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E-learning as a Challenge for Widening of Opportunities for Improvement of Students' Generic Competences

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ABSTRACT The rapidly changing economic, financial and social conditions require new knowledge and competences in order to be able to understand them, adapt to the new requirements and remain competitive and successful in the globalised social environment. Widening the access to lifelong learning is one way in which this could be achieved. A special role in this process is given to universities as promoters of lifelong learning. E-learning is a means of promoting the changes in academic studies and providing an opportunity to integrate non-formal and informal learning elements into formal education. Individualisation, learning opportunities flexible in time, as well as the e-environment can facilitate the development of students' competences. This article presents a study conducted during the implementation of an inter-university master's programme, 'Educational Treatment of Diversity' (in Spain, Latvia, Germany and the Czech Republic) in 2008-10. The research question was: which challenges for widening of opportunities were secured in e-learning in order to promote students' generic competences as a learning outcome?

Introduction

The situation in the twenty-first century is such that everyone having attained master's education should be ready to adapt to the changing socio-economic environment and the challenges it creates. A special role in this process has to be taken by higher education whose major challenge is to adapt to the 'ensuing opportunities of globalisation and accelerated technological developments with new providers, new learners and new types of learning' (Leuven Communique, 2009, p. 1). In this context new types of learning include the use of new technologies, such as e-learning, which is becoming more and more significant in providing accessibility to lifelong learning to everyone.

The organisation of the master's studies, on which the investigation was conducted, was combined with self-organised interactive e-learning in unknown changing situations. In this case e-learning is the use of 'the Internet to access learning materials, to interact with the content, professors, tutors, and other learners and to obtain support during the learning process, in order to acquire one's own knowledge, to construct personal meaning, and to grow from the learning experience' (Anderson & Elloumi, 2004, p. 37).

E-learning as a new form of learning organisation in the twenty-first century (Seok, 2008) creates a transformative learning environment which provides an individual approach and is suitable for every student's needs (Twigg, 2001). On the one hand, it can help students not only acquire but also use knowledge and skills, and develop competences necessary for professional activity (Dwyer, 1999). E-learning has a significant potential to alter the nature of the teaching and learning transaction. Seen as part of a pedagogical solution, e-learning widens opportunities to examine and live up to the ideals of such an educational transaction. The current passive-information-transfer approaches to higher education are contrasted with the interactive and constructive potential of e-learning (Garrison et al, 2003).

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On the other hand, the teaching and learning focus must change, placing more emphasis on learners who are able to work competently. The educational process should facilitate the development of self-directedness (Gibbons & Phillips, 1984). Computer-mediated communication, which supports greater accessibility and adaptability, cognitive engagement and interaction, and the collaborative work of educators and students, is the basis for interactive self-organised learning as a complex process with several interrelated and interacting components (Long, 1990; Boekaerts, 1997). The widened opportunities of the educational process in the new e-environment involve challenges for students and teachers so that the learner becomes the teacher and the teacher the learner (Derrick et al, 2005). Mason's (2004) idea to shift from a student-centred approach to a dialogical approach – the student and the educator are learning together – and Fulton's approach to e-communication as information processing (Fulton, 1998), as well as the systemic-constructivist approach to learning and cooperation (Maslo, 2006), have been integrated and developed in the present study.

Therefore it is essential to study how a student turns from being the listener and observer into the solver of pedagogical problems, supporter and discussion partner; how the student passes from individual activity to collaboration and learning in a group, from competition to collaboration with peers and to acceptance of their own and the group members' knowledge by being included in the group (MacGregor, 1990, p. 25); as well as studying the mutual interaction between the student, tutor, professor and learning in the e-environment. The focus has shifted to the internal conditions (attitudes and beliefs) that are necessary for sustained and enduring learning rather than the external surroundings and settings (Derrick et al, 2005).

The present research was conducted during the implementation of an inter-university master's programme 'Educational Treatment of Diversity' (Gento, 2007; Maslo et al, 2008) at the University of Latvia in 2008-10. The research question is connected with an exploration of the study process: which challenges for widening of opportunities were secured in e-learning in order to promote students' generic competences as a learning outcome?

Theoretical Framework

The conceptual framework of the present research is based on:

- the model of the teaching and learning transaction (Garrison et al, 2000, 2005);
- systemic-constructivist learning (Reich, 2005).

