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## THE ANALYSIS OF ICT USE IN CLASSROOM

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### **Abstract:-**

*The main goal of this paper is to analyse the current condition of the ICT in the educational process in high schools. Some of the main technologies and methodologies would be identified, as well as their advantages and disadvantages in the learning process in different courses from the providers of this education – the teachers' point of view.*

**Keywords:-** Education, e-learning, E-learning technologies, E-learning specifications, dialogue, collaborative, high school.

## 1. INTRODUCTION

In the last decade great efforts have been made to integrate information and communication technology (ICT) in the educational process, but it has not been carried out with the desired dynamics. There are a lot of reasons for it among which the following are considered as most important: lack of digital learning content, insufficient training of teachers and lack of desire and motivation to follow and use the latest technologies and methodologies for e-learning. An indirect factor for reasons of inadequate integration of ICT in teaching is the rapid development of technology. Technology is developing faster than the average teachers can follow.

With the advent of ICT more educational institutions are integrating ICT into their learning systems to support and enhance the learning process [1]. Some research studied the effect of integration of ICT in classroom and define four effective functions for integration: dynamic content presentation, information access, creation and sharing, interaction and reflection [2]. The first two functions are related to using of the E-learning technologies and specifications and the last ones with collaborative tools.

In order to address above problems the papers aims to the analysis of ICT use in classroom in these two directions: E-learning technologies and specifications and dialogue and collaborative. The research conducts the analysis and development of opportunities for effective use of modern technologies that enhance visualization, interactivity, control and management of the accumulation of knowledge in training in widely available, easy and lowcost technical environment.

## 2. Overview of the latest ICT trends worldwide

Modern technologies for e-learning are the base to teach young people a new style of education, developing their skills and skills training, lifelong. ICT provide huge opportunities for education at all levels and in all sectors. There is a wide range of studies made in the sixties up to nowadays for the role of computer technology in teaching and learning and the use of computers in various forms in training systems, which are widely distributed throughout the world. ICT could be introduced in the educational sector at all levels in the system. These technologies can be used as tools to support the management and administration of the system, or may be introduced in the course of study, or specifically as objects for training. The modern focus is placed on the educational use of technology in education, on how to use them best as tools for effective teaching, which could lead to more effective learning opportunities. The main methods of use of ICT in teaching and learning include:

- Support method – technology is used to increased accuracy and performance of the work. Such tools are word processing packages, utilities for design and design programs for amateur printing;
- Research and control method – the trainee may examine, explore, experiment and build solutions. Software packages include adventure games and other simulations, databases, expert systems, statistical analysis packages;
- Management method – here the information is presented to the student with the appropriate level and pace, allowing feedback on the progress in training. This can be applied in the technical sciences, mathematical sciences, etc., where it is possible to have more objective criteria;
- resources method – technology is used to access information and other resources, either online with the capabilities of the Internet or offline using CDs and other software;
- Relevant method – technology is used for communication between students [3]. The use of ICT in the learning process can be seen as a tool for teaching and learning, by which teachers teach and students learn [4]. This can be done in different forms: exercise review of material studied, simulations, 10analysed10, seminars, tutoring systems, educational networks, hypermedia programs, knowledge control systems and other. Currently, ICT only replace the existing activities of teaching and learning. This use of replacement is expressed in one of three phases, which govern the spread of new technologies in society in general, and hence in education [5].

The three phases of the spread of technology are:

- replace – at this stage technology automates existing teaching practices;
- transition – the methods of teaching change, i.e. technology is being used for activities for which it was not specifically designed and these questioned their previous practice;
- Transformation – the introduction of completely new teaching methods.

These trends are expected to continue and to challenge many of the delivery models fundamental to formal education as it is practiced in most countries. It will be interesting for us to get feedback from the teachers for the information resources which they used in their practices.

## 3. Technology and structure of the inquiry

The construction of the text inquiry has been based upon the standard “6 – models” belonging to TSS (Testing Service System), proposed by the company TestCraft [6]. This standard was chosen because it is aimed at a wide range of users – students, teachers and employees. By model TSS could be explored the main components in the educational process [7]:

- teaching methods of disciplines;
- interaction between teachers, students and sources of information;
- practical application of the technology used;
- Methods and technologies to verify the knowledge and skills.

Following the basic principles for creating inquiry at the TSS, such a study is made up of the experience of teachers according the described and applied strategy. It consists of two main parts:

- E-learning Technologies and Specifications – are expressive tool for knowledge mastering, technology and good practices. The standards are created with the goal for easy adopting of one application to another using similar interface.
- Dialogue & Collaborative – is one of the main learning activities that is related with different communication alternatives in order to ensure students dialogue and collaboration. The application of the tools for communication and cooperation could evoke greater interest about subject in the students, they developed greater study effort and joined the course significantly more frequently [8].

