Overview of E-learning Strategies from the Point of View of Higher Education

E-learning stratégiák áttekintése a felsőoktatás szemszögéből

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Összefoglaló – **A régiószintű és a kormányzati digitális stratégiák nem térnek ki arra, hogy – többek között a felsőoktatási intézményeknek – ki kell alakítaniuk, és ha már volt, érdemes frissíteni a digitális elemekkel integráltan foglalkozó e-learning stratégiájukat. Ezért időszerű és fontos foglalkozni az e-learning stratégiákkal, valamint az azok megvalósításában hatékony mintákat adó, osztályokba sorolt e-learning modellekkel.**

Az előadás célja segítséget nyújtani az e-learning kialakításában érdekelt minden résztvevő számára az e-learning stratégia mibenlétéről (jelentéséről, készítésének és osztályozásuknak szintjeiről). Emellett néhány, egymástól lényegesen különböző elméleti és egy gyakorlatban használt e-learning stratégia modellel ráirányítani a figyelmet arra, hogy széles palettáról választhatunk magunknak mintát/modellt, ha sajátunk kidolgozásához fognánk hozzá. Továbbá felhívja a figyelmet arra, hogy a stratégiák készítése és megvalósítása során hasznos lenne, ha e-learning modellosztályokba sorolt modellek között kereshetnénk a számunkra megfelelők után, hiszen a már kész modelleket testre szabva hatékonyabbak lehetünk.

Kulcsszavak: digitális oktatás, e-learning stratégiák, e-learning modellosztályok.

Abstract – **Digital strategies region and government level don't include task about formatting or refreshing e-learning strategies of higher education establishments. That's why study of model classified e-learning strategies is very timely. Beside this it is worth to detail with classified e-learning models, which can give samples to realize the strategies.**

The lecture trying to sum essence of e-learning strategy up (meaning, levels of elaboration or classification). It show some theoretical and practical e-learning strategy samples/models as example and draw attention to the fact that you can choose from a wide palette of models if you are to develop our own. Furthermore it would be useful, if you could look for suitable ones among the already developed, classified e-learning models during creating and implementing strategies. By customizing ready-made models, we can be more efficient.

Keywords: digital education, e-learning strategies, e-learning model classes.

I. INTRODUCTION

The object of this study is development and realization of establishment / faculty / institutional e-learning strategy by e-learning models.

It is not possible to operate an educational institution in consideration of only the return on investment. For example, very bad tactics is that pick up more students and give them more self-employment with e-learning materials, and then there will be less or no classroom lessons.

If the management of the institution has designed major student work with the involvement of quality e-learning components, it soon finds that their preparation and involvement in education is a costly one. Not only the preparation of curricula and educational elements represent a higher cost, even if quality online tutoring / mentoring / administrative and IT support we provide. In the latter case, it will be even more likely that more staff will be needed than before. If the e-solutions are not quality, then the customer, or the parent / workplace paying the tuition fee, drops away from the institution.

Also dubious success only brings short-term and long-term expensive, if we keep running the e-learning of our institution with the latest fashionable expressions, or if we place emphasis on technical / technological solutions and teaching and learning process remains secondary. Instead let's spread the blame flawed strategic vision and a proven e-solutions in search of those based models.

From e-learning, the *"e"* can be left out as it is commonly used today. We need to concentrate on using e-elements for teaching purposes. From the point of view of receiver, the mixing of totally online and methodologically blended education should be called, since they are essentially different from traditional education, because it is an important choice for students' learning style, work schedules, etc.

According to the forecasts, the share of online and open education courses will increase in the medium and long term. Therefore, the educational institutions and businesses need to adapt to new consumer attitudes in less time. Teachers, educators and other actors of education should play an active role in the transformation, in addition to political, professional policy, institutional decision-makers and professional bodies.

The e-learning strategies should be developed at all levels of education judiciously – from the establishment / faculty / institutional strategy to level of the individual teachers, courses or the students. It is also useful to use existing e-learning models for the implementation of the strategies. In developing the e-learning strategy will help orient the choice between the models and the models "tagging" or using the labels of their classification.

In the following, we formulate the definition of e-learning strategy before we present some well-established e-learning strategy model.

II. THE CONCEPT OF E-LEARNING STRATEGY

The word *strategy* was originally used in warfare: "The science of warfare principles and an entire campaign planning and management; strategy." Good time has a much broader meaning, in a transposed sense, in a press language: "Principal principles for planning and managing organized, non-armed fighting" [according to the interpretation dictionary of the Hungarian language]. Different interpretations from the military are distinguished by indicators such as e-learning or digital strategy.

MÁRIA SZABÓ [1] refers to HENRY MINTZBERG who has dealt with business strategy and was known to have considered the conceptual usage as important and considered a single, well-used definition of all concepts appropriate. In the strategy, however, he emphasized that since this term has been used in a long and wide sense by mankind, it is impossible to provide a single definition for every situation. As a result, the strategy has five different definitions from different perspectives, which is referred to in 5P by the initials of the words of English definitions. These are: Plan, Ploy, Pattern, Position, Perspective.