The Model of the Teaching and Learning Transaction

While human interaction (learner to learner and learner to instructor) is often stated as a desired instructional goal within distance education, social interaction in and of itself is not a guarantee of cognitive engagement or of meaningful learning (Garrison & Cleveland-Innes, 2005). Randy Garrison and others (Garrison et al, 2000) elaborated the model of the teaching and learning transaction in a text-based communication medium. The model assumes that in an e-community, learning occurs through the interaction of three core components: cognitive presence, teaching presence and social presence (Garrison et al, 2000). Only theoretical ideas on the component of social presence are considered in this research. Social presence is defined as the ability of participants in the Community of Inquiry to project themselves socially and emotionally, as 'real' people (i.e. their full personality), through the medium of communication being used. An educational Community of Inquiry is a group of individuals who collaboratively engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding. The theoretical framework of the Community of Inquiry represents a process of creating a deep and meaningful (collaborative-constructivist) learning experience through the development of three interdependent elements – social, cognitive and teaching presence. A community of learners is a construct that has attracted considerable attention in higher education, emphasizing the significance of community in supporting collaborative learning and discourse associated with higher levels of learning (Garrison et al, 2000; Garrison, 2007). Garrison et al (2000) based their research on three categories of indicators of social presence, which are in line with the research interests of the authors of this article. These categories are as follows:

- emotional expression: the capacity to express these emotions is correspondingly reduced or eliminated when communication is text based, and takes place at a distance. In this model, emotional expression is indicated by the ability and confidence to express feelings related to the educational experience;
- open communication: social presence is expressed in open communication in the form of mutual awareness and recognition of each other's contributions. Mutual awareness builds group cohesiveness and helps to shape each participant's learning activities;
- group cohesion: this category is exemplified by activities that build and sustain a sense of group commitment, which considerably supports and is closely associated with the cognitive aspects of an educational experience. The premise is that critical inquiry and the quality of the discourse are facilitated and optimised when students perceive themselves as a part of a group rather than as individuals. Building cohesion and a sense of belonging are important for sharing personal meaning. This category might be described as focused collaborative communication that builds participation and empathy.

Systemic-Constructivist Understanding of Challenges for the Improvement of the Development of Students' Generic Competences in E-learning

Kersten Reich (2005), the founder of the systemic-constructivist learning approach, analyses the individual's perception of reality, taking into consideration three categories: experience, sense of well-being and social recognition. These categories manifest how different people may be, including their desires and expectations, motivation and physical status, illnesses and physical attributes, which explain the variety of learners' expectations from the study process. Therefore it becomes an especially significant task to create such an e-study process, which would provide appropriate an learning environment to different people.

E-learning in the Context of the European Inter-university Master's Studies

Blended learning is used at the University of Latvia – e-courses are available for all the students. At present the system shows 31,679 registered users (students and professors). From 1 February 2009 to 30 June 2009, 9054 users have been actively involved in e-learning. All in all there are 1496 e-courses available. E-learning courses constitute 10% of all study courses.

E-learning in the inter-university master's programme, 'Educational Treatment of Diversity', differs from e-courses used at the University of Latvia. The first difference is that it is oriented towards students' generic, basic and specific competences (Gento, 2007) in the context of the common European higher education space. In the research field it promotes theoretical and practical knowledge of research in the educational treatment of diversity. The second difference is the choice of the model of self-organised e-learning, where there are no compulsory regular face-to-face lectures. Interactive e-learning is used to substitute for the presence of regular lecturing. The didactic material is organised in modules (18 compulsory and 4 optional modules) that have been prepared following the necessary structure and reinforcements in order for students to use them in an independent, self-organised way, with the social presence of students, professors and tutors dominant in the e-environment. The main focus in tutoring is on clarifying the students' needs, helping them to solve the problems, and obtaining the necessary learning outcomes for deep learning and peer learning. This is a reason why tutoring sessions are intercommunicative opportunities where students directly and flexibly speak to professors and get answers to their questions. The following opportunities facilitated students' discussions and experience exchange:

- obligatory forums;
- course forums (each including the description of the study course, the materials, discussions, chats and activities);
- forums on specific issues (e.g. the forum on the use of computers and the e-platform);
- group forums;
- online sessions;
- chats;
- Skype technology.

