

# WHERE (WHO, WHAT) ARE THE DRIVERS FOR THE NEW MODEL OF LEARNING?

Danuše Bauerová

## ABSTRACT

The transition to the new model of learning requires changes in culture of all persons involved because the goals of students, teachers, but also institutions are changing. The goal is not the limited amount of acquired information anymore, but the lifelong journey of acquiring new and new knowledge. The way to the new model of learning leads through the gradual overcoming of partial conflicts between the old model and each new element, which is brought to learning by information and communication technologies. The paper is based on actual experience obtained during many years of implementation of eLearning and new methods and forms of university education at the Faculty of Economics, VSB-Technical University in Ostrava, and brings suggestions how institution can make this way more effective.

## KEYWORDS

Information and communication technologies, new model of learning, knowledge management, network structure of the system, holistic approach, change of quantity into new quality, culture of learning, constructivist course, learning pathway through learning management system, just-in-time education

## INTRODUCTION

Knowledge in the present-day economics gains in power to such extent that it becomes a new production element, it becomes a new production factor. The production based on knowledge requires graduates who have sufficient capacity to learn new skills and are able to acquire new knowledge flexibly. Nonetheless, the university can produce graduates of new qualities only when it can adapt to new conditions itself.

## IMPLEMENTATION OF CHANGES INTO THE SYSTEM WITH *NETWORK* STRUCTURE

The essential characteristic of systems in the era of information and communication technologies (hereinafter ICT) is their network structure. The processes are *non-linear*, the progression is realized in mutually influencing iterations and it is based on the holistic approach. The development is not realized in discrete fields of its individual parts, but in their complex interaction.

In the education system, similarly as in many other systems, the conflicts arise in the moment of the ICT implementation. Gradually, their number is sufficient for the system to transform into its new quality. How can this new quality be characterized? What is the new model of learning? Who creates it? Where does it occur?

Before we address the way of transition to new methods of teaching and learning, let us indicate goals towards which we head. Let us present some selected characteristics of the new model of learning in comparison with the old one (Table 1).

Table 1. Selected characteristics of the new educational model in comparison with the old one

OLD model of learning	NEW model of learning
Firm curriculum of a course.	Enriching the contents of a course with constructivist activities in the real time. It provides personalized curriculum.
Fixed limits (of knowledge and skills which students are supposed to acquire).	Flexible limits (Learning pathway through knowledge management system).
The good-quality contents of a course in the sense of rich source of information as the most important criterion of the quality of the course.	The quality of the course is measured predominantly by the quality of the support of students' work and leading them during the processing of information.
The main direction of the personality development is linear; non-linear elements are strictly under control of teachers.	The network structured education process; non-linear influences are controlled predominantly by students' motivations.
Checking the students' work as the primary driving force of their work.	The basis of the progression is to stimulate desired self-motivations of students.
Slow reactions, changes (e.g. to students' progress).	Fast reaction. „Just-in-time education“.
One course for all.	Individual approach. The discovery path is influenced by individual interests, capacities and possibilities of students themselves (with the “mere” support from educators).
The strict direction of educational process by a teacher.	The emphasis on students.
Individual development.	The team collaboration in solving problems. Mutual influencing of team members.
Subject-oriented education (individual disciplines).	The intertwining of disciplines.
Experience acquired in isolation.	Interconnectedness of lifelong learning.

### Iteration transition process towards the new education model

Although the usage of ICT in teaching enables the implementation of desired changes, by itself it does not mean overcoming of the previous model of learning. The iteration process of the eLearning implementation and the gradual transition to the new model is, in our university as in the others, characterized, as has been mentioned above, by the way of the gradual overcoming of partial conflicts. A particular conflict shall necessarily occur whenever a newly necessitated change is implemented into the system because the system as a whole has been based on the previous qualitative principles (principles of “traditional class”, “traditional textbooks”). The discrepancy accurse between the new element related to changes in the field of ICT with some of the components of the old system. Only when the occurred discordance is discovered and partially, i.e. as well as possible in a given level of the process, removed, does this represent an advancing step forward. One iteration is closed, another one is starting.

Everybody's way can be made easier by accepting the opinion that the eLearning implementation process in individual education institutions, and not only in our conditions, is very similar. The steps are so regular that (J. Darby, 2004) speaks about so-called generations of eLearning. The enumeration of

characteristics of individual phases (D. Bauerová, 2004) can be useful – even if we may not apprehend what lies ahead, it may be enough to look around and avoid fumbling in the dark.