Turning to e-learing strategy, planning

(i) analyze the starting position,

(ii) determine the goals, then

(iii) prepare an action plan,

in which we determine how to achieve the goals outlined from the starting position. The use of change and project management methods is also needed to make the strategy successful [2].

We therefore need an e-learning strategy to define the purpose of our e-learning program and clearly define how we ensure that our goal is achieved from our current starting position. Our strategy provides a foundation for our coherent and cost-effective e-learning program that will enable our long-term growth in our e-learning portfolio. Our strategy ensures rationality, including ROI (Return On Investment), which will demonstrate the fiscal and organizational changes to be made to succeed.

„What do leaders and members of the organization think important, what do they think about the importance of work in the organization and how do they imagine their common future – this affects the effective functioning of individuals and organizations. The strategy deals with determined by values lives of individuals and organizations over the long term, with the goals that can be deduced from it and with the path to their realization. Every autonomous organization has a strategy, but it does not matter that this is a latent or a written strategy, and the organization's strategy and its related vision are in a relationship with the organization's personal vision and strategy." [1]

When developing the strategy, it is worth customizing / using abstract e-learning strategy models, as well as to study the contributions made by others, and consult with the teams that are working on them. If we are not experts in the field, to invite specialist with relevant professional experience it is recommended.

The strategy explicitly or implicitly determines the e-learning models that should be used to design, maintain, and control our e-learning system, in addition to the goals to be achieved and the steps to take. The strategy is more accurate when e-learning models are defined and tailored to the organization when the strategy is developed.

(This lecture focuses not on the didactic educational strategy. Those who are interested in the educational strategy can be read, for example, in the book chapter of Iván Falus [3]).

In the next chapter, we will review the levels of strategy making so that we can review some of the best models at the establishment / faculty / institute level.

III. LEVELS OF THE E-LEARNING STRATEGIES

A. Levels of E-learning Strategies with Pyramid Model

All management level training strategies in higher education must include the integration of the e-elements of the learning process. When developing this, account must be taken of higher levels of strategies and trends: world-wide trends, relevant regional strategies and frameworks (in the EU strategy in our case), state professional policy strategies.

In a higher education institution, each organizational units (faculties, departments, institutes, working groups) and even teachers – even if not in writing – has their own strategy at their level.

In addition, the individual subjects and implementing their education (for example: more semester period, several programs or several groups) is also required courses running strategy, even if they are all assigned to some teacher or multiple.

The penultimate level is the student-type strategy, and the lowest is the level of individual students, at which the starting position, the goals and the scheduling should be considered. It linked to the lowest level that has been strengthened in recent years at the level of the EU and the Hungarian government's digital education strategy for education individualized customization.

Figure 1 looks at the above levels and gives examples of some of them. Lower-level strategies must fit into the higher levels, and should be monitored regularly that the strategies are correct; or we need to think about how they develop in response to external and internal changes.
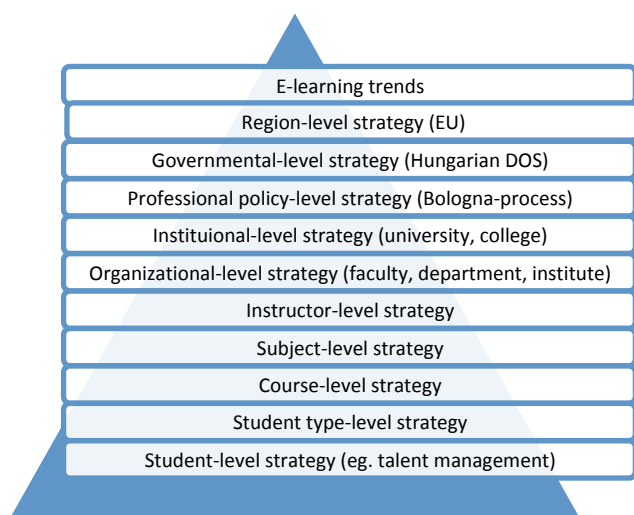
Figure 1.   Figure 1. Pyramid of e-learning strategies

Below (subchapters B-F) we present examples of strategies set up at the top five levels of digital education and the bodies that create them: e-learning trends, region-specific, governmental, professional policy and institutional strategies.

The formulation and implementation of objectives, action plans fine-tuned from top to bottom levels. In a strategy of a certain level it is unnecessary and defective to the goals of another level. At the same time, higher-level strategies must be implemented with broad cooperation.

B.   Role of E-learning Trends in Creation of Strategies

The Horizon Report > 2017 Higher Education Edition [4] provides an overview about key trends of accelerate technological adaptation in higher education in the 2017-2021 period at the top level – at the level of trends:

- important developments in education technology,
- significant obstacles to technological adaptation.

C.   Region-level E-learning Strategy

About the European Union, see the Strategic Framework – Education and Training 2020 [5].

In the EU a working group deals with modernization of the higher education that using of the new technology and open digital content should gave appropriate frameworks at the all level of education to the widest circle of learning and to encourage new solutions [6, pp. 4-5]

New technologies in higher education have tremendous potential. They allow universities to comply with a broader range of students. Blended learning allows students to learn from anywhere and at any time. It is also important that new forms of collaboration can start, and resources can be used more efficiently. Technological innovation will have great significance for social and economic potential; therefore, Europe needs to play an important role in renewable education.