In the introductory part of the study course an e-platform in the *Moodle* environment was created. Two information and communications technology (ICT) tutors supported the students to become familiar with this e-platform.

During their studies students faced unknown challenging situations related to their workplace, which later helped them reach the learning outcomes.

- During Modules A1-A2 the students faced an unknown, challenging situation – they had to work in the unknown *Moodle* environment, log in, offer their own theme for the forum, and communicate with others joining social forums and exchanging their experiences. They also learnt to work in the course forum and to acquire the study material, discuss, chat and participate in other activities. Two ICT tutors provided support to the students. The organisation of the work foresaw cooperation among the students, e.g. when they had to translate some substantial study material from other languages, the students cooperated and divided the whole material among small, self-organised groups and coped with the task in an effective way.
- During Modules A3-A4 the students continued their cooperation by subdividing the study material among the group members and introducing each other to the content they had mastered. They participated in chats, in obligatory and self-initiated forums, started to use video material and learnt how to download material from the e-platform and to upload their own material to the e-platform. In such a way the students' collaboration was promoted, and team-working skills were fostered.
- During Modules A5-A6 the students not only continued studying in the same way they had learnt in the previous courses, but they were also given the opportunity to study using three languages. In this period the students were expected to use their acquired knowledge and skills in real-life situations in order to become more competent. Working with observation sheets and self-assessment sheets to define their own competence levels helped the students develop their evaluation skills and promote their self-confidence, thus freeing them from the stress experienced at the beginning of the master's programme. The enhancement of students' competence is seen from the fact that the forums became too narrow for them. Therefore, they set up a Google group at http://docs.google.com to work with one document simultaneously and edit it as a team.
- During the next 12 modules the students were involved in self-organisation of interactive e-learning, providing them freedom of mutual collaboration in acquiring the specific content of the module and mutually solving the problems that arose;
- The last 6 modules were self-organised.

The following conditions of e-learning were secured in order to transform obstacles into opportunities: (1) the shift of the organization of the study process to peer learning and deep learning; (2) integration of students' informal knowledge of ICT (social networks, Google, blogs, etc.) in the study process using e-learning; (3) students' cooperation was promoted (students–students, tutors–students, professors–students); (4) communication was developed (not only in the e-environment); (5) students were involved in the organisation of the study process as well as in its continuous improvement; (6) students themselves initiated discussions in real life and in the e-environment, offering study-related topics for discussion in chats and forums; (7) students were also involved in promoting the study programme by creating presentations together with professors, participating on reports, and working on scientific and popular scientific publications; (8) students systematically analysed their competences and planned their self-enhancement.

The duration of the students' visit to the e-platform in the European inter-university master's programme during the first term of their studies ranged from 271 (min.) to 1694 (max.) minutes, which on average makes 16.4 hours per student. Comparing the data on how long different students from the University of Latvia spent on the e-platform, students from the European inter-university master's programme take second place, with first place being taken by the students from the Faculty of Computing (from 18.3 to 22.9 hours), who specialised in this field (Statistics of e-studies at the University of Latvia, 2009).

Research Methodology

The Sample of the Research

The sample comprised 21 students from the master's programme 'Educational Treatment of Diversity' studying at the University of Latvia. The group consisted of 17 female and 4 male students, aged 21-47. In order to obtain information about the students, they were interviewed during matriculation and the data obtained from their applications for the programme were analysed. Data on students' qualifications were as follows: eight students had bachelor's degrees; one student had a master's degree in psychology; the others had degrees in sociology, English philology, arts, visual arts, law, etc. With regard to students' occupation, there were two teachers of English, two teachers, two pre-school teachers, one special education teacher, one voluntary social worker, one training coordinator, one psychologist, one head of an advertising department, one prison psychologist, one methodologist of education, one secretary, one lecturer, and one housekeeper. Some 62.5% of the students had obtained information about the master's programme on the Internet, while 31.25% of the students had learnt about it directly from the University home page. As only 14.29% of the students had previous experience in e-learning, they thought they might face certain problems in their studies due to the specifics of the study process.

