Objectives for E-Learning: The Individual Perspective

Emőke Takács
Geoview Systems Kft, Takacsemoke@yahoo.com

Toon Abcouwer
University of Amsterdam, abcouver@uva.nl

Follow this and additional works at: http://aisel.aisnet.org/siged2016

Recommended Citation
http://aisel.aisnet.org/siged2016/10
OBJECTIVES FOR E-LEARNING: THE INDIVIDUAL PERSPECTIVE

Emőke Takács
Geoview Systems Kft
Takacsemoke@yahoo.com

Toon Abcouwer
Informatics Institute
University of Amsterdam
Abcouwer@uva.nl

Abstract:

How can you quickly and efficiently acquire the knowledge and skills you need to succeed in your work and life? This article shows the how an individual can take control of the learning process and find the best available methodology and tools that fit their needs.

Using examples from our recent sport science research project, this article illustrates how focusing on the individual can influence the requirements for eLearning. The examples show how individuals embody the roles of practitioner, researcher, tutor and student. Using this approach we can craft a personalized approach to eLearning that is tailored to the needs of each individual.

Keywords: individual learning, lifelong learning, roles approach to learning, social innovation in learning, non-linear learning
I. INTRODUCTION.

Learning is defined as "gaining / acquiring knowledge or skills by studying, experiencing, or being taught." This dictionary (Merriam Webster, 2016) definition stresses that learning mainly has to do with an individual getting access to knowledge or skills to be able to fulfill any task or objective. These tasks and objectives can be defined very broadly. In a certain sense, knowing or getting knowledgeable can be enough reason to learn, and people have to take into account that the requirements regarding what to learn will change constantly.

Looking at learning in our contemporary, highly dynamic, times means that learning is a continuous process for every individual to ensure that the availability and use of knowledge and skills will be optimized and updated. The dynamics of change means that there is a constant uncertainty about how knowledge flows in the learning process. In fact, knowledge flows in two directions. Sometimes you have to search for knowledge on issues you do not know the answer for, and sometimes you have knowledge that can be valuable to somebody else. In this sense, every individual can be the source of the knowledge, as well as the receiver of the knowledge offered during the learning process. This leads us to the following central research question that will be the researched in this paper:

How do an individual’s subjective needs and perspective influence learning?

The article will first focus on our discussions about our changed view on learning, whilst in the second part; we will elaborate the impacts on eLearning.

II. LEARNING AS THE PROCESS OF STREAMING OF KNOWLEDGE

As mentioned in the introduction our research focuses on knowledge streams relevant for understanding the process of learning. In fig 1, Knowledge streams, the view on the streaming of knowledge of Bertrams (2003) is shown. The actual streaming of knowledge in practice is highly individual and change in time.

According to Bertrams the terms have the following meaning:

- **Absorption**: the process of acquiring external knowledge
- **Generation**: the process of generating new knowledge
- **Exploitation**: using available knowledge
- **Diffusion**: linking pin between the other three processes by taking care that the available knowledge is accessible for the organization/individual. It requires creating transparency

Example 1:

I play sports for fun, but I am always surprised when I meet athletes at sporting events and discover that many take a scientific approach to their game. It is a good reminder that you are more efficient when you are more prepared, not just physically but mentally as well, - knowing ahead of time what to do and how to do it. This is what real sport people are aware of, - unlike me. So, after the difficult start of asking ourselves "How" and "Why" to use eLearning in the education of sport science, the team of researchers have realized that studying sport is not only practising. eLearning does have an important role in sport studies, actually it can save time for practising, and may offer a more efficient solution for studying then in a traditional classroom setting. Asking students if they would be happy in case of introducing eLearning in their studies, we received a “definitely yes” answer.

Now, we have tried to find the way to the best systems and best methodology. Soon we realized that a single “best” approach does not exist. We had to dig deeper in the topic.

