Overview of Potential Problematic Fields and Experience With Respect to Implementation of E-Learning in a Company and School Environment in the Czech Republic

Petr Suchánek
Czech Republic, Silesian University in Opava

Annotation:
E-learning has become a significant supportive cornerstone of the educational process at universities and in companies, where it is applied as supplementary education of the staff. At the Silesian University in Opava, School of Business Administration in Karvina, under completion of grant projects e-learning study of number of bachelor study programs received an accreditation. E-learning is applied for training in the business sector in the Czech Republic as well as in different countries. Both at universities and in companies there exist specific solutions of effective implementation of the individual e-learning systems depending on a myriad of factors derived from differences in the individual environments. The articles provides an overview of potential problematic areas, which may occur in implementation of e-learning and it is in the Czech Republic where these problematic situations have been tackled. The purpose of the article is to list basic problematic areas, each of which deserves a separate article and a detailed analysis.

Keywords: E-learning, life-long education, off-line communication, on-line communication, e-learning electronic study material, text study supports, number of students, Learning Management System (LMS), information system, computer literacy.

New concept of economy and new approach to problem-solving in all areas of the social life brings pressure for development of means through which you can easier, faster and more effectively achieve completion of particular solutions and goals. Different information and communication technologies (ICT) appear to be relevant instruments. The area which can hardly do without the ICT nowadays is education. It does not concern education at different types of schools but also the area of so called life-long education. It is evident that any university achieving any standard can hardly produce absolute specialists whose knowledge, abilities and skills gained at the university shall be sufficient for their entire life. This holds true also for lower education. The current environment is changing very fast an each employee at any level must keep learning about new possibilities of more and more modern technologies, business practices, management processes, legislation, etc. In this relation we speak about the system of the life-long education. Nearly all universities and higher education institutions and to a certain extent even high schools deal with life-long education nowadays. Even the companies on their own endeavour to educate their employees since they are well aware that in the severe competition only such a company can succeed which shall, besides other competitive advantages, gain the advantage of the educated and continuously improving employees at all levels. E-learning is a considerable means for support of life-long educational activities.

E-learning is a convenient alternative of the classical education. It can be generally observed that it does not show such an effectiveness as the classical education but it is characteristic for a number of advantages, of which the financial takes the first place. The e-learning minimises or eliminates transport, accommodation costs and other travel expenses, as well as education rooms rent costs and lecturer's remuneration, etc. The lecturer taking advantage of e-learning methods takes a role of so called tutor. He communicates with the students via an off-line communication (e-mail, electronic notice boards) or online communication (for instance chat, videoconference), where he can get involved in the discussion with students, reply to their queries, or, where appropriate, motivate them to study.

The study materials for e-learning are usually worked into so called hypermultimedia form, which means that they include besides the basic hypertext also photographs, video sequences and so on. Images, videos and appropriately written hypertexts altogether with interactivity, which should be an integral part of each electronic education material, help an easier and faster comprehension of the taught/learnt matters. As our experience indicates the intensity of the tutor's work is derived from the quality of the study materials. There is a number of principles applied for their making. It is assumed that the e-learning study material should:

- comprise comprehensible texts – all described events must be depicted in a simple manner so as to be properly grasped by the students,
- have a comprehensible structure – logical arrangement of the individual parts including compliance with the consistency principles,
- contain sufficient number of images, video sequences and so no, - images and videos often better clarify the described phenomenon,
- include interactive features – make the student actively work with the material and keep his attention,
- contain check and feedback features – for instance mock tests, where the student can verify the mastery of curriculum,
- be user friendly – the student should take advantage of the table of contents rather than painstakingly move among the individual course parts, etc.

Should the study material be worked out comprehensibly, the tutor has less work with additional explanation and specification and can devote his time to organisation matters.

Nevertheless, the goal of this article is not to describe e-learning methodology. The e-learning principles and rules as educational methods are generally recognised. A specific approach resulting form the specifications of the environment in which e-learning is always needed. It concerns school (university and higher education institute) and company environment.

