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Information society is a new way to live and work together. The first priority in education is to prepare people to integrate into information society by giving them the right to continuous learning. The most important elements of information society are communication systems connected with the most advanced information – communication technologies, the latter eliminating time and distance limitations and providing citizens with the possibilities of open and distance learning.

Distance learning is the most rapidly developing field in specialists’ preparation. This system allows people to learn at the most appropriate time and rate without moving from their living or working place.

Although there have been established computerized and distance learning networks as well as the process of creating special distance learning courses has gained its rate in Lithuania, people still lack information about the possibilities and distinctions of distance learning.

The article analyses the advantages and problems related with new approach to managerial-economical preparation of specialists by mean of distance learning and presents the research results disclosing people’s intentions and readiness to study using distance learning.

Keywords: information society, managerial-economic preparation of specialists, open and distance education, distance learning, fundamentals of management.

Introduction

European integration and the need to create knowledge society raise new requirements for the preparation of specialists as a continuum of learning throughout life. The development rates of the contemporary society are so rapid that once acquired education does not ensure career for the whole life. Knowledge and skills are to be constantly developed in order to be in line with changes, information flow, and new technologies. In order not to lag behind, maintain economic competitiveness, employability and to combat social exclusion, a person should constantly study in order to acquire new knowledge and skills required for active participation in the knowledge society and economy (Koddertszch, 2003).

Open and distance education in learning system is a new approach of students’ as specialists preparation and provides wide possibilities for a learner to study at a convenient time and place as well as to choose programs confirming to his/ her demands and possibilities. Distance education has eliminated geographical, personal, work barriers, which have prevented people from further development.

Distance and traditional studies are not absolutely different ways of acquiring knowledge (Kolb, 1984; Holmberg, 1985; Graham, 1989; Targamadze and Tamošiūnienė, 2003). Even the application of computers and information technologies is not the prerogative of distance studies. The same technologies are successfully used in traditional education. However, the distinction of distance studies is that a consumer should be ready for this way of learning (Targamadze, Tamoshinienė, 2003). What is the difference between a consumer of traditional studies and that of distance studies? In order to answer this question, it is expedient to define distance studies.

Distance education is the relationship based on a dialogue, structure, and independent decisions and mediating technologies (Moore, 1990). These studies are characterised by the following distinctions (Keegan, 1986):

• separation of the teacher and student;
• influence of an education institution on planning and preparing learning materials;
• use of technical and information technologies; double-way communication; the possibility of unplanned seminars;
• participation in applying the most technically developed education.

Most authors agree that distance education is learning through distance, an independent form of learning when a learner is given as much support, as he/she needs (Leonavičienė, Simonaitytė, 2001; Martišienė, 2002; Rimkūnienė, 2002).

Distance studies are inevitably linked with modern learning surroundings. Information technologies and virtual learning environment play the most important role in distance learning (Willis, 1993; Vivet, 1996; Sumner, Teilor, 1998; Jonassen, 2000). This form of studies is a mobile learning in technologies, consumers and services aspects (Pandy, 1995; Sirkemaa, 2004)).

Technologies should be adapted to contemporary learning environments in order to be properly used in learning processes. Adaptation is useful in two aspects: consumer’s abilities, needs and means (Brusilovsky, 2001; Raskin, 2000).

Presenting any course for distance learning, it is very important to evaluate one’s learning capabilities and skills to use information technologies and virtual environments.
Research object – new methods (distance education) of managerial-economic preparation of specialists.

Research aim – to disclose students’ attitude and readiness to distance learning; to highlight the problems and perspectives of lifelong education while developing knowledge society.

Research methods – the analysis of scientific literature, empirical research, logical analysis, conclusion formulating.

New approach to managerial-economic preparation of specialists as open and distance education / learning conception

Often the concepts of open and distance education/learning are used like synonyms. However, these two notions are not identical. Open learning is objective, education policy ensuring learning flexibility in terms of geographical, social and time restrictions; distance learning (a form of open learning) is a way to learn at a suitable time, place, without a direct contact with the teacher (Rutkauskienė, 2003).