Emőke Takács
between knowledge ownership and knowledge request (managing connections) and by organizing the knowledge (managing content)

![Figure 1 Knowledge streams Bertrams (2003)](image)

Example 2:
As an example we have chosen Alexandra Béres, a popular athlete in Hungary, who besides being a fitness world champion, she is also a promoter of health and sports in Hungary, using all kinds of tools to reach the population. She offers sport facilities with all kinds of activities for children and adults, runs a chain of fitness clubs, developed a lifestyle program that can be downloaded from her webpage, and also gives consulting, delivers sport DVDs, and healthy food. She also believes in life-long learning, practicing the roles of practitioner, researcher, tutor and student. (Béres, 2016)

The above mentioned issue became apparent when we were working on a research project on learning and the role of eLearning in Sport Science. The focus in the research was on the methodologies for measuring the efficiency of the eLearning systems used in higher education with the objective on “Strengthening the Sport Science Higher education in Hungary by international best practices by means of eLearning” project financed by European Regional and Social Fund in the “Renewal of the Society Operational Program” of Hungary (Gál Ferenc College, 2016). In separate text boxes we show individuals in the sport world experiencing different learning requirements in different phases of their lives. The actual learning process of an individual changes in time and makes it necessary to play different roles in the process. In this sense it is necessary to make a distinction between a role and a function. A function in that respect is the combination of the roles that an individual is actually playing. By focusing on roles instead of on functions, we better understand this learning, and also the awareness that people have of the different roles in the learning process. Based on this approach we focus on the role that eLearning plays in facilitating the learning process.

In our Sport Science research we started with an analysis of the traditional eLearning tools used in the field of sport science. We have raised many questions, like:

- What can we teach on-line?
- What are the possibilities to use eLearning in the education?
- How to choose the right eLearning system?
- How to ensure that the chosen system will be successful and transfers the knowledge between those involved?
Studying accreditation reports in different sport science curricula (Hungarian Accreditation Committee, 2014), we saw that ALL the courses have many subjects that can be taught using eLearning. This led to the conclusion that it does NOT matter what type of knowledge we wish to transfer on-line or in IT based curricula. Compared to other research fields, in sport sciences a higher focus is on skills and attitude, resulting in focus on learning about movements for example, linked to studying anatomy. It means that a combination is made with a focus on skills and knowledge supporting these skills.

As shown in the examples described in the text boxes, the specific setting of the learning requirements in the sports science world are highly influenced by the in-time changing requirements for knowledge and skills with a focus on a balance between acquiring knowledge and skills and sharing of gained experiences to others. Compared to the traditional learning settings in Sport Science a different balance has to be found between acquiring knowledge and building up skills compared to learning in a more traditional approach. As we will see, finding that different balance will make it necessary to use other learning theories.

We start with an analysis of the process of knowledge/skill transfer in learning by using a role approach, which is based on the Learning by Sharing theory, as introduced by Thijssen, Maes, and Vernooij (2002) and Bertrams (2003). After that we analyse the different learning theories. Based on these insights we will focus on getting a better view on the role of a supporting eLearning environment in current day life. An individual approach is used; the main focus will be on the impact learning has on the individual who both is seeking for extra knowledge/skills but also can be the source of valuable knowledge to others.
III. OUR VIEW ON LEARNING

In 2002 Thijssen et al. (2002) introduced the Learning by sharing model.

![Figure 2 The original Learning by Sharing model](image)

In this model the focus on the process of learning introduces the use of roles in learning. The roles of Student, Practitioner, Teacher and Researcher are introduced. The exchange of knowledge, building skills as well as the development of an exploring attitude are key elements in the learning process.

In an extension of the learning by sharing model, in which the roles of the teacher and the researcher are combined, the following implication of this approach towards learning styles are identified (Thijssen & Gijselaers, 2006).

![Figure 3 The adapted Learning by Sharing model (Thijssen & Gijselaers, 2006)](image)
Three types of learning are identified in this respect. The learning styles can be described as follows (Thijssen & Gijselaers, 2006):

- **Learning by investigating**
  As far as research (learning by investigating) is concerned, the direct link between the scientific world and the business community enables researchers to identify areas in which to conduct truly relevant and innovative research. This ensures the production of useful knowledge, that is, knowledge useful for practitioners (Argyris & Schön, 1996). The notion of researchers as practitioners refers to the empirical testing of a theory, after which it can be adjusted according to (business) practice. In this way, applied research becomes research that matters for business practice.