Changes in governance and universities are also needed in this area. Currently there are few, fully thought-out national and institutional strategies for the adoption of new ways of learning and teaching, and they are far apart – by ANDROULLA VASSILIOU in 2014 [6, pp. 4-5].

D.   Governmental-level E-learning Strategies

Strategies that are closely linked to higher education at the Hungarian level are the following:

- Digital Educational Strategy of Hungary (DOS) [7];
- Change of Degree in Higher Education [8];
- National Higher Education Dorm Development Strategy [9].

DOS considers it important that "digital education should not be a digital version of traditional education, but also an open educational environment reflecting the challenges of the digital age in its approaches, methodologies and requirements" [7, p. 7].

"By *vision of higher education* – in accordance with document »*Change of Degree in Higher Education*« [8] – a unified online digital environment emerges in Hungarian higher education, which offers personalized learning opportunities for age, interest and tailored to individual life situation. An online learning space, a learning community will be created, where community members receive support for their lifelong learning and development. Higher education institutions are presenting and further developing their training offering in response to employer and student social and training needs in this online space. A comprehensive strategic goal that can be interpreted for each student or the whole higher education, that the digital skills, tools, and digital work experience of tertiary graduates meet the internationally accepted expectations" [7, pp. 13-14].

E.   Professional Policy-level Strategies

"The *Change Degreee in Higher Education 2.0* higher education strategy and its revised objective and action system are the national mid-term strategy for the 2014-2020 period, its function as a governance tool. This document also functions as an ex-ante condition for grants from the Structural Funds available under the European Union financial programming period 2014-20" [8, p. 5].

"The objectives of higher education can be summed up briefly: a knowledge-based society where the driving force of the economy is the ever-increasing proportion of domestic production and its organizing power is an innovation network built around higher education institutions. The task is to move the principles of public thinking about transforming economic into higher education. We need to be aware of ourselves and the members of society that the future of higher education cannot be imagined without a renewed aspiration, that is to say, knowledge gained at the beginning of the life course - without further learning – we cannot survive until the end of our lives. Continuous learning and continuous performance are needed" [8, pp. 3-4].

"The government's aim is clear on the image of the future: to operate highly positioned in international education and research space higher education system, that determines Hungary's economic success basically, is able to respond to social challenges, and which's main driving force is the competition... In other words, the level of increase growth and competitiveness can only be achieved if society imposes a higher expectation of the higher education system as a whole" [8, p. 5].

F. Strategy Formulating Corporate Units in Higher Education

The governing body of higher education institutions is the senate, which has decision-making, reviewing, proposing and controlling powers. It determines the activities of the university / college, its training and research tasks, its operation, and verifies their implementation.

Senate elected by the local government should take a mid-term, strategic decision of the institution. Educational institutions formulate their strategy for four to four years (currently between 2016 and 2020) in their so-called institutional development plan.

The institution's high-level e-learning strategy and its elaboration require the work of several disciplines, and its implementation involves all the departments involved in education, and colleagues and students.

In the next chapter, review a grouping of how online learning can be displayed in higher education institutions in the strategy.

IV. CLASSIFICATION OF STRATEGIES ON THE LEVELS OF ONLINE LEARNING

In 2011, the Sloan Consortium ranked three classes of of post-secondary education institutions depending on the role of online learning in their strategy [10]:

1. **Strategically not online institutions**. By "the Thousand Blossoms Bloom" approach in the spirit of diversity, the institution's departments can engage resources to transform courses completely into online. But the main systems of the institution – timetable, registration systems, financial contracts and teaching – are basically the traditional ones. In the US, approximately there were 1000 such institutions in 2010..

2. **Commitments**: "Be Focused" it's their motto. Leaders have decided to convert their key programs to online courses, for example because of market opportunities. They invest in education planning, technology support, and other resources needed to enable and aggressively market their online programs. According to the Sloan analysis, there were 800 institutions in USA currently in this category.

3. **Online as a Basic Strategy**. The institution's operating model has changed to meet the needs of online learning (such as time, registration, education, finance). Online courses focus on special skills that last for only three to eight weeks, allowing students to develop their skills quickly, easily and cheaply.
   When the students are ready, they can start a new module or provide the institution with training on demand, as opposed to the fixed theme of other online courses. Students can choose courses from the online offering on demand. Subject credits can be transferred between state colleges and universities. In this model, in online learning, institutional strategy sees the transformational potential of technology and exploits this opportunity (at least in part) to change its business model.
   According to the Sloan study, post-secondary institutions account for approximately two-thirds of this group was involved, and two-thirds of students in the US online student also visited this type of institution.

In the next chapter, we look at some of the typical e-learning strategies to summarize blog postings on this topic.

