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TRADITIONAL EDUCATIONAL TOOLS IN MODERN SCHOOL EDUCATION SYSTEM

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Abstract

The intensity of the implementation of information and communication technologies (hereinafter – ICT) in the educational process in schools abroad falls on the last half a century. In schools of our country, technologies have been used for last 30–35 years. The emergence of modern teaching aids based on computer processing of information, their widespread distribution and application in the field of education from preschool to postgraduate, allow obtaining comparatively higher results than those provided by the traditional educational tools. Information technologies, the characteristics of which are being improved more and more, and the degree of their implementation has covered almost all areas of modern human activity, have changed the views on the idea and approaches to learning and education as a process. The questions are – when and how to apply ICT, how to analyze the results, what place and role is given to a teacher, if ICT are used? What is a modern textbook? What vocabulary should be used in different regions? The benefits of using ICTs are beyond doubt. At the same time, their use carries unforeseen risks and above all others is a child health. The paper provides some practical examples describing ICT implementation, the opinions of some well-known experts in this field, including recognized world authorities. The paper material can be considered as an object for discussion by specialists in the field of education that aims to develop a unified policy regulating the ICT use for education purposes.

Keywords: Teaching aids, pedagogical innovations, teaching risks, mathematics textbook, elementary school.

1. Introduction

The modern educational process is characterized by the expansion of using modern technologies in education. The traditional form of education is being replaced by some new ones that are fundamentally different from those that have been developed over a long period within which the pedagogical ideas were in the state of the incipient development. ICT did not play the last role in this process.

2. Problem Statement

Important questions to consider are: to what extent the ICT didactic capabilities are justified to be used in a learning process, where the main player is a pupil / student, a personality who is only being under development? What is the price for high outcomes today and in the long run? What is a place of traditional teaching tools (in particular, printed books) in modern education?

3. Research Questions

More and more technology-based tools are penetrating into a learning process. Changes occur in the memory of one generation. Although some serious innovations have been rarely introduced into pedagogical approaches. Suffice it to recall the laws regulating the pedagogical innovations: irreversible destabilization of the pedagogical innovation environment; final implementation of the innovation environment; stereotyping of pedagogical innovations and cyclic repeatability (Temerbekova, Chugunova, & Baigonakova, 2015). In educational institutions, the number of technological tools is constantly increasing (computers, printers, scanners). For example, in Chechnya, almost all schools (over 480) have the interactive whiteboards. Work is underway to equip each class with computer facilities. In the mathematics school opened in the Chechen Republic in 2015, tablets were given to every high school pupil. This tendency still holds. The question arises, to what extent is this process justified in terms of ergonomic parameters and what prospects in terms of outcomes do we have?

As known, the USSR joined the work on using some computer technologies in classes, in the 80s of the last century, when computer capabilities became very popular, and their popularity, particularly in the West countries, progressed rapidly. Already at that time, the relevant departments of the USSR conducted the studies that showed possible negative consequences and determined the temporary norms regulating computer time in learning (Clarke, 2008). Then, they were 15–20 minutes a week (!). The schools used computers produced in the USSR. At that time, the author, working on the dissertation, primarily proceeded from the fact that sanitary and hygienic standards denoting the time allowing to work at a computer should have been met. No results can be accepted, if there is a threat to the health of children, even in the long term. The work was carried out in the conditions of extreme shortage of methodological literature and qualified teaching staff. The results of the experiment allowed to determine the possibilities within which this teaching technique should be introduced into the educational process, and to see an effective solution to some didactic tasks arising at classes of a certain type.

Peypert (1989): "The assumption that the day will come when the schools cease to exist can cause a sharp reaction among many people. A number of circumstances makes it difficult for us to clearly imagine a world without schools" (p. 110).

Today, technology can replace teachers in solving the vast majority of educational issues. In the future – in solving any issue in teaching and learning. The teacher's standard tools for centuries have been chalk, a blackboard, a textbook, and, naturally, a teacher himself. These tools allowed solving all educational tasks. Somewhere better, somewhere worse. Nevertheless, there were the results, and today these results are expressed in the technologies.

