HEADS IN THE CLOUD: PROS AND CONS OF ONLINE LEARNING

Jiří Zounek, Petr Sudický

Faculty of Arts, Masaryk University, Brno

E-mail: zounek@phil.muni.cz, sudicky@phil.muni.cz

Abstract:

The present paper deals with possible positive and negative experiences of using online technologies in teaching and learning. Here, the word possible is central as completely generally applicable issues may hardly be traced. The aim of the paper is to highlight such advantages and disadvantages of online learning that tend to recur rather frequently in a number of pedagogical situations and contexts.

Keywords:

E-learning, online technologies, advantages, disadvantages, education research

1. INTRODUCTION

E-learning practices, similarly to other educational activities, require complex evaluation before they can be implemented in the process of teaching and learning. An integral part of such evaluation is the consideration of specific gains and losses of using particular education technologies, methodologies, etc. This consideration is rather crucial: it usually serves as the basis for various decisions whether concrete tools and methodologies could and should be applied in a specific pedagogical situation.[1]

At the beginning, we would like to stress one important premise upon which we build the following discussion. It is the assumption that there are no e-learning advantages or disadvantages which we could hold as absolutely universal. Moreover, it could be quite inadvisable to mechanically adopt patterns and frameworks which were devised and tested in a different (cultural) context. We subscribe to the idea that decisions about educational technologies should always be made with increased awareness for the full range of conditions of each learning situation in question. Any list of generally applicable advantages and disadvantages of e-learning implementation can thus serve more as a source of inspiration framing the actual decision-making processes, rather than a set of hard and fast rules.

2. INVESTIGATING THE LEARNER'S POINT OF VIEW

2.1. Advantages

Given the recent boom in the development of Internet and mobile technologies, one of the major advantages for present-day learners is the almost unrestricted access to information, knowledge and learning. If allowed by concrete copyright regulations, various study materials in electronic form can be saved to personal computers and mobile devices, so that they are readily available for quick searching and information retrieval. Similarly, such digital materials can be stored and shared among a learning

---

[1] This paper is based on the recent publication *E-learning: Learning with online technologies* (2012) by J. Zounek a P. Sudický (in Czech). The original text has been shortened and edited to suit this volume.

community, either through direct upload to a ready-made cloud storage, or distributed via a social network of any kind (both formal and informal), enhancing thus student collaboration, especially in group or project-based learning settings. Digital study materials do not take up almost any space when compared to traditional paper-based materials. Also, they can be organized into personal collections and archives as well as edited (content and form) to suit the learning needs of each particular student.

Learning enhanced by online technologies follows the principle of "anywhere" and "anytime". Personalization and flexibility are the leading keywords when we think about online-based learning. Students can choose when to attend to a particular study unit, and can usually personalize their learning schedule to a large extent (making allowances for unrelated work and family issues, etc.). Teachers can set up general guidelines and deadlines to be followed, the rest of course time management, however, remains the responsibility of students themselves. Furthermore, students can self-regulate the pace of their learning and progress according to their skills and abilities. If available, students can choose such types of study materials that match their learning styles (e.g. text, audio, and video-based materials), competency levels and personal interests. Yet another concept of student-centred active learning may be the possibility to participate on the process of content creation and course building, if adopted by the teacher.

Using online technologies, students as well as teachers can exploit the opportunity to easily share information and collaborate on a range of topics and projects. Applying quite simple tools, students can engage in peer-based evaluation and can receive direct feedback to their opinions and solutions. A certain degree of anonymity and individuality, which is always present in a virtual learning environment, can actually suit a number students better than the traditional face-to-face educational setup, and can thus boost their performance and promote improved results. Text-based online communication (chats, forums, etc.) may help overcome shyness and initial awkwardness of the exchange. Furthermore, students tend to better respond to situations in which they have more time to think about and perhaps also post-edit the individual questions, comments, and other contributions. In this way, implementing online technologies may result in increased student self-confidence, especially when application of e-learning tools closely correlates with student success in a particular course. In addition, the use of e-tools largely contributes (directly and indirectly) to enhancing student digital intelligence and IT competencies in general.