Distance learning as a form of open learning is oriented to disseminating knowledge and presenting freedom to what and how to study, i.e. this form of education develops personality and ability to think critically.

Both open and distance studies present a very good possibility to acquire education for those who have no opportunity or wish to take traditional studies. The main reasons why open and distance education/learning is necessary are the following ones:

- **Lifelong learning and economic development.** Distance education and e-learning make it possible to learn for those who work and are family people. This is a way to promote computability, economic productivity, and employability, social and cultural competence.
- **Social equality and availability.** Many adults do not have possibilities to study or graduate because of academic, personal or social reasons. Open and distance learning is their “second chance” to overcome the barrier of higher education.
- **Expenses reduction.** There are usually less possibilities than applicants to study at universities. Distance education and e-learning is the system that can satisfy the needs of those who could not and cannot enjoy traditional studies. However, this education is rendered at lower costs.
- **Geography.** Remote, less urbanized regions have no economic opportunities to suggest traditional education; therefore distance learning is a good way out to effectively realize the principles of lifelong learning.

Learning openness could be characterized by the following indications: time, rate, place, accessibility, terrain and content (see Figure 1).

Open and distance learning is especially useful for adults who need to develop their skills or change their profession (Krivickienė, 1999), because it presents the following possibilities:

- allows to work and study at the same time;
- no need to move from a living place and work;
- promotes the choice of the field of studies;
- permits to choose learning time, pace and scale;
- does not make a learner dependable on the teacher;
- presents an immediate feedback to the learner.

![Figure 1. Characteristics of learning openness](image)

Alternatives for distance studies development

Distance education as an independent practice has developed and consolidated itself in the education market. The consolidation of this educational form depends very much on its pertinence to constant changes and requirements. Distance education aspirations could be implemented in these three areas (Saddington, 1998; Valiūškevičiūtė, 1999):

1. **Advanced tradition** shifts its focus from educating intellect to developing an individual’s responsibility to society. Education is viewed as an instrumentality of social and political reforms. This tradition emphasizes the importance of “learning to learn”, because once having learned to learn, learning usually becomes lifelong and knowledge is acquired from both learner’s and other people’s experience. The teacher’s role is that of a facilitator, consultant and partner.

   Keeping to this tradition, distance education might grow into cooperation and experience exchange in solving acute problems. The initiation of co-operative problematic activity for exchange could become the main objective of the whole system. Technical possibilities of distance education would allow widening collaborative efforts and to bring the most experienced researchers and practitioners together to solve current educational issues.

2. **Humanistic tradition** focuses on all-round personality development. Learning is treated as self-development and potentiality disclosure. The teacher acts as the facilitator of a personal growth.

   Distance education is like a “consulting service” facilitating learning according to specially designed programs. This is the way the learning system is created and adapted to a learner.

3. **Radical tradition** considers education as a part of social transformations. Education objective is to arise social changes, liberate individuals from erroneous thinking and help them to perceive the historical and
social context of their activity. The teacher does not give answers, but formulates questions. Learning is a new understanding using critical self-analysis and its interpretation.

Distance education oriented to this tradition could become a stimuli and catalyst of social changes. Its main task might be to render assistance to practitioners and self-researchers in change design, i.e. in change infrastructure creation.

The development of distance studies in education could be realized in different directions: professional, academic, personal, and social.

**Professional direction** is aimed at delivering courses helping to get consolidated in the work market.

**Academic direction** is to offer an opportunity to get involved into academic life: academic studies, research, academic career, and academic degrees. Information technologies used in distance education enable to carry out information search, storage dispersion and expand the number of participants in academic discussions. Moreover, distance studies could be engaged in the whole university practice or it may become a new institution and this form of studies is considered as the main activity and teaching principle.

**Personal direction** emphasizes the choice of learning content and form based on individuals’ personal characteristics and self-education demands.

