

The Quality of Education for the Development of Information and Communication Competencies of Teachers

István Szőköl¹, Melinda Nagy²

Abstract

The field informational and communicational technologies is currently a sector which is rightly devoted to a growing, society-wide attention. Human information behaviour is part of the communication, processing and using information in society. It is reflected in the activities of finding information, in media and electronic communication, in the perception of texts in traditional and electronic forms. Modern technologies not only penetrate all structures of society, but also the lives of individuals.

This publication deals with the impact of the quality of education in terms of the development of ICT skills.

Keywords: ICT, Quality of Education, Teachers, Modern technologies, Information competencies

1 Introduction

The field of informational and communicational technologies is currently a sector which is rightly devoted to a growing, society-wide attention. Human information behaviour is part of the communication, processing and using information in society. It is reflected in the activities of finding information, in media and electronic communication, in the perception of texts in traditional and electronic forms. Modern technologies not only penetrate all structures of society, but also the lives of individuals. Today's society requires relevant literacy from the graduate to be able to differentiate information as when to localize, evaluate, and effectively use the required information.

Education therefore has a key role in society's information competencies. Education for and in the information society has two planes from the point of view of informatics (Szőköl-Albert, 2009, p. 15):

1. Education in actual computing, where computing is both the subject and object of education and the training is aimed at preparing professionals in IT
2. Education in other fields of study using methods and means of computer science, where we talk about informatization of education.

The quality of school education must be ensured on all levels and in all fields of education, regardless of any differences in objectives, methods and needs, and unrelatedly to evaluation of school excellence of where it is completed.

2 Information competencies

Computer science and information technologies are key elements in developing a modern, knowledge-based society. Information competence is made up mainly of computer literacy and information literacy.

Information literacy can be explicitly defined as the ability to locate, evaluate and use information so that one becomes an autonomous, independent and lifelong learning individual, as the ability to locate,

¹ István Szőköl, Ing., PhD., Ing.Paed.IGIP, Department of Pre-School and Elementary Pedagogy, Faculty of Education, J.Selye University, Bratislavská cesta 3322, Komárno, Slovakia. *E-mail:* szokoli@ujs.sk

² Nagy Melinda, PaedDr., PhD., Department of Biology, Faculty of Education, J.Selye University, Bratislavská cesta 3322, Komárno, Slovakia. *E-mail:* nagym@ujs.sk

evaluate, use and communicate information in all their various forms, as the integration of literal, computer, medial and technological literacy, ethics, critical thinking and communication competences (Turek, 2004, p. 186).

Computer literacy may be viewed as the ability to solve problems in the process of learning to educate and develop abilities to (Varga, 2013, p. 160):

- Distinguish essential phenomena from non-essential,
- Navigate in information and evaluate them,
- Provide necessary information,
- Select (value methods) and use appropriate methods, concatenate, or combine several methods to solve a problem, or customize whether to propose a new method that solves the professional problem
- Reflect the facts and phenomena mathematically,
- Carry out calculations,
- Use the results to resolve the issue

Such worded computer literacy, or information literacy is not only triggered by a selected group of subjects containing the expressions 'computer science, informatics, information technologies', but the complex of all subjects, the problems of which we are going to resolve, while beside the mechanical use of computers, the emphasis is on thinking about an idea, evaluation, decision making, optimization and implementation.

3 Quality of education

In the field of education quality may be understood as a normative category, which may be expressed by the following indicators: quality of educational processes, educational institutions, the educational system is functioning (optimally) / or the production of these processes and institutions. It can be prescribed to certain conditions (e.g. educational standards), and therefore be objectively measured and evaluated (Szókö, 2010, p. 63).

Factors determining the quality of education

- The curriculum
- Teaching methods, procedures and means implemented in the educational process,
- Forms of knowledge verification,
- The independent creative activities of students and their involvement in research,
- Internationalization of education,
- Personal, spatial and informational assurance of the educational process,
- Securing the study literature for subjects of the study, and more.

Using the concepts quality and efficiency are indeed very frequent, but often, without a clearer definition. Especially with the introduction of globalization, the concept of quality occurs in virtually all areas of human activities, including education. Education is a service provided by an educational institution. Firstly, it is important to note to whom this service is intended and what its purpose is. Furthermore it is imperative to understand that learning cannot be assumed clearly as an economic standpoint. The level – quality of education may be evaluated, but more subjectively, qualitatively than objectively and measurably, continuously and long term. The specifics of higher education is its 'optional nature (Varga, 2015, p. 15)'.

In education the term quality (quality management) refers to several elements, mostly to:

- **The educational system:** the basis is the quality of the country's (region's) educational system, its goals, philosophy, educational content, the structure of the educational system, principles of management and financing of education, incorporation of children, youths and adults into the educational system, the ability to achieve qualification, flexibility and openness of the educational system. To increase the quality of the educational system in a certain country, international comparability of its performance is needed through international surveys, such as PISA, TIMISS and so on.

- **School (school facility):** We explained above that the degree of quality (decrease in population – struggle for students, funding per pupil, etc.) is the key to survival (existence) of schools. Each school ought to develop its own quality management system, which would apply to all proceedings pending at the school and would include all school staff as well.
- **Teaching process:** The teaching process is the most important of all processes at school and therefore its quality is a crucial element for the quality of schools. The quality of the teaching process in the subjects they teach can also increase the individual teacher (group of teachers) if the school has still not implemented quality management.
- **Learning of pupils and students:** The quality of learning of pupils and students is the culmination of efforts to increase the quality of education. The aim should be to make pupils, students acquire rational ways of learning - learning competences, to be aware of their preferred learning style and implement it, as well as metacognition and also metalearning to implement an in-depth approach to learning. The result should be a strategically focused student, someone, who wants to take responsibility for managing their learning, which is learned, and can manage their own learning, which is able to optimize their learning in school, out of school and after their school era. Such pupils and students have the greatest chances of success in the current, constantly and rapidly changing world, because they will be more successful in lifelong learning (Varga-Kissné Zsámboki, 2015, p. 12).