Last, but not least, reductions in a variety of expenses (travel, printing, buying books, etc.) should also be taken into account when considering the overall implications of installing selected e-learning solutions.

2.2. Disadvantages

Despite the dynamic development of ICTs and decreasing prices of personal computers, laptops, smartphones, tablets and other devices, there is still quite a considerable imbalance among students as far as material equipment and Internet connectivity is concerned. Also, even when appropriate technologies are present and available, students may lack sufficient knowledge and skills to use these technologies efficiently in order to enhance their study experiences. In particular, students often struggle to utilize various time-management, presentation, word-processing, collaboration, and other kinds of tools for personal learning purposes; a situation which many times leads to replicating old, ineffective ways of ICT implementation and

sometimes even to a complete refusal of any e-solutions whatsoever. In addition, a priori negative attitudes towards information technologies in general may present a significant block for some people, whatever the original reasons. Obviously, it would be quite a simplistic view to presume that all young people nowadays have sufficient basic knowledge of online technologies, so that their implementation would not raise any issues regarding accessibility, efficiency and overall educational purpose of these tools.

Technology-enhanced learning may also cause negative resentments with students who lack sufficient motivation and the ability to organize workload and learn independently. Some students may require strict and detailed management from their teachers; however, when implementing e-learning solutions, teachers usually expect a higher degree of activity, self-organization and independence on the part of learners. For unmotivated students with poor learning habits, therefore, technologies may become the reason for decreased productivity and worse study results. Furthermore, students may sometimes feel isolated and abandoned in the virtual environment (i.e. "lost in cyberspace"), especially in cases where there is a prolonged period of no face-to-face instruction, nor any other forms of offline interaction (e.g. in distance education programs).

Another important consideration of online learning is the issue of communication and information overload. Too many contacts and continuous communication via a variety of channels and services may cause considerable distraction preventing students from focused, concentrated learning and task solving. Inappropriately structured and delivered instruction may further lead to information and study overload (e.g. in blended e-learning courses). It could be assumed that the overwhelming increase of workload is one of the factors that spark plagiarism and electronic forms of cheating. Obviously, such practices have been present in education systems for a long time; modern technologies, however, may have unwillingly triggered a wider spread of these practices, given the range of straightforward opportunities at hand, such as camera functions of smart phones, mobile Internet connectivity, Bluetooth audio/video delivery, etc.

Finally, ICT-based education also raises some health-related issues connected predominantly to spending long periods of time working with computers. Problems such as eye-strain, back pain, lack of movement, and even mental disorders may be listed among the major considerations.

3. INVESTIGATING THE TEACHER'S POINT OF VIEW

3.1. Advantages

Online technologies provide great help for teachers in the process of setting up their instruction modules. A wide variety of freely-available, sophisticated online tools can now be used by teachers to create study materials of different modalities and purposes, ranging from standard text-based documents (containing hypertext where needed) to various image files, interactive models, and multimedia presentations. In addition, many ready-made materials and study modules can be found in a number of online databases specifically established to help teachers prepare for various teaching topics. Such materials can usually be used with minor or no adjustments (depending on particular copyright statements) and thus present great time savers. Study materials can be easily distributed to students by a number of channels: by e-

mail, on web publishing sites, in LMS, via video-conferencing services, over social networks etc. Preparation and distribution of study materials is closely connected to the possibility of post-editing and upgrading already published documents. Often, there is no need to create and upload new versions as many of the online services mentioned offer direct web-based editing, so students have always access to up-to-date materials. Typically, using online technologies also facilitates advanced archiving of study materials, syllabi, and attendance and grading statistics. Moreover, teachers may quickly set up cloud-based databases of resources, which can be tagged, linked to other materials, and supplemented by additional information, such as reflective notes.