The number of students is usually the first difference. If we assume a small or a medium-sized company (up to 60 staff) the e-learning implementation is far easier than at a university, where in one year of the study ensured in such a manner the number of students can be far higher. This is an example of the School of Business Administration in Karviná, which is one of the two faculties of the Silesian University in Opava, having 5,600 students altogether. At the School of Business Administration in Karviná there are currently 2,746 students, of which 250 students are enrolled in the e-learning form of study. Should we add the courses tutors, we will get to the number 300 people. At the present time these students are in three years of the bachelor study and they study "Marketing and Management" and "Economy of Enterprise in Trade and Services". Students are also offered the accredited majors "Finance", "Public Economy and Administration" and "European Integration". Regarding the study organisation, all the 300 students must have an access to LMS (Learning Management System), where a problem-free operation must be ensured. At different universities in the Czech Republic the numbers of students may be considerably different.

Under the university education in the e-learning form, it may not be ignored that the electronically processed study materials can be effectively utilised also for the full-time study forms. Practically all tutors at universities are university pedagogues and the materials which they developed for e-learning are often used in their full-time courses. In this relation, the capacity of the servers should be pointed out since in general there is a multiple increase in the number of visits of the e-learning management system. This fact was in some cases omitted in the very beginnings of e-learning implementation and the performance capacity of the system must have been increased immediately.

University education calls for transfer of far broader information. Regarding companies, a continuous training is assumed, which is usually oriented only to a specific content unit. This reduces demands for LMS, which can have a simpler structure with regard to organisation of the individual courses.

A wide offer of LMS products exists which are developed on the common, already general philosophy derived from the needs of the e-learning system, however a number of them may not be

utilised directly. Companies which develop these products practically do not cooperate and each of them endeavours to push though their product as the best one. Their prices are in some cases however rather high regarding the respective performance and it is rather the business efforts to penetrate on the market so as to achieve profit. Some companies and organisations purchase different types of systems and then ascertain that they have to invest other considerable amounts into their adjustment to their respective requirements. In some companies a situation occurred where it was found out that the purchased system for e-learning support cannot be fully used even after the adjustments.

Different systems are implemented at different universities and higher education institutes, where e-learning is used for the purposes of distant education. Even universities cannot arrive at an agreement as to which product is the most convenient for this type of education. It can be derived from our experience that at the very beginning the individual schools tried out some products which had not been sufficiently elaborated; they started using them and adjusting to their needs and afterwards none of the universities were willing to make any further changes of the system and on the contrary they push through those which they use as the best. Universities appear in this respect to be very complicated organisms, which do not accept any change, even a reasonable one. There appears one more fact, when at universities there are numerous e-learning theoreticians who discuss about didactical parameters of the courses, evaluate their individual systems without being able to make comparisons with other ones and they write articles about their advantages. A considerable inertia of the educational systems at universities can have a significant influence on the unwillingness with regard to the prospective changes. Some companies on the contrary consider e-learning as a product, which can be installed and shall keep on working. Usually they do not realise that assumption of e-learning and its effective utilisation (which shall bring expected savings and enhancement of competitiveness) may be achieved only by intensive internal marketing, change in the processes, motivation factors and so on.

The Czech Republic with its 11 million inhabitants belongs to smaller countries. The historical development before 1989 had negative effects on the language skills. Even at this time, the statistics reveal that every fourth Czech cannot make himself understood in any foreign language. Even such a factor has effects on selection of an appropriate LMS. In foreign countries (France, Germany, Canada and so on) the tradition of e-learning is richer and there exists a number of more effective e-learning systems, which have not arrived to the Czech Republic only due to the language barrier.

One of the possibilities of avoidance of high financial cost with regard to purchase and operation of LMS is development of own LMS system or taking advantage of an open source solution. At the present time, I do not consider development of own LMS to be the appropriate alternative. Taking advantage of one of the open source products is a far more elegant solution.