Everyone knows what a textbook and its functions are:

The textbooks shape abilities and skills; they set out the basics of scientific knowledge in certain subjects that correspond to the learning objectives in accordance with the program, etc. Textbooks develop thinking, and shape abilities. We do not consider other functions of a textbook, such as motivational, informational and etc. The purpose of the paper is different.

The standard textbook in the historical development of society is a print publication, where all material is presented in paper-based format. The printed edition of a textbook (book) must meet the requirements stated by GOST. Ergonomic parameters are also taken into account in these requirements.

Most importantly, the use of a paper version of a textbook has centuries-old positive experience.

Let us note such an important fact for the regions. Today, the regional authorities, who apply approved textbooks from the federal list, have unique chances due to the capabilities of ICTs to quickly adapt these technologies and publish textbooks that have been tested under the experiments within a multilingual learning model. This will allow finding more effective solutions to some specific regional problems in the field of education. For instance, not significantly, but reduce the inequality in terms of getting education, being in the single educational space of one country.

Today, an ordinary school textbook has a new format, competing one, and it is an electronic textbook. It has significant advantages over a paper-based textbook. Among them are the speed of access to the necessary information, mobility, expanded capacity and other (Broadbent, 2004).

Work on improving the electronic textbook, as well as other ICT tools, in on the way of quick development. In this regard, the question arises:

What is the role of a paper-based textbook in the modern educational process?

The dynamic changes in society in recent decades affect all spheres. New professions appear, and, on the contrary, those, which were believed to be indispensable, disappear. This also applies to representatives of different generations living in the same era. Many familiar means, and sometimes actions, are perceived ambiguously. The composition of lexical units used in communication and in study is also changing. The vocabulary of textbooks, especially in elementary school, is of great importance to understand clearly the purpose of a topic to be studied, to understand ways of learning motivation development.

Since 2009, the author has published a number of papers relating to the vocabulary of ICT in textbooks (Yakubov, 2009). He pointed out the lack of ICT vocabulary in the textbooks for elementary schools, as a way negatively affecting a learning time, especially in national schools, because a vocabulary acquisition work takes much time and this is not good for overall efficiency for learning outcomes and a learning process itself. This conclusion was based on an experimental study, conducted since 2005 to 2009 in Grozny educational institutions, which was aimed at raising awareness in ICT vocabulary level among children of preschool and elementary school age. The conclusions were

systematized in a research by the author (see Yakubov, 2013). The author carried out these studies in later years with the explanatory dictionary as a tool (Yakubov & Askhabov, 2014). They showed in dynamics an increase in awareness and practical application of lexical units in the schoolchildren communication based on modern ICT. Perhaps this process is irreversible.

Analysis of the textbooks used in teaching young children in Europe shows: "... the textbooks indicate a complete absence in the textbooks of both lexical and illustrative material related to ICT.

ICT vocabulary could facilitate understanding of mathematical tasks (Phillips & Vorderman's, 2009). It leads to the unification of the lexical content of the textbook. ICT vocabulary is also one of the most important parts of the vocabulary of modern man, regardless of age, race, religion, place of residence, etc.

This absence is especially strange, given that the development and use of information technology in these countries is significantly higher. And ICT capabilities there are carried out to a greater extent in all areas of socio-economic life in comparison with the Russian Federation" (Yakubov, 2013).

A review on the society development gives the evidence to have a different view on the problem of vocabulary and illustrative material used in textbooks and on the role of a textbook as the main school tool used by both a leaner and a teacher.

Unambiguously admitting that the ICT vocabulary is able to increase the lesson efficiency in the elementary school, we admit that the current level of the society development corresponds to the level at which schoolchildren master the ICT terminology and lexics.

"An experiment was conducted at the University of California in 2014. We organized two groups, in one group there were 54 children, in the other – 51. Phones were handed out in the first group for continuous use during 5 days. The second group spent 5 days in a children's camp in the fresh air, without phones.

