

INFORMATION COMMUNICATION TECHNOLOGIES, EDUCATION QUALITY AND CHALLENGES FOR FUTURE

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The role of ICT in education on the whole and particularly in science education is a very important topic. The growth is characteristic not only at university level but also at other levels of the education system. It is accepted that ICT makes the process of teaching/learning more effective and beneficial whereas the education system starts functioning faster. The implementation of new technologies in the educational process raises new possibilities for both teacher and learner, enhances education quality and makes the educational process more versatile (Lamanuskas, Šlekienė, Ragulienė, 2010).

Information and communication technologies are changing so rapidly, that it is hardly possible to react properly to all changes. First of all, the speech is about technological changes. This inevitably touches education system as well. A certain technological “overloading” is felt in all levels of the system. It is especially felt in comprehensive education sector. On the one hand, a big demand remains for teachers’ qualification in ICT field, on the other hand, the pressure increases for the younger generation to possibly master technologies earlier. In Lithuania, as in the other Baltic region countries, a lot of attention is paid to ICT implementation at schools. For example, in Estonia, even primary class children are already learning programming; the state also devotes much attention to this, first of all, financially. One of priority fields in Lithuania, declared in education policy since 2000, has been information and communication technology application in education system.

On the other hand, a grounded concern arises. On the one hand, carried out research studies (e.g. ROSE international research) show, that technological education provision does not necessarily guarantee high students’ achievements in natural science and technology field. There is abundance of various level research, showing that ICT is not the main education process component. To tell the truth, in some countries, even by the form of law ICT is equalised to an exercise book and a pen (e.g., in Italy). This attitude is logical in some sense. Technological progress cannot be ignored. On the other hand, it is obvious, that technologically qualified teacher is necessary, capable of using not only the simplest functions, e.g., e-mail, internet or word processor, but also painting and drawing and task presentation equipment. In this respect, the necessity arises to look through teachers’ preparation and their continuing professional development strategy.

On 24th -25th October this year, international scientific conference “Information communication technologies in natural science education – 2013” was held at Šiauliai University, Lithuania. Conference speakers expressed not only positive ICT usage aspects, but drew attention to the fact, that there is an obvious need to look through ICT application experience in education. It is like a certain audit – the result of which – a clear response about the influence made by ICT (both positive and negative). After all, how long can we speak about ICT as an innovation; perhaps it becomes already a norm. Nevertheless, the crucial questions remain the same: What do we know about the real impact of ICT’s on student learning? What is the gender impact of ICT

s in education? Do financial resources used for implementing ICT in education correlate with the achievable education result quality? Is it necessary to use ICT in all educational situations or it is because it is fashionable and so on. ICT is not only positive. Going deeper one can see that a lot of controversial positions do exist. “ICT at school is boring” (<http://www.guardian.co.uk/education/2012/jan/09/children-computer-lessons>), “many people hold a very negative view of ICT” (<http://royalsociety.org/education/policy/computing-in-schools/>). A serious concern about ICT usage in UK was expressed by Michael Gove, Secretary of State for Education (Kershaw, 2012). Psychological consequences of using ICT are various, e.g., addictions. It has been stated, that children playing tensely computer games, are more apt to commit a crime, use drugs and isolate themselves from society and parents. After all, computer is the reason of many health injuries. Thus, valeological questions and their solution will remain urgent in future.

A very important moment is that technology progress rapidity is and it is likely to be much more rapid than society’s technological (and computer as well) literacy level. It is obvious, that every country’s social – economical development and competitiveness strongly depend on information and communication technology level. However, the ability of a concrete person to use the possibilities provided by information and communication technologies, is another thing. Such abilities of using ICT increase people’s possibilities to compete more successfully in the labour market, allow using digital marketing services more easily. This is urgent for senior people. Adult education in ICT field remains very significant. Not technological provision is more important in this respect, but formation of a positive attitude, that a person has to continually improve, raise qualification and obtain new skills and abilities. In this context, very often a fragmental action, e.g., implementation of short term projects and other activities is observed. It is no doubt, that the main aim is purposeful use of ICT in education process. Research studies and practical experience allow claiming, that pupils acknowledge the importance of information and communication technologies in educational process. ICT helps to go deeper into the subject of the lesson, the lesson becomes more interesting, more qualified, pupils’ professional abilities are trained, teaching material is better explained and the pupils themselves feel experiencing success. Thus, teachers can and have to use pupils’ demand to work at computer for learning purposes, for raising pupils’ learning motivation, for creativity development.

The opinion, that prevails in Lithuania is, that part of the problems related to ICT are determined by technical resources, computer literacy, lack of methodics and methodology, wrong attitude to the usage of technologies in general. Speaking about teachers (they are central part of education process), it is important to form an understanding, that ICT is not a thing in itself, i.e., it is necessary to use, because the others do this and do somewhere else and finally, that it is fashionable. ICT, first of all, is a didactic support seeking better education results. Not only nowadays, but in future as well, ICT have to be attractive for the learners, comfortable to use for the teachers and specially made for teaching/learning purposes. Selection process problem, in didactic respect, will get more acute, because market (producers’) pressure on education system will, undoubtedly, increase. Profit seeking in any way and by any means has overshadowed the purposefulness of ICT usage in education field, so far. So, is ICT in reality a bridge to future and higher education quality? Thus, the discussed field remains problematic (Lamanauskas, 2012). New, exhaustive, empiric research studies are necessary.

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