E-learning has to be incorporated into the organisation structure of the particular institution, not only in terms of organisation but also technologically. E-learning and its management is based on utilisation of LMS. At universities as well as in companies exist information systems, which must collaborate with the respective LMS. There appears another bottleneck which has caused several problems. Communication of these two systems must be clearly defined and controlled. There are many products for which the authors claim a platform independence. This combination of words has in many cases become a mere phrase rather than a reality and many who believed this assertion have been exposed to considerable problems or even financial losses caused by expending additional investments with regard to the adjustments of the particular system.

After a roughly three-year use of purchased licenses at LMS Tutor2000 the School of Business Administration moved to LMS Moodle, which is an open source solution. A distance education institution has been established under which a team dealing with administration and deployment of use of the particular system operates. In each semester, so called tutorials are held. They are joint meetings of students and tutors in the individual subjects (courses). Moreover, in some courses students have textual study support materials so that they can use both the computer materials as well as the textual study materials.

Despite it is assumed that the e-learning would be held using a computer and study materials in the electronic format, it is necessary in many cases that the study materials be transferred into a printed format. Not everyone is able or willing to study with the computer. In this respect we can consider that it is a generation problem, when the middle-aged people who have been exposed to the need of education are not accustomed to mere reading from the computer screen, but I am convinced that this situation shall carry on the future. The evidence of this observation is that even at the School of Business Administration in Karvina where for all e-learning courses so called distance study support materials are made. They are written according to standard which are officially acknowledged by the distance education centre of the Czech Republic and represent essential preconditions for the presentation of the content, structure and motivation features and so on. This fact can be also the single negative feature in the implementation of e-learning in companies, which are often not able to provide a deployment of education materials in sufficiently high-quality in the printed form.

The study materials in the electronic format enable one feature which is rather complicated to implement using textual materials. As it is becoming apparent students tend to prefer study materials in their hard copy as regards the explanation part and electronic format as regards the course revision, tests, samples, fill-in exercises and so on. Computer environment makes it possible that very effective, interactive and user-friendly forms of revision test and assignments be developed, using which the students are able to try out on their own to what extent they have mastered a particular issue. LMS furthermore make it possible to provide independent monitoring of such activities and the tutor is offered an overview of the continuous students' work.

In any case there is a presumption that the e-learning students show a certain degree of computer literacy. In many cases they must be able to work with the Internet, download different working files, etc. Problems of this type are commonplace in some companies. Therefore, an appropriate selection of the target group is an important aspect so that the study would be a study for the participants rather than a suffering. This is the reason why a preparatory stage in many companies includes courses dealing with essential operation of computer technologies. Of course, there exist e-learning courses where the participant works for instance with a CD and no more competence of work with PC is required but its turning on, insertion of the CD or DVD into the drive, start up of the course, whose operation may be quite trivial.

Summary

The e-learning in the Czech Republic corresponds with the development and utilisation of e-learning in the adjacent countries, Poland and Slovakia. The local development of e-learning systems commenced later than in some western countries but despite this in many cases no transfer of their experience has been observed. This in some cases has led to development of inapplicable e-learning systems. In the Czech Republic as well as in other countries e-learning is utilised in educational and company environment. In both the cases we can find possibilities of the same as well as different approaches to implementation of e-learning. After their implementation a number of aspects must be taken into account, of which the most important ones include financial cost, organisational structure, technological base, management processes and the target group. There exists no universally applicable e-learning system. It is however possible to design specific tailor-made systems which shall ensure an error-free compliance with the requested educational objectives. The mentioned problematic situations mentioned in the article may, in case of their omission, cause a number of problems from which the most fundamental include a possible increase in financial cost and failure to comply with the expected targets resulting from the requirements laid in respect of enhancement of education standard. The problems which have been observed in the Czech Republic have their counterparts in other countries as well, and there will be continuous efforts to minimise them. This can be secured by a systematic approach based on experience from the hitherto well tried and tested completed e-learning projects.