The crucial activity of teachers, management of learning and teaching as such, may similarly be supported by a variety of online tools. One of the great advantages of using education technologies in general is the possibility to show examples and document processes which students could not normally observe in real-life settings. This may include quite a wide range of options from e.g. environmental modeling, to chemical experiments, to linguistic investigation, and encompass all kinds of educational fields. Technologies may also facilitate testing and assessment of student skills and competencies.

Recently, teachers have started to benefit from various forms of learning analytics and student monitoring (esp. when using an LMS). They may observe student activity in various study modules, display access-success correlations, and are typically offered advanced grading statistics and measurements. Such data can, among other things, serve as a basis for further course or material development, in which learning analytics guide concrete editing processes.

Online technologies foster communication among all course participants, both teachers and students. Various modalities are at hand here: text, image, and video-based communication as well as a blend of virtual and face-to-face interactions. Instant feedback among the whole group may provide a great advantage; similarly, the possibility to return to the discussion at a later stage, review contributions of others, and follow individual argumentation strategies may further support understanding and retention of a particular subject matter.

In addition, communication tools allow for outside participants to join the education process at a specifically allotted time. In this way, students are be provided with the chance to interact with field experts, teachers from other institutions, successful practitioners and others. Such activities may become a useful part of both face-to-face and virtual lesson types. In a similar manner, conferences, consultations, and meetings can be conducted exclusively online, using a variety of online technologies (internet telephony, webinar tools, screen sharing, etc.).

Apart from promoting efficient teaching practices, online facilities may be used by teachers for their own professional growth and development. Nowadays, a number of open online courses are available on the Internet, in which teachers can actively participate, deepening thus their content knowledge and pedagogic skills. Instant consultations and discussion with colleagues from different schools and other institutions may similarly be conducted in a virtual environment. Teachers may also profit from joining various online expert communities, following experts on social networks, and establishing purpose-driven groups which may combine face-to-face meetings and online resource and experience sharing.

3.2. Disadvantages

Although widely disseminated in recent years, online technologies cannot be applied to every single learning situation in a similar manner. In some cases, using online tools may even hinder learning as such. These are the cases where face-to-face instruction is essential or where learning is invariably interconnected with a workplace environment. If practical skills form the focus of instruction (working with specialized tools, various industrial processes, etc.), e-learning tools may only be of a limited use (e.g. models and simulations). Fields in which the implementation of online learning technologies might be quite challenging further include various types of practical laboratory and medical training as well as learning to play a musical instrument.

Various forms of e-learning disadvantages may become aggravated if a particular course is attended by a huge number of students with an inadequate number of teachers. In such cases, it may be virtually impossible to provide individual support and tutoring to every single student. Also, communication within such a learning group becomes quite problematic and feedback activities are usually left out of the instruction to a considerably high degree.

Insufficient teacher knowledge and skills to use education technologies present another major obstacle for successful e-learning implementation. ICT capabilities of teachers are, however, a major component directing effective and well-founded use of online tools in any learning situation. Every too often, unfortunately, teachers struggle with basic technical issues rather exploit the particular technology to the best possible advantage of their learners. In such cases, teacher motivation to implement e-learning solutions drops considerably and may lead to a complete refusal of any technology endeavours. Also, teachers often lack appropriate guidance and training, on strictly technical as well as methodological issues, i.e. on how to use a particular tools and what benefits they will bring to the classroom. Adding to that, many teachers hold strong a priori negative attitudes towards ICTs in general, and show no interest in any possible applications whatsoever; even in cases, where the use of online tools would greatly enhance the teaching as well as learning experiences.

Another contributing factor can be seen in the rather difficult and time-consuming process of preparing a quality (multimodal) study module, which would not only include texts and other materials, but would also allow for practice and real-life application opportunities. Here, technical and methodological support seems essential; otherwise, the quality of learning may decrease substantially posing questions of actual benefits of a concrete technology implementation.