V. THE E-LEARNING STRATEGY IN TODAY'S BLOG POSTS

The e-learning strategy is a relatively sophomore term today, but generally it only refers to the educational strategy (see the end of Chapter II). "It can be good to sell" this traditionally proven and fashionable course, methods, teaching attitude, and to draw attention to the pivotal problems of e-learning and education. This is illustrated by a number of blog posts, short articles, which summarize "invaluable tips" for a successful interactive "e-learning strategy". Their common purpose is to provide students with e-learning courses. The *5 or 7, 8, 10, and so on. tips for a successful e-learning strategy* (for example [11] [12]) with concise, holistic titles and brief explanations on the cornerstones of strategy making.

From these point of views, these short descriptions supported by often infra-graphs call attention to a bunch of essential and trendy elements at a high level of educational attainment (see Figure 2). The blogging target groups are usually small business and one-man teachers, and they often limited to courses.

Figure 2. Figure 2. Infographic of 7 tips for a successful e-learning strategy [13]

The study *"Five E-Learning Design Strategies That Keep Learners Coming Back for More,"* [14] still provide instructional, methodological advice for a single course but it stand already on a scientific basis. The five briefly described "strategies" for motivating students:

1. **Understand the students' motivational foundations**. This includes, for example, the knowledge of the ARCS[1] model; internal and external motivations. With these, we can formulate our learners' internal motivations for e-learning design, to make learning materials that they enjoy and return to use them.

2. **Think about the curriculum structure**. The importance of C (confidence, trust) in ARCS

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[1] According to JOHN KELLER's ARCS motivation planning theory, there are four steps in the learning process to raise and maintain motivation: Attention, Relevance, Confidence, Satisfaction.

should be highlighted here. Students' confidence increases if they see the structure of the curriculum. It is recommended that the curriculum be broken down into 9-10-minute units, and for more complex parts, for example, use PDF.

3. **Increase the visual interest**. The most common ways to raise visual interest in the e-learning program include the following: quality and content-matching photos, videos, graphics, and animations.

4. **Involve emotions**. Emotion plays an important role in memory. Appropriate emotional stimuli can be placed in the curriculum Emotions make learning material more memorable but can also help to make content more interesting and appealing.

5. **Tell the story.** The sequence of events has no meaning, but the story of the relationship between events is very effective. The stories help fill the R (relevancy, attention) in the ARCS: to help people understand why something relevant in terms of practice, and this specific story. Simple methods that provide the power of e-learning content: anecdotes to illustrate concepts; examples of real situations that include high-level concepts and abstract concepts; narrative structure of stories as a full 9-10 minute learning unit, ending with control.

Along with widespread technologies (such as the mobile communication tools and the internet), collaborative learning and interactivity have become increasingly important in the e-learning strategies. They also provide strategies for fashionable e-learning, such as teaching with micro-videos [15].

By S. Kumar [16] the *"strategy"* can mean different things for different people, with a lot of things or no matter at all. His nine councils should also be considered for the strategy developers of higher education institutions:

1. Determine what they want to accomplish, why and in what time frame.
2. Understand where they are located currently relative to the target.
3. Identify evaluation parameters.
4. Think about the full scope of learning and the culture of the organization.
5. Consider what skills you need and what is available.
6. Define the frequency of updating the curriculum content.
7. Think about how learning will fit into employees' days.
8. Consider who and when to engage in educational tasks.
9. Think about the necessary tools and technologies.

In blogs, short articles about teacher attitudes, emphasis is placed on motivating students and getting involved in learning process, based on active learning about existing knowledge and competences.

After this review, let's examine why it is essential for institutions to develop their own e-learning strategy.

VI. THEORETICAL E-LERANING SSTRATEGIC MODELS

In this chapter we present four theoretical e-learning strategy models.

A. E-learning Strategy Consists of Two Phases with Five Elements[2]

DE VIRES describes the preparation of an e-learning strategy in two parts: first, the strategic goals must be formulated then the elements of the e-learning strategy can be developed [17].

So, let's look at the first part of the two-phase e-learning strategy modeling process.

The goals must be defined considering all aspects of the organization. It recommends reviewing the following three areas – including aspects and methods:

a) **Assessment of needs**. To determine the characteristics and needs of the target audience, you should use standard needs assessment procedures or questions. These are, for example, the following:

- Attitudes towards computer education.
- Motivation factors gained during training.
- Hardware and software features of typical computer platforms.
- Experience and comfort in the use of computers and the Internet.
- Internet connection speed.
- Interest in e-learning form.

It emphasizes the need to pay special attention to elements that create or break the e-learning program.

b) Preparing the training team and its members individually and reviewing their preparedness.

- Inquire about e-learning solutions of vendors, partners and competitors.
- Participate in the e-learning technology vendor information meetings.
- Publish in our organization articles about e-learning that can be applied to our environment.
- Discuss the skills needed to develop e-learning (content-producing skills, education design, course creation, programming, graphic design, technological administration, virtual education, etc.).
- Review the team's need to develop e-learning skills and determine what trainings they need to reach our goals.

c) Management control.

- *Top to Bottom*. In this case, ask the leadership why they choose this form and what they mean by it. And whether there is a model that needs to be used and why it was chosen.
- *Bottom Up*. If management does not know what e-learning programs are, we suggest them and discuss how they fit into the organization's strategy.

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[2] E-learning Strategy Consists of Two Phases with Five Elements: The name of the model was given by the author of this lecture.