- **Learning by experimenting**
  The basis for deciding whether or not the accumulated knowledge is valuable can only be found by experimenting. Learning by experimenting is thus an important aspect for the intellectual development of the individual involved in the learning process (Winne, 1997).

- **Learning through practice**
  On the moment that the relevance of the accumulated knowledge is proofed to be valid, the operationalization in actual behaviour has to be practiced. In this final phase in the learning process the knowledge is internalized in actual behaviour and also in extension of the action repertoire the individual can use (Handley, Sturdy, Fincham, & Clark, 2006).

To summarize the above mentioned types of learning, the learning by investigating style focusses on building knowledge and acquiring skills. In learning by experimenting proofing the relevancy of the knowledge and skills is the main objective. In learning by practice the focus is on building competencies to understanding when and how applying the knowledge and skills is the most appropriate. This aligns this view on learning with the in Europe widely used Dublin Descriptors, the European Qualifications Framework for the Higher Education Area as formulated by the European Consortium for Accreditation (http://ecahe.eu/w/index.php/Dublin_Descriptors).

**Roles in learning**

In line with the learning-by-sharing model, as also mentioned before, the following roles are relevant:

- **Student role** – focus on learning
- **Teacher role** – focus on linking the knowledge and knowledge development to practice
- **Researcher role** – focus on knowledge development
- **Practitioner role** – focus on applying knowledge

In fig 4 These roles are presented as well as their interrelations. Below the roles are described in more detail.

**A student** is looking for knowledge and skills on a permanent basis to develop him/herself.

For a student it is relevant to get access to relevant knowledge. In this respect we have to make a distinction whether the knowledge is available already or that new knowledge needs to be developed. Answering these questions is necessary where to get the required knowledge. For known knowledge the teacher will play an important role. For not yet known knowledge the researcher has to be involved. In both cases eLearning will play a different role.

**The objective of the teacher** is to educate students about subjects, which he or she has studied specifically and which are relevant to the students appreciation of the discipline.

The teacher is responsible for the actual transfer of knowledge from the sources of knowledge to the student. In case the knowledge is already known, it might be stored in any form of a knowledge system, possibly as part of an eLearning system already. In case the knowledge is not
yet available the teacher will have to consult the researcher. Development of new knowledge is not a task for the teacher.

The relation with the researcher is crucial as source of knowledge. The teacher knows what the requirements are regarding knowledge development.

![Figure 4 An overall view on roles and learning](image)

It is the role of the teacher to translate the knowledge into practical educational programs.

Introducing the researcher makes clear that permanent attention is necessary to increase the knowledge which is relevant to the discipline, sufficiently important and not trivial.

The main objective of a researcher is thus to develop relevant knowledge. He/she has to deal with the issue that the knowledge has to be scientifically rigor. New things have to be developed even before the actual value of that knowledge is proven. But only a scientific rigor doesn’t make the knowledge relevant. Actual relevance should be a major criterion to decide what knowledge should be developed. The researcher has to find a balance between scientifically rigor research - but in some cases completely irrelevant knowledge - versus knowledge development that is relevant in practice but not really scientifically new. We also have to make a distinction between development of new knowledge versus getting access to already known knowledge available anywhere in the (scientific) world.
Where the teacher is actively involved in building knowledge the **practitioner** is the one for which the (new) knowledge should be relevant.

In a certain sense it is the role of the practitioner to bridge the gap between the sources of knowledge and those who want to apply knowledge. The link of the practitioner with both the researcher and the student is crucial where an optimization of the learning process is at stake. Based on his practical experience the practitioner knows what knowledge is relevant. He/she will be able to translate this into an actual educational program that is relevant for the student. The contact with the student is crucial to understand the requirements of the student. Based on his own experience the practitioner is the person who will be able to translate the requirements of the student in actual learning programs. There the teacher role will take over again.