### **Accumulation of conflicts “new element – old model”**

In our organization as well as in others a discrepancy surfaced immediately after one of the first steps in using computers in education which represented the mechanical conversion of the traditional study materials *into electronic form* and making them accessible to students, usually via the school network. New materials were produced and distributed on PCs, but nevertheless, they proved unsuitable for work in electronic form. Their predominantly textual shape directly predetermined them to the traditional form of study – to reading from printed materials.

This specific partial conflict even resulted in rejection of eLearning by some people. The deficiency was overcome by producing study materials designed specifically for *multimedia*. Students suddenly discovered that by printing the material they lost much of the basic information, e.g. presentation similar to that of one in traditional class, provided by animations included in the electronic material, and they started studying at the PC monitors. However, they became trapped anew.

One of the characteristics of multimedia materials are hypertext links which enable dynamic movements of students. When students use them frequently, they become overloaded by immense amounts of new information, which is presented to them to study. In accordance with the previous model, education is still predominantly based on the memorization of presented information and knowledge. However, this is no longer practically possible for unmanageable breadth of information available. Instantly, both sides of the education process experience the problem. Students do not know precisely how to prepare for an exam because they do not have a clearly limited scope of required knowledge. Teachers do not know according to which criteria they should evaluate students because the existing evaluation scale for the information memorization fails to function. The solution lies in the transition towards new working methods in the education process. The reproduction of information is replaced with *processing* and *transforming* them into knowledge.

New working methods that are necessary for transforming information into knowledge, such as developing creative authentic activities of students, teamwork and collaboration, come into conflict with the old model of *evaluation* of students and of the whole learning process. After all, to evaluate to what extent students were able to repeat what teachers had presented to them earlier was so easy and worked so well! All of a sudden, this strategy fails because it has been accepted that students get educated better by other activities than by the mere memorization. This is not required anymore, but then, how is it possible to evaluate their efforts? The solution may lie in the students' evaluation, which manages to relinquish the clear scalability of efforts. The scale from A to F gives way to the distinction *passed – failed* only. Some *motivation* tools are lost, e.g. an individual cannot excel by acquiring more points in a teamwork task than his/her colleague because the teacher usually cannot make this distinction.

How can progress on the pathway be made, what new tools can be used to increase the students' motivations? Most of them are just being discovered. However, one thing is certain – to the highest possible extent, they should use those new things, which are now gaining ground in education – ICT. It has been proven that at present students' interest grows if education is more and more accessible to them – in time, place and ability. The education directed by the good-quality system of directing education has such tools at its disposal. And there is a new conflict. In our institution do we have available teachers, and also students who are able and willing to use these new tools in their work, or is it now necessary to lead them to them? Institutions have to consider the change of *culture* in this field, they have to invest to it, they must perform steps, which motivate *human resources* to implement the changes. The non-linearity of the described process can be documented, apart from other things, by the occurrence of this conflict related to the development of human resources – it did not occur only in this line, but it affects the result of almost all iterations of the described network.

A profound conflict which in our case probably still lies ahead of us arises with the implementation of the goal of transition *from content-oriented* courses to *constructivist* courses. It is becoming apparent that the centre of a new-generation course is not in broad materials included in the course at its beginning but that the course is still being shaped during its whole duration. Learning is happening by means of authentic student activities, which the teacher only manages and results of activities bring the essential input to the course. What new dangers will arise? Such courses, even whole study fields, built in high quality in accordance with the principles of eLearning, can experience problems during their *evaluation according to the traditional criteria*, where *the quality of the course is measured by its input contents*, i.e. by the amount of presented information.

The chain of conflicts has no end, but on a given level its other links can be only presumed. However, we are on the way, and it is always useful to think about dangers lurking ahead and look forward so that the journey is as short as possible!

### **Effectiveness of the way forward**

All of us evaluate our steps and we cannot fail to see that even we did not avoid mistakes. However, were they pointless? Let us not be too critical when evaluating our own mistakes because this “mistake” was in principle inevitable on a given level. For instance, so called “conversion” of traditional study materials to electronic form and their “posting” on the internet could not be avoided by anybody whose table the computer was put onto and who got connected to the network accessible to students. The people wanted to enrich the education process but they had not had other tools at their disposal yet. However, let us not fumble in the dark more than is necessary.

It is well known fact that the most efficient tool to increase effectiveness is collaboration, which can learn from conflicts that have already been discovered and surmounted by others before us and which can provide both its own successes and mistakes to others. The collaboration was always a driving force, but in the informational society governed by elements of globalization, it is the only thing possible. The faster we humbly accept knowledge of others and the more willingly we share our knowledge, the more effectively we will progress ahead.