If we have done the above, we will be ready to formulate the **goals of our e-learning program**. As the most important (alpha and omega) component of the e-learning strategy is the designation of the objectives to be achieved, it is therefore appropriate to negotiate and handle the issues separately. A sufficiently comprehensive cohesion of objectives can only be formed through a lot of steps. The program must provide value to the organization, such as market access, market expansion, expected revenue growth, cost savings.

Elements of formulation of e-learning strategy are: technology, financial analysis, administration and support, communication and content (Figure 3).

Figure 3. Figure 3. Elements of e-learning strategy [17, p. 3]

Technology. Here, it suggests considering the use of the following technologies: synchronous, asynchronous, collaborative, mixed approaches, LMS. To help select which technology for each requirement, you can make a similar table to the table below.

Requirement	Asynchronou	Syncronous	Collaborativ
Learners need higher levels of guidance.		X	
Low learning motivation levels.		X	
Audience values expertise of other professionals.		X	X
Need for flexible training schedules.	X		
Shift work, difficult to shedule training.	X		
Limited computer experience.		X	
Content involving interpersonal skills.		X	

Figure 4. Figure 4. Requirements technologies matrix [17, p. 4]

In addition to laying down the technologies we have chosen for each training in the e-learning strategy, to justify our choices and to state why we chose them to achieve e-learning goals. Consider e-learning industry standards (for example, using SCORM) so that if we change LMS we can also use our learning objects. Our strategy must also include the time and cost of implementing the technologies, as well as dividing it into periods of expected cost savings and revenue growth [17, pp. 4-5].

In the definition of the technological component, in addition to the education practitioners, the IT group should also be involved as a partner. The IT department's approach to e-learning is basically important. The e-learning team can be inspirational, but in extreme bad cases, they are making their work very difficult.

Content: The content may come from a variety of sources and forms. We need to define the following for content development and / or procurement:

- Purchasing and preparing curriculum content.
- The courses to be prepared and their priorities.
- The location of resources of learning-content.
- The process of converting resources into an interactive course. – This greatly affects the tools to be used. We must also consider the needs of students in this regard.
- Teach roles and responsibilities with e-learning members and during the course for teachers. – For example, will a project manager be assigned assignments to the staff; or can teachers upload their own curriculum elements to their course?
- Evaluation of curriculum materials must be developed here as well as a feedback loop so that we can continuously improve our e-content creation skills. [17, p. 5].

Administration and support: We must define roles and assign staff to them, for example in the following tasks – [17, pp. 5-6]. supplemented by the author of this article with his own experience –:

- Establishing a system of eligibility.
- Creating a course, uploading courses with content.
- Allow user accounts and permissions to users.
- Monitoring User Activity.
- Help desk assistance.
- Specialized teacher (tutor) assistance.
- Learning organization and methodological (mentor) assistance.

In smaller organization's staff a member may have more than one role. New staffs may also need to be employed to ensure the proper expertise in the e-learning team and to the appropriate workload. The administration and support functions should also be monitored, there is also a need to ensure that feedback is backed up so that quality can be monitored and continuously improved.

Communication: Communication with blended learning can take advantage of varied channels (face to face, phone based, paper based, synchronous and asynchronous online). In pure online training, all information, help, advertising and marketing are done online.

Change Management. For students for who the online form of education is new and alien instead traditional classroom, we must ensure the learning of e-learning – with little or no risk to them. In doing so, ask them for some personal interaction to learn in practice. We can embed the successful completion of the online learning course into a mandatory learning-methodology course with zero credit.

Marketing Communications. The e-learning strategy should also include how to provide our potential learners with information about our high-quality training. To this work we must actively involve the marketing department of the institution.

Financial Analysis: The expected return on investment in higher education is also a major factor in making e-learning programs the necessary resources. Essential items of financial analysis are included [17, pp. 6-7]:

- Technology, content creation tools, course development, support and administration costs.
- The way in which courses are taught so as to provide the expected earnings per period (for example per semester).
- Return on investment.

In connection with the preparation of this analysis, the institution's financial group must cooperate.

B. Time-Separated Strategies

ROBIN PETERD's model breaks the digital learning strategy into time spans. In this strategy model, the areas to be treated are hierarchically related. In the sections, we also go beyond design and create pilot projections that we evaluate [18].

In the field of on-the-job training courses, companies have already begun to take advantage of e-learning opportunities. It is also worthwhile using these models in higher education to build e-learning strategies,

This group also includes a PETERD's model [18]. Its councils are general, they can be applied in higher education as well. PETERD – like more today's researcher – instead of e-learning, use the term digital learning. In her view, this is a more holistic expression, involving social learning, performance support, and blended learning.