Research Design

In order to explore the challenges for the application of students' generic competences in the new opportunities of an interactive e-learning environment, pedagogical observations in the e-learning environment, inducing and deducing students' practical experience (Kroplijs, 2004; Morgan, 2007) were conducted. The research had an explorative mixed-methods design (Taylor, 1973; Dockrell & Hamilton, 1983; Altheide & Johnson, 1994; Tashakkori & Teddlie, 2003; Mayring et al, 2007). Priority was given to the qualitative aspect of the research (Huber & Gürtler, 2004). The qualitative data were obtained from: a 'profile access students'' interview; the analysis of the self-assessment of students' competences; the free and structured data in the forums; and chat and structured self-evaluation statements in the e-platform. An analysis of challenges for the application of students' generic competences using e-learning opportunities was then conducted. The statements were coded, applying the categories determined in the systemic-constructivist learning model provided by Reich (2005, p 21). Linkages among the categories were created and analysed, and a table of frequencies of conceptual codes was created in order to validate the data. In order to decrease subjectivity while coding, the meaning of the codes was discussed in groups. After the theoretical and empirical parts of the research, conclusions were made and a hypothesis for data analysis was put forward.

The linkages between metacodes and sub-codes were constructed and analysed by applying AQUAD software and were validated by applying SPSS software. The frequencies of codes of quantitative data were determined using descriptive statistics (analysis of frequencies, central tendency, variability, skewness and kurtosis indicators). Secondary data processing was carried out taking into account the exact sample (Kolmogorov–Smirnov *Z* test, Spearman's rank correlation coefficient and Pearson correlation, etc.) to validate the results.

The Plan of the Research

1. Qualitative data collection – 'Profile access students'' interview, data gained in chats and forums of the e-platform, analysis of students' work, analysis of students' self-assessment of their competences – autumn, 2008, 2009;
2. Qualitative and quantitative data processing – spring, 2009, 2010;
3. Qualitative and quantitative data processing – summer 2009, 2010
4. Data analysis and interpretation –autumn, 2009, 2010.

Main Findings

In order to evaluate which challenges for widening of e-learning opportunities ensure the students' learning outcomes (generic competences: an ability to use the accessible sources of a concrete field of knowledge, an ability to ensure the management of studies in an effective and economic manner, an ability to use academic content in widely used foreign languages), at the beginning of the studies and at the end of each term generic competences in relation to *what*, *how* and *why* they had to be used, as well as the e-learning opportunities, were evaluated.

At the beginning of the studies the previously mentioned generic competences were manifested only when it was explained in detail *what*, *how* and *why* they had to be used; for example: Student A, self-assessing her generic competences, writes:

> At the beginning of studies I really expected to get explanations what and why it had to be done.

Students' ability to use the available sources of exact field of knowledge after having received explanations regarding their use was promoted by the possibility to obtain information on the study platform, read additional literature, get information on the Internet, in books and magazines (Modules A1-A6), use course materials in Spanish, use course forums on the e-platform, as well as make use of interesting Internet addresses useful in some areas of knowledge shared by the other members of the course. Sometimes students used the available sources of subject knowledge on their own: reading information on the Internet, in books and magazines, searching for more accessible sources in libraries, sharing their experience, studying all the modules, and obtaining the information available on the study platform. The problems the students encountered promoted their self-initiative, the making of independent decisions and planning in order to use the available sources of subject knowledge. Students commented:

> If it was hard to understand a theme because of its complexity or bad technical translation, the additional sources were of utmost importance. (Student B)

> I tried to search for additional literature on any theme offered to better understand them. (Student C)

Some students always used the accessible sources of subject knowledge: studying scientific content, performing practical activities, studying additional literature, and often obtaining information on the Internet.

Professors and lecturers regularly rendered individual assistance to the students during the university academic period. The communication with students took place via telephone and/or email. The consultations were organized in an interactive way, thus motivating students to participate, share their ideas, comprehend and become familiar with the study material and organization of the studies in an informal atmosphere. All the participants in the study process – the students, tutors, lecturers and professors – had to pass through certain unknown situations and solve unforeseen problems and all of them were learning. Professors' recommendations to the students on how to plan their monthly work and organize the studies in an effective and efficient way, offering of worksheets, as well as working on the e-platform forums, made the students' work much more effective. Students critically reflected on efficient constructing of the study experience; for example, Student D stated:

> My study process cannot be called economical, as I prefer printed study materials, which makes it costly due to the expenses for printing services.