Perhaps the most widely perceived disadvantage of e-learning solutions is the unavoidable reliance on technology infrastructure, foregrounding the episodes of technical breakdowns and similar occurrences. We place this argument, however, at the very end of the list, believing that most of such problems can be dealt with, in contrast to the other above-mentioned issues, in a rather straightforward fashion.

4. CONCLUSIONS

As outlined in this paper, the issue of pros and cons of online technologies in education is quite complex and not in any way black and white. Generally speaking, it is always advisable to consider the main purpose of implementing any technological solutions and the enhancements it should mean for the learning situation. In addition, there is a number of other factors to be assessed, such as the type of course, subject

matter of instruction, technical infrastructure, and technological and methodological support, to name the major ones. Sometimes, it might be prudent to retain a cautious attitude towards various new, emerging solutions and allow enough time to evaluate their possible costs and benefits. In certain cases, furthermore, the most efficient line of action might be to exclude any e-learning application whatsoever. To sum up, it would seem best to adopt a broad, open-minded view of education technology implementation observing the overall social practices of using online tools in real-life situations and reflecting the best practices in the learning environment.

5. REFERENCES

Bates, T. (2005). *Technology, e-learning and distance education*. London: Routledge.

Ellis, A., and Goodyear, P. (2009). *Students' Experiences of E-learning in Higher Education*. New York: Routledge.

Fee, K. (2009). *Delivering e-learning: a complete strategy for design, application and assessment*. London: Kogan Page.

Kopecký, K. (2006). *E-learning (nejen) pro pedagogy*. Olomouc: Hanex.

Mareš, J. (2007). Elektronické učení a zvláštnosti člověka, in Sak, P., et al. *Člověk a vzdělávání v informační společnosti: vzdělávání a život v komputerizovaném světě*. Praha: Portál.

Smith, D., and Caruso, B. (2010). The ECAR Study of Undergraduate Students and Information Technology, 2010. [online]. *EDUCAUSE, Research Study*, vol. 6. Available: http://www.educause.edu/Resources/ECARStudyofUndergraduateStuden/217333.

Sudický, P. (2010). *Přírodní pohromy - využití tématu v geografickém a environmentálním vzdělávání*. [online]. Geografický ústav - Sekce věd o Zemi - Přírodovědecká fakulta MU, 2010. Available:https://is.muni.cz/th/105945/prif_m/.

Švaříček, R. and Zounek, J. (2008). E-learning ve vysokoškolské výuce pohledem empirického výzkumu. *Studia Paedagogica*, [Electronic], vol. 13, no. 1, pp. 101-126. Available://www.phil.muni.cz/journals/index.php/studia-paedagogica/article/view/198/313

Zounek, J. (2006). E-learning a vzdělávání. Několik pohledů na problematiku e-learningu. *Pedagogika*, no. 4. pp. 335-347.

Zounek, J. and Šeďová, K. (2009). *Učitelé a technologie: mezi tradičním a moderním pojetím*. [Teachers and technologies: Between a traditional and a modern approach] Brno: Paido.

Zounek, J. (2009). *E-learning – jedna z podob učení v moderní společnosti*. [E-learning – one of the forms of learning in modern society]. Brno: Masarykova univerzita.

Zounek, J. and Sudický, P. (2012). *E-learning: učení (se) s online technologiemi*. [E-learning: Learning with online technologies]. Praha: Wolters Kluwer Česká republika.

BIOGRAPHY

Jiří Zounek (*1973) is an Associate Professor in the field of Education at the Dep. of Educational Sc., Faculty of Arts, Masaryk University. His main research interests include various aspects of using ICTs in educational practices, and in the training of prospective teachers.

Petr Sudický (*1984) is a PhD student of English Lingustics at the Dep. of English and American Studies, Faculty of Arts, Masaryk University. Apart from his main research focus on academic writing in the global context, he is interested in online education.