Mind again that we made a distinction between functions and roles. It is this way how an individual deals with the different roles. So roles themselves are abstract descriptions of the logic behind what takes place in real practice. A function is the actual combination and is always a combination of different roles executed by an individual. A function may also change in time by combining roles in a different way. Roles are logical defined and relatively constant.

Thijssen et al. (2002) state that one of the challenges of education is the shift from classical sequential education, between ages 4-23, to the lifelong education of today. With this change, the roles an individual learner takes will expand. Next to the traditional teacher and student roles the practitioner and researcher roles are added to the educational process. Combined with a constructivist perspective on education, an individual learner will take on different roles at different moments during education. In this way roles used in the educational practice can change dynamically over time.

**Linking the roles - summarized**

![Roles and knowledge streams](Figure 5 The roles and knowledge streams)
Using the theoretical models and the descriptions of the roles as described in the previous paragraph, organizing the knowledge streams requires that the different roles are organized accordingly. This is represented in figure 5. The roles identified in the learning by sharing model have to be assigned to people to ensure the transfer of the knowledge. The Absorption and Generation processes are normally spoken assigned to people playing the researcher and teacher role. Exploitation is mainly relevant for people playing the practitioners role and the student role to gain knowledge and understanding to be better prepared for future tasks.

Diffusion is mainly organized as a responsibility of those playing the teachers, researchers and practitioners role.

Summarizing the above the actual knowledge flow and the relevance of the interaction between the roles can be described as follows:

- **The researcher**-role is responsible for developing new knowledge and skills. Both external (anywhere in the [scientific] world) and internal (as a result of own research or based on [re]combination of knowledge inside the actual setting) sources can be used in this respect. We assume that the development of knowledge will mainly be based on relevance arguments which will be supplied as input from the practitioners’ role.
- **The teacher** role is responsible for organizing the transfer of knowledge to those playing the student role. It is important that the available knowledge is organized in such a way that it can be used as input to spark the learning process for those playing the student role. Therefor it is necessary to acquire access to the knowledge. This is based on relevance arguments originating in the practitioners practice.
- **The student** role is mainly focused on acquiring knowledge that is made available in the learning process by those who play the teachers role. Objective of the person in a student role is to reach a higher level of relevance for working in practice.
- **For the practitioner** the final influence on learning is on helping increase relevancy for individuals in a practical setting.

This description of the actual learning process by means of the relevant roles shows the cyclical character of the learning process. On a certain moment an individual has to change roles when the accessibility of new knowledge sources is required.

In this phase of the reasoning we will have to link to the different learning styles, the subject of the next paragraph.

### IV. LINK TO LEARNING THEORIES

Based on the insights as mentioned above we have to be aware of the fact that different learning styles may be relevant. Based on earlier research (A. W. Abcouwer & Smit, 2007; A. W. Abcouwer & Truijens, 2004) the link to the four main learning theories are made.

- **Behaviourism** – the focus here is on learning specific behaviour and the development of a behavioural repertoire that offers the individual the ability to act using counter measure/interventions given a specific situation (Skinner, 1958, 1972).
- **Cognitivism** – development of knowledge is here at stake, to know what and why regarding actions taken (Valcke, 2000).
- **(social) Constructivism** – here a balance is sought between knowledge requirements and knowledge offerings. Key is how to find a balance between what a student wants, a researcher can offer, a practitioner finds relevant an a teacher can educate (Bartlett,
This makes learning to a process for developing meaningful concepts on the basis of exchanging experiences in a realistic context (Cox, 2005; Kolb, 1984; Kral, 2005).

- Connectivism – focus here is on where we can find the relevant knowledge. Knowledge is recognized to be a mix of scientific knowledge and practical relevant knowledge (Chen, Wu, & Ma, 2010; Siemens, 2004).

Looking at the description of the roles in learning as described above, it becomes clear that the different learning theories focus on different parts in the learning process. In general behaviourism and cognitivism will mainly cover the knowledge transfer part of learning process. In many cases (among others the traditional linear learning approach) the roles assignment to individuals will be fixed. Someone is teacher or student; the knowledge transfer is accordingly.