Rather problematic situation is for the persons who enjoy social learning orientation (Valiuškevičiūtė, 1999). Rather individualized learning limits the possibilities for some persons to be fully engaged in the institution’s social activity. In order to overcome this disadvantage, special surroundings are being created, learning groups or teams are being formed.

**Distance learning management: advantages and disadvantages**

Distance studies can be organized as different courses:

1. Courses of the most recent information. Distance studies technologies enable not only to deliver the newest information but also to satisfy learner’s qualitative and quantitative demands.
2. Knowledge consolidation courses are designed so that it would be easy to memorize and acquire them.
3. Training courses are aimed at specific means of managing information. These are skills development courses.
4. Courses oriented to understanding laws, principles, and ideas.
5. Seminars of interpretation are based on moderated discussion.
6. Courses aimed at creating self-realization programs and satisfying personality development needs.

Distance learning takes place in some other place than the learner is located. It uses special, individualized content-based, communicative methods entirely substantiated by modern technologies.

There exist several ways of organizing these studies (Keegan, 1986):

1. **Autonomous distance studies model** (only distance studies).
2. **Mixed distance studies model:**
   a. independent (the same institution provides traditional and distance studies);
   b. selective or alternative (the same program could be taught to the students who have chosen traditional studies and to those who have selected distance learning).
3. **Integrated distance learning model:**
   a. supplemented (traditional studies include distance learning programs);
   b. parallel (program includes traditional and distance studies modules).

Having analysed distance-learning distinction, it is possible to highlight its advantages and disadvantages.

### Table 1

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possibility to get engaged into lifelong learning and develop irrespective of time and place.</td>
<td>Studies based on contemporary technologies require considerable investments.</td>
</tr>
<tr>
<td>Possibility to learn at a learner’s pace and according to his/her abilities and demands.</td>
<td>Creation of modern means is expenditure-consuming.</td>
</tr>
<tr>
<td>Learning expenses are reduced.</td>
<td>Not all students afford to use a computer and the Internet.</td>
</tr>
<tr>
<td>Teaching material is easier understood using multiple terrains.</td>
<td>There can arise technological incompatibility.</td>
</tr>
<tr>
<td>More rapid innovations and achievements dissemination.</td>
<td>Teachers’ positive approach to distance education, adequate knowledge and qualification is a must.</td>
</tr>
<tr>
<td>Cooperation among different institutions in managing studies, common projects, research.</td>
<td>New technologies require computer literacy, foreign languages.</td>
</tr>
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### Distance module “Fundamentals of Management”: the research of demand and usage possibilities

A group of the teachers of Management Department (Kaunas University of Technology) and the specialists of Distance Teaching Centre (Kaunas University of Technology) have worked out the course “Fundamentals of Management” for distance studies. It is a general course for the students of engineering faculties (day-time, evening, extra-mural departments). Creating this course, most attention has been allotted to extra-mural department students, however, this course could also facilitate other students’ learning (day-time, evening department as well as disabled students).

The course supplies students with all the necessary
literature, enables to use modern technologies. The most popular virtual learning terrain WebCT is used. Before starting to apply this course, there has been carried out the research of students’ demands and possibilities to adopt this form of learning.

The choice of a data collecting method.

Data collecting is a very important procedure. Generalizations and conclusions depend on the precise data, therefore it is very important to choose the most appropriate data collecting method.

The research has been aimed at students’ attitude to distance learning and their possibilities to use this way of studies. Inquiry appeared to be the most suitable to this end (Janilionis, 1999; Kardelis, 2002). The main disadvantage of the method is that an inquiry is often reactive, however, its easiness and cheapness as well as the possibility to easily collect a lot of data make this method very popular.

The questionnaire consists of close-type interrogative questions. It begins with passport data about sex, age department and then twelve questions followed. The questions concern students’ readiness and possibilities to choose distance learning.

Respondents’ selection.