#### 4. Analysis of the results of the inquiry

The goal of this research is to study the use of ICT technologies and in detail the use of E-learning technologies and specifications and dialogue & collaborative in the high schools. Four schools take part in the inquiry. Those schools belong to three countries in Europe and these are: Curt Nicolin Gymnasiet (CNG), Finspang, Sweden; Second English Language School “Thomas Jefferson” (2ELS), Sofia, Bulgaria; SOU Dobri Daskalov – Kavadarci, Macedonia; ZCS, Skopje, Macedonia. We received 46 filled up inquiries from those schools.

##### 4.1. E-learning Technologies and Specifications

The analysis of the survey shows that 26 of them don't use E-learning technologies and specifications. Most of the teachers that use them, use LMS (Learning Management System) as E-learning technology (figure 1). The platform that teachers use as LMS are Moodle, Vklass and Learnwear.

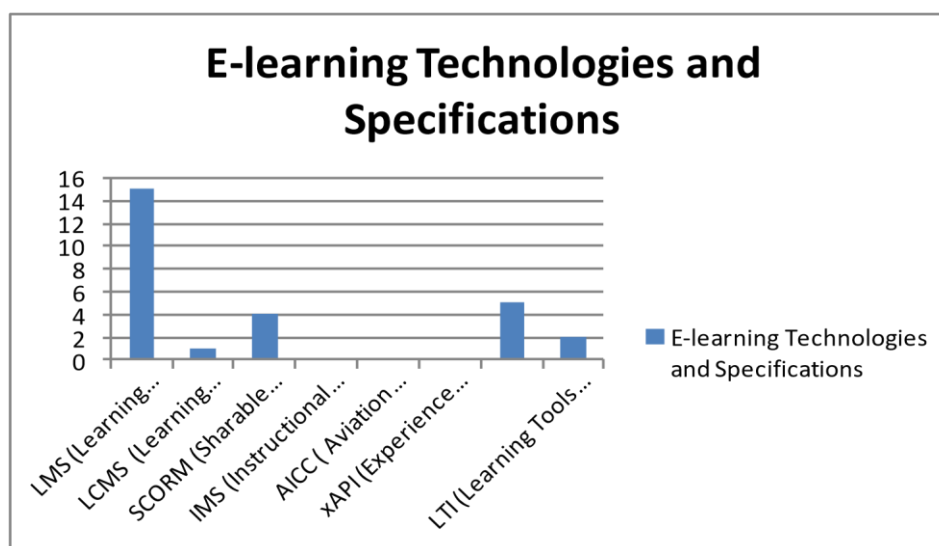


Fig. 1. Total number of teachers that use E-learning Technologies and Specifications

They use E-learning technologies in a various disciplines like English, German, Italian, Computer Studies, Electronics, Mathematics, Physics, Swedish, History, Religious, .etc.

After the developed analysis the following conclusions might be made: half of the schools and less than half of the teachers declare that they don't use the E-learning technologies and specifications for creation of learning content; the teachers are not motivated to create such content, they do not have time and so on; some of the teachers that declared that they use some of the E-learning technologies and specifications use the elearning systems for sharing documents, interaction with the students, forum and so on; just few teachers use the e-learning environment for assessment, quiz, and grades and in this way they apply some of the E-learning technologies and specifications, listed in the inquiry; content prepared according the specifications for one system cannot be transferred easily, if at all, to another; the developed learning content could be practically not reused; the use of Elearning technologies and specifications for creation of learning content ensures the sharing of the e-learning courses with tracking learners' results with the LMS, SCORM, etc.; the recorded results that follow the sharing of the learning content might be used for individual approach towards students and not only for grades.