(Social) constructivism introduces the learning process as a social activity where all partners are necessary to have input in the learning process.

Connectivism introduces mainly the focus on the dynamics of the process. In that view learning means being connected in a network. The interaction between the partners in the process is in that view more important than the actual transfer of knowledge.

V. APPLYING THESE INSIGHTS INTO PRACTICE

Below the implications for learning using this new approach are illustrated. Important in this respect is the identification of the actuality of the roles in the specific context. Applying the approach to actual settings starts with the identification of the roles that are current. The approach assumes that in a specific setting it is possible to identify the balance between the roles. Based on a static analysis of the context it is clear that a balance between the roles has to be determined. This balance in roles offers a specific setting in which learning requirements for that setting can be fulfilled. Aside from this static analysis an analysis of the dynamics relevant in the specific case has to executed. In time different settings will become actual with accompanying different learning requirements. This makes a different combination of the learning roles necessary. Based on this analysis learning has to be organized in a different way. With the insights developed along the above lines of reasoning we can also ask ourselves the question how these different processes can be facilitated by appropriate eLearning facilities. In the next paragraph we will further elaborate on this topic where we will present a number objectives modern eLearning environments would be able to fulfil.

Learning in example 1: learning as a normal sports amateur.

Enjoying sport is always accompanied by a desire to enhance sport performance. Every amateur sportster will search for opportunities to learn from others. Improving knowledge and skills in the specific sport field means looking around, exchange information learns for colleague sportsmen etc. As a starting sportsman the actual learning role in many cases will be that of the student. The focus in that case will be on acquiring knowledge and gaining advantage of experiences of other sportsman. The learning process in this phase on development will in many cases have a cognitivist of behaviouristic character. Learning will take place using learning through practice approach or in some cases a learning through experimenting approach. In general eLearning facilities will have to facilitate the learner by making available access to knowledge and exchanging information about skills from more experiences sportsman to the inexperienced ones. In time the learner will gain a higher level of experience and will thus be able to play the role of experienced sportsman. In that respect the role of teacher and practitioner will become more important. In actual practice the use of all kinds of social media facilities will be used to exchange information. In general, in time a broader and richer set of roles will become relevant for the sport amateur.
Summarizing the accompanying view on learning raises a.o. the following relevant question that needs to be answered when choosing an eLearning environment.

1. What are the roles of the people involved regarding the learning setting they are in?
2. What are their objectives, what are they striving for?
3. What is the most appropriate eLearning environment to facilitate the learning style that is most relevant in this actual situation?

Learning in Example 2: a specialist as source of knowledge and skills

In the second example we introduced Alexandra Béres as highly experienced athlete. She sees that her role is to share her knowledge and skills as a specialist/practitioner to help people to improve their health. Sharing her experiences induces her playing a role as teacher. For many people she plays an inspiring role and she is in a constant search for ways of sharing. All kinds of ICT facilities will be used by her to fulfil that task. Websites, drill and practice programs, you name it, will be used to play that important role in the Hungarian setting. For her this is her main source of income. But she also will have to work on a continuous base on expending her knowledge and skills. In that respect the roles on researcher and in her contacts with experienced trainers also the role of students are relevant for her. In her specific case eLearning has to deal with the process of capturing knowledge and skills to make them available for her students. Expending the knowledge and skills base is in that respect a crucial functionality for her. In the different learning settings of this professional athlete the setting of her being a teacher leads to a situation where behaviourism and cognitivism are appropriate learning styles where learning through practice is an important approach to learning. In cases where she has to work on extending the knowledge base she herself will use the learning by investigating style of learning. The following research questions will have to be answered:

1. What is the most appropriate learning style that has to be followed?
2. How do they manage the knowledge and skills that forms the basis for learning?

Learning in example 3: children with overweight.

This example sketches a rather broad field of issues. To illustrate the impact on learning we will give two examples. These examples illustrate that the choice for a one-size-fits-all eLearning environment is not possible. The two examples are:

Case 1 Weight gain

A student wants to learn a repertoire of countermeasures to be able to deal with practical issues at stake. For example he/she is facing an unacceptable weight gain.