### **DYNAMIC SYSTEM**

The direction of the eLearning implementation as a dynamic system requires the constant monitoring of the present state. The situation is even more difficult because it requires orientation in the network structure. In connection with this fact, the division into the eLearning generations seems useful because individual characteristics of each phase can be reformulated into *criteria*. The continuous evaluation of a particular system (of our institution) according to clear criteria helps to be more effective in directing the process of transition. Criteria can be formulated – similarly as in our organization- in following questions.

- Has our institution already overcome attempt at the mere *electronization* of the traditional study materials?
- Although we are already able to produce more effective materials, i.e. designed primarily for multimedia usage, have we admitted that the production of the *contents* themselves becomes a less essential part of the eLearning courses production? Do we put excessive (often the sole) emphasis on the production of courses’ contents?
- Are our courses still based predominantly on *commands* and *memorization* of presented information?
- If we desist from the method of memorization of presented information by students, have we prepared a new system of criteria according to which we shall *evaluate* new activities of students? How capable are we to evaluate e.g. teamwork?
- Do we cling too much to *checking* work of students? What emphasis do we put on testing, examining?
- Have we already discovered at least some of the possibilities of information and communication technologies than the mere electronization of texts themselves?

- When implementing new methods into the learning process, are we limited by an unsuitably selected *learning management system* which does not allow to perform effectively desired *activities* of students, e.g. communication, team work, continuous self-reflection of students, etc.?
- Is the transfer of information and knowledge in our courses directed only by the creator of the course, or do we allow the possibility that each student creates his/her *individual pathway* for progression and that he/she can even influence the pathway of his/her colleagues, or even the pathway of us, teachers? Do we lead them to it?
- Do we educators work on our specialization not only to fascinate “the crowd of students from the stage” while delivering our knowledge, but mainly to be able to *support* expertly work of each student expertly? Have we admitted that it is also necessary to acquire many managerial skills?
- Have we thought about the possibilities of the realization of the progressive learning method “*collect – relate – create – donate*“ in our own course?
- Are we beginning to think about *new learning goals*?

Not only we did not obtained positive answers exclusively, in many cases we only unwillingly admit that these pathways are sensible. *The change of learning culture* of the education, persons being educated and the educators, which is necessitated by the constant presence of ICT, is a *long-term process*. Our efforts to clearly understand principals of knowledge management, which are the basis of the new model of learning (Figure 1), are helping us to shorten this process.