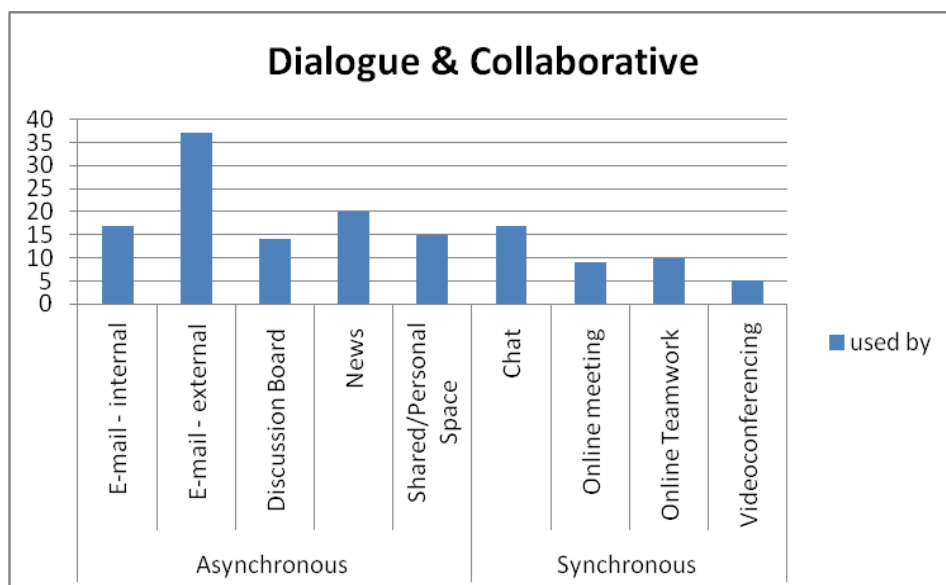
##### 4.2. Dialogue & Collaborative

We define different communication alternatives in order to include learning activities in student dialogue and collaboration. There are two categories of communication between students and teacher in each learning process. The first one is synchronous communication where the learning environment features like real-time communication provide chat, virtual chat rooms, videoconferencing, online meetings and online teamwork. Online teamwork and meeting are new forms which support work on shared documents that all the students within the team can use in real-time.

The second communication is asynchronous where both the learner and instructor are separated by time and place. In that case, the participants in the learning process can use the communication tools like: e-mail – internal or external mail; discussion board, news and shared/personal space.

Figure 2 shows the summarized data derived from surveys. With this result, we can discover that email is usually used method of communication in the learning process. The email is used in almost all subjects in each school. The teachers daily use online postal service to send and receive new, information and materials. The next are chat and news as most used communication tools. For sharing news are used Moodle and Facebook and for chat Skype, Viber and Moodle. The social network Facebook is used for educational purpose for chatting with members of a particular group for sharing materials.

Seven of teachers have answered that they don't use ICT for dialogue and collaborative between them and students and the subjects are – Philosophy, History, Geography and Chemistry.



**Fig. 2. Used of different tools for dialogue and collaborative between students and teacher**

We realized that the widest variety of used ICT tools are for online teamwork and meeting: Skype, Vklass, Google.com/doc and Dropbox. Both, teachers and students, are using web-based Google service which enables users to create and edit web-based documents, spreadsheets and presentations. In order to store documents online and access online the participants' work with Google Drive, Moodle and Vklass, where the users have personal and shared space to store information. Videoconferencing is area that has the least overlap with ICT tools. Only eight of the participants use it and the tools are FaceTime and Skype. FaceTime is a video telephony product which supports a set of related protocols for voice over IP (VoIP) developed by Apple Inc.

We can analyse the results for dialogue and collaborative activities in learning process in the following way: through the use of e-mail or videoconferencing, teachers and pupils are able to undertake collaborative projects; shared/personal spaces facilitate sharing of elearning resources between participants in the learning process; shared/personal space helps some learning resources to be assessed more easily; ICT tools can provide online teamwork and meeting which encourage pupils to explore, solve problems, discuss and consider; ICT tools for dialogue and collaborative facilitate enter and store information in a variety of forms, e.g. saving work, storing information; access to fast internet connections; differences with the interoperability over the Web; ICT tools for dialogue and collaborative help learners be creative; use different tools for dialogue and collaborative to motivate pupils and to achieve positive attitudes to learning; provide students with good opportunities to take responsibility for their own learning; identify aspects of coursework where students' individual needs can be met more effectively through the appropriate use of ICT; personal privacy – how much information may be collected about people and with whom and how that information might be shared; the trust in learning resources used from students and teachers.

## 5. Conclusion

Best practices in E-learning Technologies and Specifications and Dialogue & Collaborative in each school participant in the inquiry – as best practices we can point Skolfederation [9]. It provides infrastructure for collaboration between the school and online service providers and facilitates access to digital resources, protects user privacy and provides a secure service for members. Collaboration helps increasing the understanding of the federation and facilitates the work of its members through the exchange of experiences, opportunities to see the service and use of demo schools, as well as highlighting various good examples. The goal is to create common guidelines, and practices on how they should be applied, as well as spreading knowledge and awareness of how to use them [10].

The SIS project set up a number of impact goals [10]: the use of digital learning resources increases in school; an increased use of digital resources should provide the students with opportunities to improve their performance; both municipal schools and independent schools use compiled guidelines for ordering digital resources; service providers use the guidelines when producing digital learning resources and services; new suppliers are established and the market is expanding, both within and outside Sweden.

In this paper might be summarised that the goals set for the team have been achieved. A short overview of used methods and technologies of electronic learning (e-education) worldwide has been made and the possibilities for their application in the educational process have been stated. It has been examined the applicability of the different methods and technologies for E-learning. The appropriate tools for study and analysis have been chosen and used for analysis of the high schools technologies and methodologies. The educational process in different subjects in the schools implies multiplication of the application of ICT technologies. For the goals of the analysis the current existing environments for creating, storing and transfer of multimedia information have been used. Well known pedagogical methods, technologies and information methods necessary for computerization of education in local and global network are analysed.

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