

DIGITAL EDUCATION: SOME IMPLICATIONS

Dear Readers!

In recent years education space is saturated with various discussions and thoughts about the so-called digital teaching and learning. New technologies consistently and rather aggressively keep penetrating into educational practice. Therefore, we have to discuss in essence the urgent problems of digital teaching, to analyse the emerging challenges both for the teachers and students. On the other hand, it would be impossible to single out any one age group people. It is urgent both for the pupils and teachers of comprehensive schools and for the teachers and students of higher schools. However, it can be basically asserted, that for younger students these questions are much more urgent. Their experience in the sphere of new technologies is varied and at the same time inadequate to current teaching and learning practice. Let's say, not a small part of today's youth use the services of various social networks such as, Facebook, Twitter and other. The problem is that very often we don't know or poorly know what the educational meaning and use of such services is. Moreover, how to effectively use new technologies which are actively used by the pupils, in educational sense? Sometimes an impression is made that existing educational practice reacts unwillingly to such challenges. It is obvious, that a rather sudden shift takes place in the system "classical pedagogy" – "online pedagogy", isn't it? There is also another shift in the system that is closely related with this shift, "from teaching to learning". It can be confidently asserted, that the latter shift is considerably overestimated and groundlessly given too much importance. Effective and productive learning is not possible without a proper teaching. These are two education system elements which are closely interrelated and influence each other. Only the weight of these elements differs in certain age periods. Therefore, a narrow and primitive interpretation of this shift is not acceptable. After all, in real educational practice also the third significant shift occurs, or more exactly, problem situation in the system "digital activities" – "non-digital activities is observed. How to keep a proper balance?

One has to agree with this, that digital teaching aids make teaching and learning process more interesting, more effective. However, this is not a direct dependency. The final result depends on the whole complex of various factors. One of them is teachers' technological competence. Another thing is also obvious, that it is necessary to develop digital literacy of the youth. Thus, wishing to help the pupils properly, teachers are expected to co-learn, model, and facilitate the development of such competencies (Greenhow, Robelia, Hughes, 2009).

Analysing this sphere problems, a lot of questions arise which have to be answered in one way or another.

- Should Digital content replace traditional textbooks?
- Does Digital content make teaching/learning process more effective and helps to achieve better results?
- How will teaching and learning quality change using Digital textbooks and other aids?
- What does it mean digital teaching?
- Do we really need a digital teacher?
- Can we describe it as the new "high art" of teaching with digital technologies? etc.



Basically, it is acknowledged that digital teaching aids make teaching/learning process more interesting, more effective (Digital teaching..., 2010). Various research works carried out in foreign countries prove the effectiveness of digital teaching content. It is asserted, that digital teaching content (DTC) develops the abilities of corporation (Bennett, Sandore, Miller, 2001), strengthens motivation, being interested in general, develops thinking abilities (Miyata, Ishigami, 2007). Japanese researchers accentuate, that such format suits very well in lower comprehensive school classes (Murai, Nakagawa, Kobayashi, Iwasaki, Matsuno, Iijima, 2009), and in general, digital teaching content application in teaching/learning process together with other technologies strengthens and deepens learners' understanding (Dani, Koenig, 2008).

It is obvious that digital teaching/learning content is one of urgent fields. The essential idea is that only digital teaching/learning objects do not satisfy consumers' hopes. The essential question is what the relation is between traditional teaching content tasks (published textbooks) and digital content. Should digital content replace traditional textbooks? Does digital content make teaching/learning process more effective and helps to achieve better results? How will teaching/ learning quality change using digital textbooks? and so on. In any case, the answers based on objective data are necessary and this creates a new research space (Lamanauskas, Šlekienė, Ragulienė, Bilbokaitė, 2011). Digital teaching/learning content, as research works carried out in other countries show, can be an effective means in the teaching/learning process. Besides, it is necessary to develop digital literacy of the youth. In the information society it becomes a priority direction in education. There is a lack of such research works in Lithuania. Quite often teachers practitioners "are experimenting" in a very limited space and restrict themselves to only individual digital content component creation, e.g., of various computer teaching programmes. Exhaustive, of a wider amount experimental research works are necessary, allowing to basically assess DTC importance in teaching/learning practice.

It is obvious that science and technology develop very quickly and schools have to react on this situation – not only at the university level, but also at the level of kindergartens and primary schools (Hrbaček, 2011). However, it would be wrong to think that new technologies will change educational practice in essence. The history shows that this usually doesn't happen. The researchers notice that it has already happened in the history that people thought that new technologies, such as overhead projectors and film-strips made blackboards and other teaching aids obsolete (Malach, Mikošek, 2004; Hrbaček, 2011). It is likely to be the case. However, **new ways, forms and means of teaching** "are coming" to comprehensive schools everyday. More often so-called digital teaching/learning aids are used for teaching needs. Equally, a lot of difficulties arise, such as the selection of proper teaching/learning content, already mentioned teachers' technological competence, technical provision of schools with the newest ICT equipment and so on. After all, whatever way the problems are solved, there will always remain the search of a proper balance in the system „ICT detractors – ICT lowers“.

References

- Bennett, N., Sandore, B., Miller, P. (2001). Enabling Real Collaboration Through Virtual Tools: The Teaching with Digital Content Consortium Experience. Presentation at MCN/CIMI 2001, Real Life: Virtual Experiences: New Connections for Museum Visitors.
- Dani, D. E., Koenig, K. M. (2008). Technology and Reform-Based Science Education. *Theory into Practice*, Vol. 47, No. 3, p. 204-211.
- Digital teaching aids make maths fun (2010). Available on the Internet: <http://cordis.europa.eu/ictresults/index.cfm?section=news&tpl=article&ID=91159> (accessed 09/05/2011).
- Greenhow, C., Robelia, B., & Hughes, Joan E. (2009). Learning, Teaching, and Scholarship in a Digital Age: Web 2.0 and Classroom Research: What Path Should We Take Now? *Educational Researcher*, Vol. 38, No. 4, pp. 246-259.
- Hrbaček, J. (2011). New Technologies in Education. *Technologia Vzdělávání / Technology of Education*, No. 6, p. 3-8.
- Lamanauskas, V., Šlekienė, V., Ragulienė, L., Bilbokaitė, R. (2011). Digital Teaching and Learning Content in Natural Science Education: Pedagogical Evaluation. *Acta Universitatis Latviensis / Scientific Papers University of Latvia* (Science and Technology Education: Trends and Main Tendencies in the 21st Century, Riga, Latvia, November 30 - December 3, 2011), Vol. 778, p. 129-137.



Malach, J., Mikošek, M. (2004). *Tvorba a užití didaktických medií*. Ostrava, 64 p.

Miyata, H., Ishigami, M. (2007). Effects of using digital contents designed for PDA as a teaching aid in an observational learning of planktons for fieldworks on a ship. *Advanced Technology for Learning*, Vol. 4, No. 3, p. 146-153.

Murai, M., Nakagawa, H., Kobayashi, Y., Iwasaki, K., Matsuno, N. & Iijima, K. (2009). The Digital Teaching Materials are Utilized for the Science Education at a Japanese Elementary School. In G. Siemens & C. Fulford (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2009* (pp. 73-78). Chesapeake, VA: AACE.

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