3.1 Course: Developing information literacy

From our previous experience of working with students and execution of subjects in the first years it shows that students come to college with an ever-improving skills of ICT. Not always, however, are these skills sufficiently comprehensive and are usually associated only with general information literacy. Our aim is to develop these skills in students and shape subject information literacy.

The course will take the form of e-learning as part of the subject Information Society. Since we believe it is necessary to convey the students the following information as soon as possible we have chosen Information Society as a reference subject, due to its concentration on first-year students on the faculty of education.

The course is made up of five modules, each of them containing two chapters. Modules that are used as a proposal for teaching e-learning courses have specifically defined instructions for studying, introduction, module objectives, content and performance standards, instructional text, summary, auto-test, additional literature, conclusions and bibliographical references (Szókö, 2010, p. 30).

- Module 1
 - a. The main concepts of Information technologies
 - b. Using the computer and managing files
- Module 2
 - a. Text processing (Word processor)
 - b. Spreadsheet calculator (Spreadsheet program)
- Module 3
 - a. Electronic presentation
 - b. Information and communication
- Module 4
 - a. Graphic editor application
 - b. Database system
- Module 5
 - a. Information society
 - b. Algorithms and algorithmization

Individual modules are completed with a self-test summarizing the discussed curriculum. After the successful completion of this test, students will be able to advance to the next module. At any time-frame of the program students will be able to use electronic consultations (Szókö, 2010, p. 32).

The study support of each module is divided and structured so that the acquisition of knowledge and the creation of knowledge by the study participants works with maximum efficiency. Efficiency lies mainly in the fact that the study participants can fully engage in the study of the educational content, because it is not

constrained by directed learning, as the study text includes features allowing rapid and accurate auto-regulation. Participants in the study, after applying for the subject (course) receive the study materials.

4 Conclusion

Knowledge is only the basis of preferred core competencies of the individual and may not be sufficiently beneficial for individuals, even if they were associated with other components of competences. Acquiring key competencies is a life-long process. In order for these competencies to be developed qualitatively, we need to achieve a quality education system.

In applying an e-learning course the process of initial motivation, the evaluation and classification of individual modules, and the process of exposure of the new curriculum are bound to be dealt with.

For teachers to lead their students to the use of the internet in the learning process, they need to gain computer and information literacy, which means that they will get to know, understand and be able to explain the basic concepts of information technology, the use of a personal computer (PC) and work with data sets, work with a PC's word processor, create and work with tables, charts, figures, create and work with a PC's databases, create presentations, obtain information and communicate via the PC, i.e., to operate with the internet, create web pages, and handle e-mails.

References

1. SZŐKÖL, Š. (2010): *Kompetencie a štandardy učiteľa v informačnej spoločnosti*. In Hájková, E. – Vémolová, R. (eds.): *XXVIII. International Colloquium the Management of Educational Process*. Brno : Univerzita obrany, Fakulta ekonomiky a managementu, 2010, 63. s. (abstrakt), príspevok na CD-ROM. ISBN 978-80-7231-722-6
2. SZŐKÖL, Š. – ALBERT, S. (2009): *Prieskum hodnotovej orientácie pedagógov*. In Chráska, M. – Klement, M. – Serafin, Č. -Havelka, M. (eds.): *Trendy ve vzdelávání 2009: Díl I*. Olomouc : Univerzita Palackého, 2009. 14-17 s. ISBN 978-80-7220-316-1
3. SZŐKÖL, Š. (2010): *Modulárny systém výučby informatiky*. Komárno: Univerzita J. Selyeho 2010, 100. p., ISBN 978-80-89234-97-4.
4. TUREK, I. (2004:) *Inovácie v didaktike: Príspevok k realizácii projektu Milénium vo vyučovacom procese na základných a stredných školách*. Bratislava : MPC. 2004. 360 s. ISBN 80-8052-188-3.
5. VARGA, L. (2015): *Új tudomány születőben: kisgyermekkorai neuropedagógia*. In: György Juhász, Ádám Nagy, Terézia Strédl, Anita Tóth-Bakos (szerk.) *A Selye János Egyetem 2015-ös "Innováció és kreativitás az oktatásban és a tudományban" Nemzetközi Tudományos Konferenciájának tanulmánykötete*. Komárno, SR, Univerzita J. Selyeho, 2015. s.11-18. ISBN 978-80-8122-144-6
6. VARGA, L. – KISSNÉ ZSÁMBOKI, R. (2015): *Children's Vision on the World in the Mirror of Children's Culture*. In: Laszlo Varga (eds.). *Early Childhood Education*. NymE BPK, Sopron, 2015. s. 9 -37. ISBN 978-963-359-046-1
7. VARGA, L. (2013): *Az első évek örökké tartanak*. In: Kurucz Rózsa (szerk.) *Hidak és párhuzamok a 175 éves közép-európai és magyarországi óvóképzés történetében: konferencia*. 355 p., Pécsi Tudományegyetem Illyés Gyula Kar, Szekszárd : Madarska republika, 2013. s.158-169. ISBN 978 963 7305 65 8