The research was carried out in February 12-13, 2004. The students of Informatics faculty (third year day-time and evening department students) who had the course “Fundamentals of Management” took part in this research. The cause of choosing these students was the following one:

- It could be said that the students of this faculty are the most “literate” in this field and they are rather well prepared for these studies.
- Now they study the module “Fundamentals of Management” in a traditional way of learning.

The general number of these students is 274 (240 day-time students and 34-evening department students). 158 students of day-time studies and 21 of evening department participated in the research.

In order to check if the number of respondents is representative enough for obtaining valid results that could be interpreted for all third-year students of Informatics faculty, Paniott (1986) formula has been used for this purpose:

\[
n = \frac{1}{\Delta^2 + \frac{1}{N}} \tag{1}
\]

where \(n\) – the necessary number of respondents;
\(\Delta\) – possible error amount (in social sciences research standard error is 5%, obtained with 0.95 probability (P));
\(N\) – the number of the members the entirely researched.

It has been estimated that the number of respondents who has taken part in the research is sufficient in order the data obtained to be applicable for the entirety whole.

Table 2 presents the indices that characterize the research sample.

<table>
<thead>
<tr>
<th>Indices</th>
<th>Qualitative expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>The number of the members of the whole, (N)</td>
<td>274</td>
</tr>
<tr>
<td>Sample quantity, (n)</td>
<td>162</td>
</tr>
<tr>
<td>Probability of Reliability, (P)</td>
<td>0.95</td>
</tr>
<tr>
<td>Choice error, (\Delta)</td>
<td>0.05</td>
</tr>
<tr>
<td>Respondent number, (n_{respondent})</td>
<td>179</td>
</tr>
</tbody>
</table>

Research results

The research results have been processed by means of statistics package SPSS and Excel counting. The demographic data about the respondents, distribution according to sex and age are presented in Figure 2.

![Figure 2. Respondents’ distribution according to the age and sex](image-url)

At the beginning the respondents have been asked about the problems they face while studying traditionally. Figure 3 presents the results.

![Figure 3. Problems faced by the 3rd year students of Informatics faculty (traditional studies)](image-url)
It is obvious that the most serious problem is the co-ordination of the schedule. Comparing these indices according to the parts of studies, it becomes clear that the problem of adjusting studies and work is rather acute for the day-time students (46.8%) and evening department students (14.3%). The students of the evening department are especially worried about the rate of studies. This is very important for 28.6% of the evening department students and 22.2% of the day-time students. Only 13.4% of respondents do not face any problems in traditional studies.

When asked about the purpose of using a computer the respondents answered that they do that for learning (98.9%). Only two students do not use a computer for that aim. 96.6% of students are interested in the search for information, 89.4% enjoy entertainment and communication possibilities. A computer is useful in work for the evening department students (85.7%) and daytime students (53.2%). Table 3 presents these results.

Table 3

<table>
<thead>
<tr>
<th>The aims of using a computer</th>
<th>Number of respondents</th>
<th>Meaning, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning</td>
<td>177</td>
<td>98.9</td>
</tr>
<tr>
<td>Work</td>
<td>102</td>
<td>57.0</td>
</tr>
<tr>
<td>Information search</td>
<td>173</td>
<td>96.6</td>
</tr>
<tr>
<td>Entertainment, communication</td>
<td>160</td>
<td>89.4</td>
</tr>
<tr>
<td>Others (music, films, bank transactions, etc.)</td>
<td>14</td>
<td>7.8</td>
</tr>
</tbody>
</table>

The aims, and the number of students going in for traditional studies witness the fact that students need distance studies.

Further students have been asked about WebCT virtual surrounding. 63.1% of the respondents know nothing. 25.1% of students have heard something. It is obvious that there exists the necessity to acquaint them with this occurrence before taking distance studies.

The answers to the question: Would you like to find out more about distance studies and virtual learning environments? proved that 91.1% of respondents would prefer this. When asked about the importance of WebCT means in distances learning, 92.2% of the respondents think that the content of the course (program, notes, dictionaries, calendar, drafts) would facilitate learning very much; 74.4% favour other measures (obligations, tasks, tests, self-control questions, marks); 57.0% enjoy communication means (discussions, dialogues, e-mail, etc.).