Of course, the strategy at PETERD is about to know where we are going. Learning and development must be consistent with each other and with the organizational strategy. It is necessary to outline the principles and the necessary reforms, then to make the subject / course thematic. After that, we have to plan the actions, that is, what, when and how to get it – they will be changed more often (Figure 5).
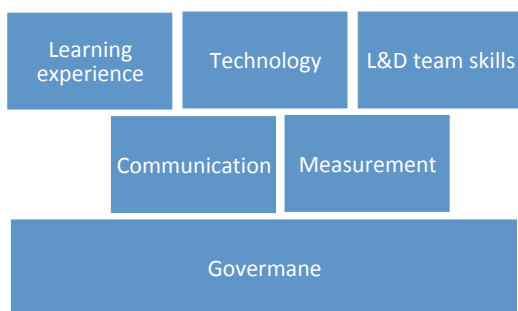

Figure 5. Figure 5. What needs to be addressed? [18, p. 9]

PETERD breaks down the development of the digital learning strategy into five phases (Figure 6):

1. **Taking stock of where you are.** Here you must: evaluate performance, digital workplace performance, and, assessment of existing expertise. In this framework you need to measure the digital literacy and learning efficiency of your employees and organization. A serious e-learning "proclamation" has to be done.

2. **What else is happening.** Talk with other learning-development groups in other companies and think about what they did? Let's ask what else to do. It is important to think in perspective as well.

3. **Planning.** What, how, who? Let's put our plans into visuals, take them to stories. Focus on flexibility and efficiency. Let's count on reducing our budget.

4. **Getting started.** What, how, who? Let our innovation and pilot projects be. Let's start with blended learning projects. Do not draw far-reaching conclusions from the data collected at startup.

5. **Measuring.** Collect data for all our activities. Analyze the data and change if it is necessary. Use the data for "storytelling" about our digital learning.

Figure 6. Figure 6. The stages of developing a digital learning strategy [18, p. 11] restructured

According to PETERD, if we do not carry on internal training, we should not try to develop digital learning in-house, but use external service providers. They have new ideas, quality improvements, bigger projects are delivered faster. In-house development is motivated by cost reduction and controllability. The author of this article emphasizes that the curriculum of subjects in higher education let be based on the research of the teachers.

In a conventional approach, the company uses LMS, possibly social and blended elements, as well as learning material development tools. In a modern approach, they also use mobile elements, virtual classroom, intranet portals, and cloud-learning elements.

PETERD recommends a digital learning model in which the share of experience-social-formal learning is 70% - 20% -10%. But he also presents the problem of e-learning quality-cost in connection with the three paths of digital learning (Figure 7).

Buy access to a content library	Build your own programs	Commission programs to be built for you
Doesn't work financially if you are a training provider	Generally works better if you currently do in-house training	Customized to you organizational needs
Moderate quality	Quality digital learning than you would expect	You would expect the quality to be higher
Moderate cost	Low cost	Higher cost

Figure 7.   Figure 7. Three ways to launch digital learning [18, p. 22]

C.   Model for Joint Planning of Education and Strategy

JOHANNES C. CRONJE's model considers education planning and strategy together. This eliminates the fact that the education design model does not consider the interests of the enterprise / educational institution. The balanced scorecard and the ADDIE[3] model put together an integrated model for learning design and it will be consistent with key business elements [19].

CRONJE states in publication "*Who killed e-learning?*" [19] that, in blended learning, rather than mixing media types, it would rather mean mixing business goals and learning outcomes. He argues that learning is an integral part of the business model (and should not be isolated with ROI) [19, pp. 6-7]. The systematic planning basis for education is the ADDIE educational model and uses the results of *Balanced Scorecard* (1992) for KAPLAN and NORTON business (see [19]).

In the ADDIE model, the stages of the education planning cycle are as follows:

1. In **the analysis phase** it starts with a thorough analysis of the situation. Here, learning needs, curricula and students are considered.

2. In **the planning phase**, the learning outcomes / outputs are clearly defined, and the order of teaching-learning activities for them.

3. In **the development and implementation phases**, the appropriate learning platform have chosen, and then upload it (with subject matter, roles, parameterized objects required for the chosen methodology / learning process control, self-checking, subject and teacher evaluation).

4. During **the evaluation phase**, the outputs specified at the beginning of the cycle must be checked.

The education planning model alone does not take into account the interests of the enterprise / educational institution. As a result, can be that the cheaper and less effective training programs will be chosen. At the beginning of planning, we need to determine the desired business outcomes so that we can measure at the end of the education / courses whether we have achieved them.

Figure 8 depicts a balanced scorecard on the ADDIE model diagram, pointing to the company's vision and strategy at the center; and to achieve this, financial considerations are needed, internal processes need to be introduced, because students / clients / customers have learning needs. In a balanced scorecard model, learning is part of the company's growth needs (for example, getting

infrastructure), but it is disadvantageously below. The balanced scorecard and the ADDIE model put together an integrated model for learning planning,
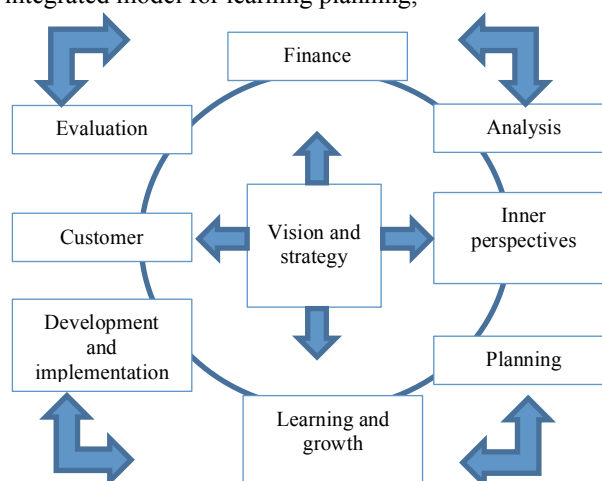
Figure 8.   Figure 8. The learning design cycle and the balanced scorecard [19, p. 8]

In the model shown, the future (vision) and strategy in the middle, the financial considerations remain at the top and the goal of the institution is to be seen.