After the experiment, the scientists made the following conclusions: children who spent all their time with mobile devices showed their emotions were much worse; sometimes they did not even understand how an interlocutor feels. The ability to determine correctly the emotions of people was significantly higher among children who spent 5 days in the camp. Live communication, without mobile devices, through hand gestures and facial expressions, language communication and emotions improved communication skills".

How did the guru of modern information technologies solve this problem?

"The head of Microsoft and the richest man in the world, Bill Gates, forbade his children to use smart phones under 14 years old. Many IT company leaders follow his example, understanding a risk of the negative impact done by electronic gadgets on children's health".

The emergence of computer technology on ultra-large integrated circuits (ULIC) dates back to the 70s of the last century. Environmental, climate challenges, the growth of cancer, the detection and spread of new ones became global (the first case of AIDS in the USSR was recorded in 1986, today more than 1% of the population of the Russian Federation is either sick or infected). The disappearance of the inhabitants of the planet's flora and fauna are challenges that humanity faces today. Moreover, even we have faced the danger of losing the language of many small nations. There is a real danger of disappearing to the very person who is trying to break away from his nature in the literal and figurative

sense. The slogan "We cannot wait for mercies from nature, to take them from it is our task" (Michurin, 1934, p. 21) has outlived itself.

In addition, one of the reasons for all this is a modern technology. The prospects are at least unfavorable. Moreover, it is dangerous. Adaptation of the environment to human creativity is much slower than a human creates. Man has already succeeded and continues to improve in development of different devices destructing the nature and, as a result, leading to self-destruction. The influence of people on the natural habitats of living organisms, chemical pollution, and many other factors lead to the extermination of flora and fauna. Our task is to stop it, if possible, then at least minimize the negative consequences, until the physical development of the basic anthropometric characteristics of children is completed. In particular, we have to oblige teachers to use traditional teaching aids, proven for centuries, and more or less appropriate to a human body.

"They will destroy us – politics without principles, pleasure without honesty, wealth without work, knowledge without idea, business without morality, science without humanity, prayer without sacrifice" (Mahatma Gandhi)

Measures to control the use of gadgets at school and at home are needed to develop. Measures should be directed at reduced use of any ICT in the educational process at the initial school level, at least, in pre-school institutions. Total exclusion is unlikely to succeed.

Unambiguously admitting that today ICT tools allow solving more effectively many educational problems, we have also not to ignore the fact that we will have retribution. Therefore, today it is better to do without high results, for which we do not know how to pay tomorrow.

The traditional school textbook has shown its efficiency, and even indispensability, over the centuries, and does not cause unpredictable consequences that affect the health of the younger generation. Its use should be mandatory, at least in the elementary level of a secondary school. Until all the possible negative consequences of the technology impact, a traditional textbook should remain the main tool in school education. The Russian proverb "Measure seven times – cut once" (one stitch saves nine) has a historical basis.

In extreme cases, the decision on the mandatory and priority use of a traditional textbook at school should be made by a strong-willed way. "Culture should be planted. Even by force. Otherwise, we will all collapse".

The main idea of the paper: Do not play with fire if there is no proven fire-extinguishing agent. Current practice of dissemination and implementation of technology does not provide sufficient time to prepare the resources.

4.   Purpose of the Study

The purpose of the study is to show the need of developing common criteria for ICT use in the educational process, to preserve traditional teaching tools, at least, young children, by using the vocabulary they know.

5. Research Methods

As research methods, we use the method of analysis covering the results of other studies and sources, including the Internet materials to consider the potential impact of technology.

6. Findings

A school textbook in a traditional paper-based format should keep its positions in the educational space. The implementation of the didactic capabilities of ICT in education should not be the main organization form of learning and teaching until the reliable data have been gained that allow excluding the things affecting the children's health.

7. Conclusion

The paper presents the data showing the need to limit the place and role of ICT tools in the educational process, up to the introduction of a moratorium on research with their use associated with involving children, until all the issues related to any negative effects on human health and natural environment will be analyzed and studied. Before finding such solutions, we propose to save the role and place of a traditional textbook in school education.

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