Investigating students’ possibilities to take distance studies, it has been found out that 93.9% of the respondents can go in for distance learning in WebCT surrounding. They have already acquired the basics of English language, using a computer and the Internet.

The respondents use computer not less than some times per week (8.4%), every day (91.6%, it is 164 of the respondents), 81.6% of the respondents can do this at home, 19.6% – at work, and 55.9% – at university. Some of them use a computer in several places.

The research allows maintaining that most students at Informatics Department have possibilities to take distance studies.

The research has made it evident that 12 out of 179 respondents have had distance studies. Only two of them were not satisfied with those studies.

When asked about the form of studies, 65.9% of students would prefer mixed studies, 2.8% – distance studies, 31.3% – traditional studies. As to the course “Fundamentals of Management”, the priority was given to mixed studies (63.1%) (see Figure 4).

![Figure 4. Students’ choice as to the way to study “Fundamentals of Management”](image)

Having generalized research results, it is possible to maintain that the students of Informatics faculty are ready and have the possibility to take the course “Fundamentals of Management” as well as other courses through distance learning.

More than 60% of respondents would like to have “Fundamentals of Management”, and they prefer mixed studies. They would be able to get lecture notes, course papers and tasks by means of distance studies as well as to directly consult with teachers.

It is quite probable that distance course “Fundamentals of Management” would justify the expectations of program creators and students, and would establish proper conditions for flexible learning at a convenient time and suitable place through adjusting traditional and distance studies.

**Conclusions**

1. Contemporary higher education aims at conforming to the present requirements to be mass and open and satisfying the needs of the knowledge society.
2. Distance teaching development can take different directions: professional, academic, personal and social.
3. Contemporary studies could be organized in different forms by coordinating traditional and distance learning.
4. Distance studies have their advantages and disadvantages. However, it is necessary not only to evaluate the ratio of advantages and disadvantages, but to co-ordinate traditional and distance studies striving for the best variant in the sense of both studies quality and social and economic effectiveness.
5. The research has shown that the students’ need to study by means of distance learning (even 86.6% of the respondents pointed out that they face dif-
different problems at traditional studies, 98.9% of the respondents use computers for their studies, and 96.6% – for the search of information).
6. Questionnaire results revealed that 93.9% of respondents have all the possibilities to learn through a distance way in WebCT environment (they have acquired basic English and have the possibility to use a computer and the Internet), however, they know too little about distance learning itself and virtual WebCT environment.
7. 63.10% of third-year students of Informatics faculty (KTU) would like to study “Fundamentals of Management” in a mixed way, and thus have an opportunity to use distance learning program and to be able to meet and consult with the teacher in a traditional way.
8. The course of “Fundamentals of Management” prepared for distance learning is also necessary for both evening and day-time department students of the same faculty. The problem is to coordinate students’ needs, their individual assignments and the hours assigned for these activities, and to put these actions into practice.

References
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Žinių visuomenės formavimasis: naujas požiūris į specialistų vadybinį – ekonominį rengimą

Santrauka

Straipsnyje nagrinėjamas naujas požiūris į specialistų vadybinio-ekonominio rengimą, formuojantį žinių visuomenę. Tai pateikiamą, pristatant nuotolinio mokymo(si) privalumus bei problemas, atlikto potencialių studentų, būsimų specialistų ketinimo ir pasirengimo studijuoti nuotoliniu būdu tyrimo rezultatus.


Atvirojo ir nuotolinio mokymo bei mokymosi (ANM) sistema leidžia mokytis žmogus patogiu dirbimo būdu, patogiu laiku ir jai gali mobiliesi be panaudojant technologijas. Ši sistema leidžia mokytis nuotolinio mokymo būdu, kuris leidžia mokėti vaikams ir studentams kasdienėje gyvenime.
technologijų, tiek vartotojų, tiek ir paslaugų aspektu.