- In this situation he has to learn specific behaviour to deal with this issue.
- He/she is not searching for scientific knowledge. Whether or not a specific approach is useful from a practical perspective is relevant but the main focus will be on how to apply this theory to deal with this weight gain.
- In this specific example the choice of relevant intelligences is obvious. Linguistic intelligence doesn't make much sense here. Bodily-kinaesthetic intelligence the more as well as intrapersonal intelligence.

In this practical situation a behaviourism learning style seems to be appropriate.

Case 2 new learning demand

Another example, a teacher is in contact with a student who came up with a problem he/she had never faced before.
In this specific situation the teacher has to consult a researcher what approaches from a scientific point of view might be applicable. Also a consultation of a practitioner might be at stake. Does he/she have any suggestions from his practical experience how to deal with this issue?

In this case other intelligences are at stake. Interpersonal intelligence and logical mathematical intelligence sound more logical here.

In this specific case an appropriate learning style appears to be(social) constructivism or connectivism. Questions that can be raised based in these examples are a.o. the following:

1. What are their objectives, what are they striving for?
2. What is the most appropriate learning style that has to be followed?
3. What is the most appropriate eLearning environment to facilitate the learning style that is most relevant in the actual situation?

The above mentioned cases are only used as examples for the broadness of the learning setting. The questions raised by no means intend to give a full overview of the issues we will have to answer. We use these question her only as an illustration for questions that will be raised when trying to answer the question what eLearning environment fits best. It makes clear that in different settings completely different requirements can be formulated regarding the eLearning environments that can facilitate the learning requirements.

In the final paragraph we will come up with an overview of some requirements and objectives eLearning should have to fulfil.

VI. THE REQUIREMENTS REGARDING AN E-LEARNING ENVIRONMENT

A central question we have to answer is whether or not current eLearning environments are able to facilitate the roles approach for learning as described in this article. Previous research (A. W. Abcouwer & Smit, 2007, 2010) already showed that traditional and often used environments are mainly focusing on behaviourism and cognitivism as theoretical basis. In case of a (social) constructivism or connectivism learning approach the actual cooperation between individuals involved in the learning process gains much importance. In many cases this attention on cooperation is covered by including the use of social media like Google Drive, Dropbox, Facebook, Twitter etc. It makes clear that the choice of an integrated eLearning environment is a complex one. Different approaches tried to developed a model to rationalize this process of choice. In our sports science project we tested a previous developed method of choosing based on a matching approach (A. W. Abcouwer & Smit, 2008). Even though this approach uses the learning theories as basic measure for choosing, in practice the availability of eLearning environments (in our research we studied around 140 different eLearning environments) is limited in facilitating the roles approach. Further research on requirements for learning is necessary and new eLearning environments have to be developed. In this article we will end with an indication of the requirements/objectives a modern eLearning environment should be able to cover. By using these objectives the relation between role, learning style and management of knowledge and skills will be better covered.

Implications for the choice of an eLearning environment

Summarizing the questions raised in the examples in the previous paragraph the choice of a learning environment can be based on the following main questions:

1. What are the roles of the people involved regarding the learning setting they are in?
2. What are their objectives, what are they striving for?
3. What is the most appropriate learning style that has to be followed?
4. How do they manage the knowledge and skills that forms the basis for learning?
5. What is the most appropriate eLearning environment to facilitate the learning style that is most relevant in the actual situation?

Based on these main questions three main objectives can be formulated:

- Acquiring and unlocking of knowledge and skills
  The accessibility of knowledge is key in a modern eLearning environment. In traditional eLearning environments this requirement is also recognized but in many cases the used knowledge base in these environments is rather static in nature. The dynamics in the development of the knowledge and skills base, where the source of new insights can be really broad, is not recognized in traditional approaches. As part of our research we are developing an ontology development environment to make increase the flexibility of the learning environment (Weber, Neusch, & Vas, 2016).