It is important, that the same strategists should analyze the learning needs who develops the balanced scorecard, in formulating vision and strategy. The aim of learning and growth is to align human and business resources with the internal perspectives that depend on the vision and strategy's changes. Training should be designed to allow for alignment of learning and growth with internal perspectives.

In this model, the training is not only an added cost element, but part of an integrated system. The system is aligned with the company's central vision and strategy.

CRONJE mentions that, according to KESSELS and PLOMP, the systematic planning approach / model has resulted in more effective and consistent training, because this process ensured that project participants were "properly orientated, trained, motivated and fully cooperative".

CRONJE cites ROMISZOWSKI: "*A successful project is just 20% technique and 80% tactics.*" [19, p. 9]. According to his experience, regardless of how much we are trying to analyze the components that lead to successful implementation or the sustainable use of technology in education / training, it can be inferred from the always non-quantifiable human aspects. As technology and devices become cheaper and smaller, they should become more and more transparent. In other words, technology should not be a driving force for learning, but learning itself, says CRONJE, whose opinions are also shared by the author of this article based on own practical experience.

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[3] ADDIE: Analysis, Design, Development, Implementation, Evaluation.

D.   Strategies for Knowledge Transfer in the Digital Era

The book of MARK J. ROSENBERG, *"E-learning: Strategies for Knowledge Transfer in the Digital Age"* [20], can now be regarded as a basic. The components to be considered as a strategic basis are defined by integrating e-learning into the organization's body.

PAULA ELIZABETH SANDERSON [21] highlights two important concepts from ROSENBERG 's book. One is the model for the e-learning eligibility and measurement, which uses well-established cost, quality, service and speed metrics for e-learning. The other one is the critical success factors of the e-learning strategy's implementation, where, inter alia, culture, communication and change are key in the new institutional-level initiatives. We look at this model now.

According to ROSENBERG, the most critical e-learning component of the e-learning strategy is the following:

- **The new approaches of e-learning:**
  o online education (educational strategy) – provides education and business simulations;
  o knowledge management (Information Strategy) – provides information databases and performance support tools.

- **Learning architecture**: it coordinates the e-learning and the other organization's learning activities. Includes building synergies with classroom training.

- **Infrastructure:** it uses the organization's technological capabilities to implement and manage e-learning. The lack of good infrastructure can prevent e-education.

- **Learning culture, management property and management of change:** they create an organizational environment in which learning is seen as a value-creating activity of the business. Their activity is supported by the participating leaders. Against the negative learning culture, the quality of e-learning initiative is almost always under-represented; and without the devoted e-learning initiators, e-learning will never be rooted in the organization. In such cases, effective change management can also help.

- **Good business case**: a vibrant business case supporting e-learning needs to be developed.

- **Re-discovering the learning organization:** adopting an organizational and business model that supports e-learning growth. New approaches to learning require a new approach to the operation, professionalization and measurement of the training function

These factors together constitute the strategic basis for e-learning (Figure 9).
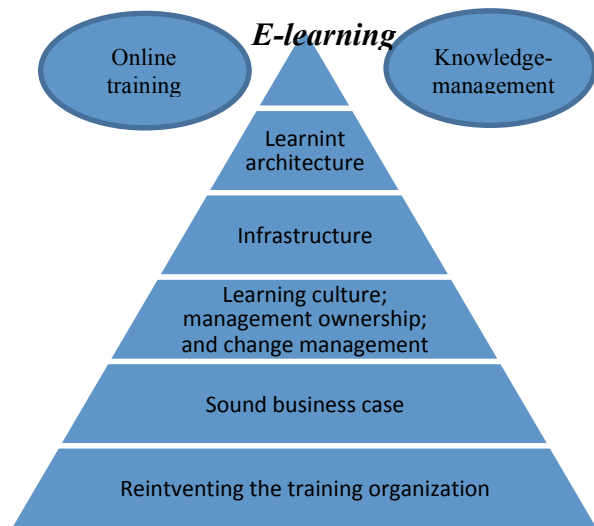

Figure 9.   Figure 9. The Strategic Foundation for e-Learning depicts all the critical components for successful e-learning initiatives [20, p. 34]

By analogy with the "4P" marketing components in economics – product, price, place, promotion –, ROSENBERG created the "4C" component of the successful e-learning model – culture, champions, communication, change [20, p. 179]. ROSENBERG believes that these are essential for the application and development of e-learning worldwide.

- **Culture:** Correction of false ideas about learning and the awareness process in which we realize that constant self-education is just as important and productive as work. This is by no means a secondary actor in our value system.