Tik šiuolaikinės mokyklos aplinkose adaptuotos technologijos jos galėtų būti tinkamai pasitelkiamos mokymosi procese. Adaptacija svarbi dviem aspektais: vartotojo sugebėjimų bei poreikių ir vartotojo įrango.

Nuotolinis mokymas kaip savarankiška praktika atranda savo vietą ir įsitvirtina švietimo rinkoje. Tiek, kiek nuotoliniam mokymui paveiks atitikti kintančius besimokančių poreikius, tiek jis galės įsitvirtinti kaip šiuolaikinės švietimo praktika ir apsibrėžti savo statusą.


Nuotinės studijos gali būti organizuojamos kaip įvairūs mokymo kursai:
- Kursai, teikiantys daug pačios naujausios informacijos.
- Žinių įtvirtinimo kursai.
- Lavinamieji (treniravimosi) kursai.
- I principų, dėsnų, idėjų supratimą orientuoti kursai.
- Interpretacinių seminarių tipo kursai.
- Kursai, orientuoti į individualų savirealizacijos programų rengimą, patenkinti asmenybės ugdymo poreikius.

Nuotinės studijos gali būti organizuojamos įvairiomis formomis:
1) Autonomus nuotolinių studijų modelis (tik nuotinės studijos).
3) Integruotasis nuotolinių studijų modelis:
   a) papildytasis – tradiniais studijų studentai naudoja nuotolinį studijų mokymosi medžiagą;
   b) būlygiiresčius – studijų programa sudaryta iš tradinio ir nuotolinio studijų modulių.

Nuotolinis mokymasis turi nemažai privalumų:
1. Suteikia galimybę mokytis visa gyvenimą, tobulėti nepriklausomai nuo laiko ir vietos.
2. Galimybė mokytis pristatiniu tempu pagal besimokančių poreikius ir gebėjimus.
4. Mokymo medžiaga daugiau ypač tampa geriau susivokama.
5. Greitesne mokslinė laimėjimų ir naujovių sklaida.
6. Galima kooperacija tarp įvairių universitetų ir kitų institucijų organizuojant mokymą, bendrus projektus, tyrimus.

Tačiau, kaip rodo praktika, susiduria ir su kai kuriais trūkumais bei problemomis:
1. Studijų organizavimas naudojant šiuolaikines technologijas reikalauja didelų pradinių investicijų ir darbo sąnaudų.
2. Ne visi studentai turi galimybės naudotis kompiuteriu ir internetu.
4. Dėstytojai privalo teigiamai vertinti nuotolinį mokymą, turėti atsirandamas žinias ir kvalifikaciją.
5. Nemažai dažnai žmonių sunku taikyti naujas technologijas, jie atsargiai į tą žūri ir net ignoruoja naujoves.
6. Naujos technologijos reikalauja tam tikro besimokančių pasirengimo, kompiuterinio raštingumo, užsienio kalbų grįžd
7. Mokymosi procese trūksta socialinių kontaktų.
Grupė KTU Vadybos katedros dėstytojų kartu su KTU Distancinio mokymo centro specialistais parengė nuotolinį kursą “Vadybos pagrindai”.

Prieš tai nuotoliniai būdu WebCT virtualioje terpėje buvo atliktas potencialių studentų – būsimų specialiųjų poreikių ir galimybų studijuoti šiuo būdu tyrimas.


Sukurti mokslo literatūrą ir atlikti tyrimą, suformuluoti šios išvados:
3. Šiuolaikinės studijos gali būti organizuojamos įvairiomis formomis, derinant tradicinę ir nuotolinį mokymą.
4. Nuotolinės studijos turi privalumų ir trūkumų. Tačiau reikia susitelkti ne į privalumų ir trūkumų santyko vertinimą, o į tradicinę bei nuotolinio mokymo derinimą, siekiant geriausio varianto mokymosi būdui.

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