisable and even necessary.

IV. Conclusions

The primary goal of PZS 2 and ASS is to increase students' motivation to learn by making the educational process more attractive. The school management strives to provide students and teachers with better access to information technology (computers, multimedia equipment, interactive whiteboards) in order to perform tasks from different fields of life.

Teachers' statements indicate that media education in their opinion is not successful because schools do not have the right equipment, and their finances are not large enough to equip classrooms with modern technologies.

In addition, Polish educators explain, downplaying the introduction of media education in lessons in humanities subjects, the lack of time to implement additional content, since the curricula are overloaded with the material. One of the most frequently cited reasons for skipping IT is the lack of proper preparation, training of staff in this area, as they believe that the number of trainings is too small and they should be as compulsory classes.

Classrooms are equipped with teaching aids and modern audiovisual means. In this group of classrooms should be particularly distinguished computer labs, which are equipped with modern computer hardware and software that allows to properly teach the operation and use of computers, both for students studying IT technician and other subjects.

Students of IT technical school realize their classes at employers selected by the school. These are companies operating in the local market of services: IT stores and manufacturing plants. The best students undergo vocational training abroad, for example in Germany.

Curricula are adapted to the increased use of ICT by learners. Provisions in the core curriculum on the use of information technology in learning about various fields (subjects) and in other activities of students and teachers at school are coordinated with provisions on separate IT classes (from computer science and from information technology). TI has an impact on the improvement of

teaching and learning outcomes, it is also used in solving real world problems, covering various classical educational fields.

Teachers are exploring new ways to use TI, expanding their pedagogical competencies. Different disciplines are being combined in curricula, reflecting applications from the real world.

Information technology has not yet appeared in all subjects and it is difficult to talk about its integration in all subjects, although more and more teachers see the need and are moving in this direction. The basic conclusion that can be drawn is the need for expansion and modernization of the didactic base for learning professions and the adaptation of vocational training offer to the current market needs in the era of digitization. Above all, emphasis should be placed on activities aimed at benefiting from EU support programs for the development of teaching facilities and upgrading the skills of teaching staff.

Technological and information development causes that the introduction of media education classes will soon become not only a positive, additional issue of school education, but a real necessity.

The general tasks of school should include: searching, organizing and using information from different sources and effective use of information and communication technology.

The development of information and communication technology is a key element of modern civilization transformations and the formation of an information society.

Part of culture is cultural space, which is a set of values: meanings, forms, symbols and events that are the source of spatial experiences of a given community. Such experiences have an emotional, intellectual, aesthetic, spiritual and mystical character. They lead to identification of the community with a given space. It consists in "reading" it, valuing it, experiencing it emotionally, "inscribing" it in the sphere of memory.

Keeping up with the ever-changing reality is a postulate, because only such a school model allows to achieve beneficial for the society results of education for sustainable development in the 21st century.

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W świecie mediów cyfrowych. Rola technologii informacyjnych w polskim i czeskim szkolnictwie średnim

Streszczenie

Szkoły publiczne mają podstawy do stworzenia nowej oferty zajęć multimedialnych. Każda szkoła powinna planować swój rozwój w oparciu o posiadane zasoby i kompetencje. Nadążanie za ciągle zmieniającą się rzeczywistością, a nie trzymanie się raz obranych kierunków, to droga do cyfrowej indywidualizacji szkoły. Tylko taki model szkoły pozwala na osiągnięcie korzystnych dla społeczeństwa efektów edukacyjnych na początku XXI wieku.

Rodzaje i zakresy proponowanych działań zależą od wymagań dotyczących sprzętu audiowizualnego, a także od kompetencji nauczycieli. Multimedia to połączenie kilku różnych sposobów przekazywania informacji w celu dostarczenia odbiorcom lepiej przygotowanej informacji.

W artykule przedstawiono wyniki badań ankietowych dotyczących wykorzystania przez nauczycieli technologii informacyjnej w szkolnictwie ponadgimnazjalnym. Badania pokazują zakres wiedzy nauczycieli na temat edukacji medialnej młodzieży, poparcie dla tej edukacji oraz opinie na jej temat w szkole.

Zestawiono wybrane dwie szkoły średnie o podobnych kierunkach kształcenia w Polsce i w Czechach.

Szkoła powinna odgrywać główną rolę w systemie *blended learning* poprzez inicjowanie i umożliwianie kształcenia zdalnego (z wykorzystaniem wyposażenia pracowni – komputerów z dostępem do Internetu oraz wiedzy i umiejętności nauczycieli).

Słowa kluczowe: kompetencje nauczycieli, technologie informacyjne w edukacji, szkoła cyfrowa.