- **Champions:** The e-learning society needs people who, through their professional recognition, are credibly representing the industry in question and are able to persuade outsiders that web and web-based education is the way forward.

- **Communication:** It can be classified among the four components because it enables the real opportunities and dangers of e-learning, whether it is from society or from different nations or ages. This activity is of the utmost importance because at present many people have a false or incomplete vision about the new form of learning.

- **Change:** Strategic and technological renewal, especially for business people (institutions, companies). Many people are still watching the technique, but the real question is how e-learning can be part of everyday life and how to gain more benefit of its potential?

The appropriateness of the above models is also supported by the author's own experiences.

After the theoretical strategic models, let's look at the institutional strategy model implemented in higher education practice.

VII. ONE OF PROVINCIAL LEVEL IMPLEMENTED, EMBEDMENT OF HIGHER EDUCATION E-LEARNING STRATEGY MODEL

In Ontario, the most populous and second largest area of Canada, a broad consensus was drawn up to design an online learning strategy template for colleges and dormitories [10]. Approach of most of the Ontario institutions is shown at the beginning of the IV. chapter "*Thousand Blossoms Bloom*". Using tools, such as templates to be presented there, institutions could shift the focus of their strategy to online learning.

The purpose of the template was to assist with the help of its checklist and examples to involve faculties, administrators, and academic leaders in strategic focus-intensive discussions that lead to a well-developed plan for on-line learning within the institution.

Before the document assigns questions to be explored and answered for strategic areas, as well as those responsible, it will ask:

- Has the institution a clear vision of online learning that is widely accepted in the institution?
- Can key leaders write about teaching and learning what they will do 5 years later?

Answering is task of institution's leader. (This rhymes the C-D models in the previous chapter).

Strategic areas, responsible for the institution's management and management, are as follows:

I. Vision for online learning at institution
II. Strategic rules for online learning and blended learning
III. Measurable outcomes
IV. Strategic leadership
V. Governance
VI. Quality Assurance
VII. Financial resources
VIII. Barriers to overcome
IX. Critical milestones
X. Enable tasks
XI. Key Challenges

Risk management is a priority area for each project. The template provides examples in the following three categories of how to deal with this topic:

1. Resource constraints
2. Faculty resistance to new ways of working
3. Students are slow to take up online programs

The most important areas for reviewing resources are the follows:

1. Instructional design
2. Technology governance
3. Faculty development
4. Materials acquisition and intellectual property?
5. Changes to operating systems – registrarial, learning management, IT
6. New staffing
7. Marketing and sales
8. Transaction costs of partnerships and related activities
9. Quality assurance?

VIII. USING E-LEARNING MODEL CLASSES FOR DESIGN AND CONSTRUCTION OF E-LEARNING STRATEGIES

One of the described above models can be customized to develop own organizational e-learning strategy, or we can proceed according to the phases of a software development methodology. In the latter case, we also need to know what criteria is worth to choose from them. By choosing a model, we can increase the efficiency of our work and help to avoid ignorance any of the main elements to be considered / elaborated, and to be better able to concentrate on our own organization.

There are countless aspects and focus e-learning models, and as e-learning / digital learning is spreading, more and more case studies can be found. Authors usually do not categorize their models into one or more classes, but classification would help us to find a way between a numerous and varied model. To do this, start with a classification system must be prepared first. On the other hand, keywords could be used as to each existing and continue to be involved in the system models.

All of the models are reviewed on the basis of processed publications for example by a learning aid [22], which only names three large groups, adding that they have more; and by VAISHALI and DAYANAND SURYAWANSHI, who name six basic models [23].

According to AMY WILSON, the categorization of e-learning models is almost as problematic as defining the term e-learning itself [24]. According me, the classification of e-learning models means that "*we focus on the same aspects of the e-learning models that we have created or examined and are termed under the heading. An e-learning model may belong to several classes*" [25]. Variety in e-learning / digital learning is happily growing. That is why we have proposed as a starting point outside the "*big model class, of course, more will be created, and training classes can be done differently. New model types and model classifications are also being created, which should be placed in a larger system … It is important to note that there is a smaller or greater overlap between the criteria and model structure of each class; the models can usually be classified in several classes; and the models are not mutually exclusive even in the case of a class.*" This contradiction can in practice be solved by keywords.

My slightly extended initial classes are as follows [26]:

- Models based on e-learning history
- Models of type of educational institutions
- Talent care models
- E-learning environments models
- Mobile learning models
- System models, cybernetic models
- Models from the Perspective of Learning Theories
- Models with drivers
- Models that emphasize the possibility of interaction
- Teaching Design Models
- Competence-based models
- Intelligent training systems
- Models for measuring e-learning systems
- Multi-dimensional models
- Experience-centered models

IX. Summarize

E-learning or digital learning is not "added", but it must be embedded in the body and society, in our daily life. So, the *e-* prefix could be left out. *Blended learning* means mixing business goals and learning outcomes instead of mixing medium types.

Institutions can choose from many model types to start developing their e-learning strategy – only a few of them was featured in this study. The development and implementation of the strategies could be facilitated, and the e-learning models in the classes could be made more effective.

X. Acknowledgments

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