- Focus on the roles approach to the actual learning process
  As illustrated by the examples earlier in this article we made clear that every individual involved in the learning process can play every role. Organizing the actual learning process is in this respect quite different compared to traditional approaches used in eLearning. Every individual can on a certain moment play all roles and can thus be a source of relevant knowledge and skills. When an individual can in the same time be teacher as well as student how do you deal with the knowledge transfer ideas as referred to earlier (Bertrams, 2003).

- Assessment and quality assurance
  Working with a dynamic knowledge and skills base in education together with the roles approach raises new issues regarding assessment and quality assurance. Assessment for example where the gained knowledge of the student has to be tested (how does this work when an individual can in the same time be student and teacher) but also with regard to the dynamic knowledge base. How do you guarantee the quality of the knowledgebase in the light of the broad range of sources for new knowledge and skills?

**The cost effectiveness of investing in eLearning**

Given the fact that on this moment no single eLearning environment is available that covers all the above mentioned objectives some issues may be raised:

- Given the fact that one learning environment will not be able to deal with all learning requirements – as we have seen in previous research – multiple eLearning solutions will be at stake.
- Given the limited budgets investing in different eLearning environments will be necessary but in the meantime almost impossible.
- To deal with this problem the choice of open source facilities, as in practice are already used by many students, might cover a great deal of the requirements.
- Investing in eLearning has to be focused on very specific requirements

Covering these issues will require further research.

**VII. CONCLUSIONS**

When following the line of reasoning we started this paper from our experiences in Sport Science. The experiences in this field brought us to raising a number of fundamental questions on the field of eLearning. These questions have a much broader impact on our view on eLearning than we expected earlier. Combined with the fact that there is no dispute about that the current world is changing fast we became aware that humans have to adapt to changing contexts and the requirements regarding their resilience is high. To be able to adapt to these changing situations, people have to constantly learn. In practice we often use the term permanent education or lifelong
learning which apparently is relevant in the sport science world; the attention for good health is growing in current times.

Traditional eLearning environments lack flexibility in teaching to both facilitate the regular students as well as the humans who are in a constant need for learning.

It is our objective in our research to look for ways to improve educational offerings, both for increasing the flexibility and efficiency of the traditional learning as well as the ability to make the education available for all who are willing to fulfill their educational needs. We are convinced that eLearning can play a major role in this changing educational landscape, including sport science.

The main focus of our research started in the sport science, but changed quickly to looking at different and more on educational needs based learning theories and learning styles as well as on the roles of the different stakeholders (students, teachers, scientists and practitioners) in this. By paying more attention to their roles, and the way how they interact, we were able to come up with a renewed insight in education and the role eLearning can play in that. In that sense we formulated a limited set of high level objectives that modern eLearning environments should cover.

Aside from this development we have to take into consideration that there is a growing attention for sustainability but also for the issue of dealing with the counter effects of modern society. On an individual level we may think in that respect on negative side effect of modern life reaching from all kinds of stress up to the disrupting influence of for example obese etc. and closes related to that a growing attention for health and issues around personal well-being. There the link to the sport science world becomes apparent again.

Regarding measuring the effectiveness of eLearning in the new approach to learning we may conclude that the current awareness of the need for the different approach to learning is not yet widely spread.

The suggested new approach to learning may be of real help from an individual perspective, especially with the growing focus on health and person related issues.

The issue of measuring the success of eLearning - given the new approach to learning - still needs to be further developed.

ABOUT THE AUTHORS

Emőke Takács
Emőke Takács has started her carrier as a researcher at the Hungarian Public Administration, where she was involved in training civil servants. She then has worked on the EU accession of Hungary and Romania, getting close to EU policies. She is an expert on EU funds and project management, delivered trainings, tutored eLearning courses, directed several scientific and research projects. Her interest is in efficient knowledge acquisition and management.

Toon Abcouwer
Toon Abcouwer works at the University of Amsterdam. His research interest is on how organizations deal with crisis situations. Especially the different roles that information and information systems play in the various phases of crisis handling has his special interest. It is crucial for management to learn to deal with the problem to integrate that roles in one single Information systems infrastructure.

It is his believe that traditional governance approaches only offer a partial solution for that.
VIII. REFERENCES