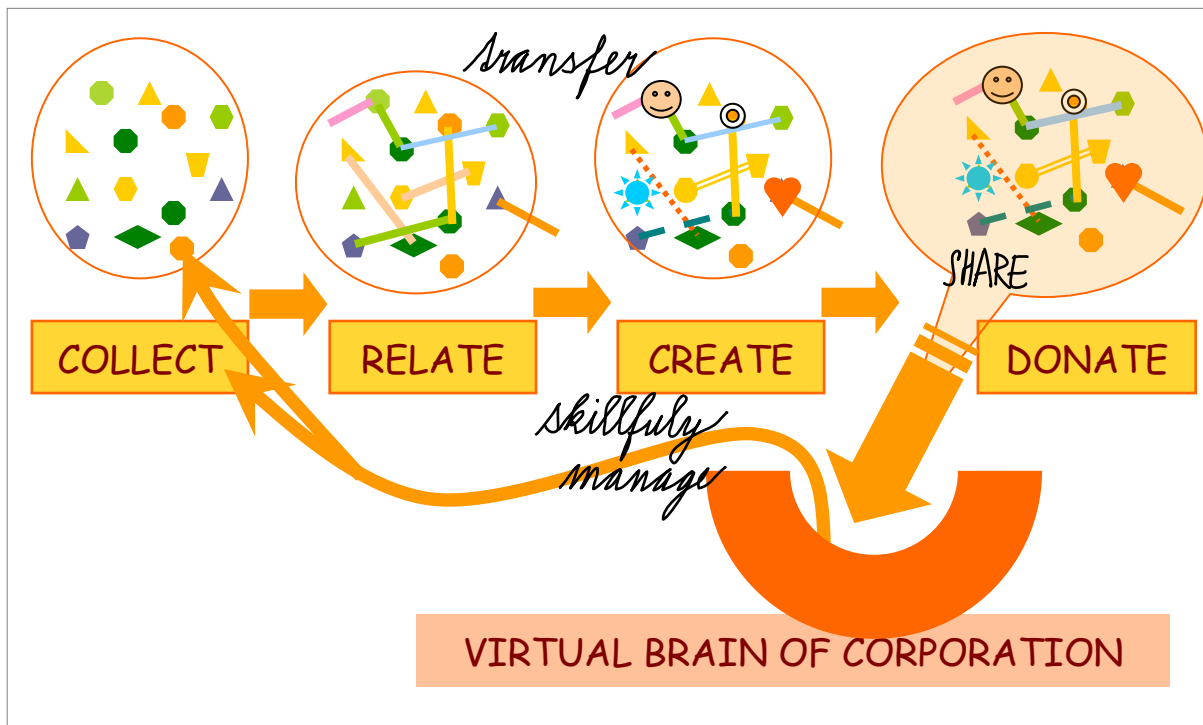


Figure 1. The learning process applying the principles of knowledge management

### WHEN DOES THE ELEARNING COURSE STOP BEING ONLY (IMPERFECT) COPY OF THE TRADITIONAL EDUCATION?

No copy can be better than the original. To copy the model of the traditional class with new technologies would be the same futile attempt. To implement new technologies without changing the existing learning culture would mean to strive for the impossible, to strive for the transformation of the traditional class. As has been already stated, not only the contents of the learning process are changing – from delivering and reproducing information into processing of information by each student into their own knowledge, but also the *role* of educators is changing. They do not enter the class to flabbergast students by the breadth of presented information but to *assist* students in their activity called *educating*

*themselves*. The functions of a teacher as a deliverer of information and an evaluator of results are being reduced and his/her managing function is being emphasized.

### **Knowledge management as a basis of the new educational model**

The new educational model is based on knowledge management. The acceptance of new learning goals is possible after knowledge has been rightly understood as an exceptional entity. "Knowledge can be regarded as the only unique resource that grows when shared, transferred, and skilfully managed." (Figure 1).

What does it mean „to share, transfer and skilfully manage“ in our conditions? Let us emphasize individual points of the above-mentioned definition and let us try to place them into the eLearning implementation process in our institution. What is our most topical goal, what distinguishes between institutions which advance forward and which procrastinate must immediately surface. The vicious circle of the traditional education cannot be overcome by anybody who shall not find tools to *share* his/her newly acquired knowledge, who shall not realize their effective transfer to others. It is only the effective management of our common sources – how else than by using ICT – which shall allow us to breach the barrier of the new education model. However, this cannot be provided simply by finer technologies, but only by the ability to use indicated possibilities which those technologies provide us with. This ability is not altogether self-evident, it is necessary to develop it and nurse it. Only an individual or an institution which proceeded to the new culture are willing to "share and provide" their knowledge "for the skilful management by others".

### **CONCLUSION**

The present generation of eLearning is based on knowledge management. Our goal is the system which becomes an environment for the realization of the process of creation, preservation and accessibility of continually acquired knowledge. Learning activities of the new model cannot lack any of the following steps: (a) gathering information, (b) putting them into context, (c) transforming them into knowledge, and finally (d) sharing of new knowledge with other participants in learning process.

Let us admit that some have already advanced farther. That, which is presently our actual goal, can be elsewhere already thing of the past. We are striving towards something but elsewhere they already know, that this path is not the correct one. Let us try to understand, why our present goals can be elsewhere already identified as "most frequent mistakes of eLearning" – Let us remember them well, and then our path will be more direct and more effective. The most frequent mistakes of eLearning are:

- Blind implementation of the old model "Class", "Textbook".
- Clinging to checking work of students (adaptive sequence, using "next").
- Excessive emphasis on the content of the course at the cost of constructivist activities of students, i.e. implementing learning objects in a considerable extent as units for delivering the contents.

The new goal both of a teacher and an educational institution is to provide more than a course overloaded with infinite amount of information which students have to acquire. The goal-in our organization as in many others, only now being obtained-is to create an individual „learning pathway through knowledge management system“ for each student. The role of a teacher is "merely" to support students on this pathway. And it is very difficult, especially for the teacher – to retreat to the background and mobilize all one's strength for appropriate support of students!

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Danuše Bauerová  
The Centre of eLearning VIRTUNIV  
Department of Mathematical Methods in Economics  
Faculty of Economics  
VSB – Technical University Ostrava  
Sokolská 33  
701 21 Ostrava  
The Czech Republic  
Email: [Danuse.Bauerova@vsb.cz](mailto:Danuse.Bauerova@vsb.cz)