It proves that students are actively involved in the study process and benefit from their involvement. Group work is often an effective and time-saving method that ensures the planning of daily tasks. Some students always plan their work and study activities, thus ensuring what is effective; for example, Student E states:

> Firstly, I check the information available on the study platform, then make use of the resources from there, after that I plan independent studies, translate, obtain additional information on the Internet, as well as from individual meetings with tutors. Alongside, I save the necessary information in my data base.

Students make use of the possibilities offered, making independent decisions about their studies, and thus taking the responsibility for their successful process and outcomes.

The ability to use academic content in widely used foreign languages was facilitated by carrying out the following procedures: reading of materials in Modules A1-A6; getting explanations how to operate translation software to acquire the material in a foreign language; studying sources in Spanish and in English and translating them. Sometimes students tried to apply different methodologies to improve their competence in working with texts in foreign languages, sometimes translating them into German and Russian, and making use of the Latvian and Russian languages as supplementary sources (critical literature, Internet resources, cooperation – group work, forums, chats). This proves that master's students tried to construct their own experiences for language use. Therefore a varied choice of language options was offered in their studies.

Finding 1

If a student starts work without corresponding generic competences most of the time passes in worrying that no result will be reached or in increasing generic competences in order to reach such a level that the student would be able to acknowledge his/her personal potential: the student makes a choice and starts another activity which consequently leads to the next success.

In order to study how successfully the students could overcome unusual pedagogical challenges on the e-platform, the data obtained in chats and forums on the e-platform as well as in the forum 'The problems of use of computers' were analysed.

The metacodes and conceptual codes used in data processing have been determined after Reich (2005, p. 21) (see Table I), processed with AQUAD 6.0 software. On this basis linkages were constructed; their meanings were demonstrated in accordance with the respective text segments as shown in Table I.

Conceptual	Codes	Metacodes	
SF_ps	physical symptoms	Sense of well-being	SF
SF_ex	expectations		
SF_de	desires		
SF_mo	motivation		
SF_il	illnesses		
SF_w	wishes		
E_pbdm	pattern of behaviour developed in the motherland	Experience	E
E_cp	cultural peculiarities		
E_oobac	one's own biography as a construction		
E_n_bee	negative basic emotional experience		
E_p_bee	positive basic emotional experience		
E_sel	success experienced in learning		
E_sw	specific world		
E_pbdm	consequences of the surrounding world		
SR_cosw	adopting concepts of roles	Social recognition	SR
SR_np	negative patterns		
SR_soi	search of one's ideals		
SR_pp	positive patterns		
SR_ase	adopting social expectations		

Table II. The system of conceptual codes.

The constructed linkages were statistically validated with the data obtained by SPSS 16.0 software. The frequencies of metacodes correspond to normal distribution after Kolmogorov–Smirnov; the correlation among the metacodes was measured by using a Pearson correlation coefficient, which showed that students' experience tightly correlates with their social recognition ($r = 0.68$, $p < .01$, Sig. 2-tailed) and moderately correlates with students' sense of well-being ($r = 0.48$, $p < .05$, Sig. 2-

tailed). Thus it can be assumed that students' experience influences the intercorrelation between students' social recognition and sense of well-being (r = 0.48, $p < .05$).

Finding 2

Accumulation of new experience by overcoming barriers of unusual pedagogical challenges on the e-platform takes place when a successful activity that corresponds to one's own potential is performed and positive feedback from others is received.

By broadening students' experience their social recognition would be improved, which in its turn would have a certain impact on students' sense of well-being. However, it could be assumed that students' social recognition influences the intercorrelation between students' experience and sense of well-being. Thus, by improving students' social recognition, their experience would broaden, which in turn would have an impact on students' sense of well-being (see Table II).

	Experience	Self-feeling	Social recognition
Experience	1	0.48*	0.68**
Sense of well-being	0.48*	1	0.49*
Social recognition	0.68**	0.49*	1

*$p < .05$; **$p < .01$ Asymp. Sig. (2-sided).

Table II. Pearson correlations among Experience, Sense of well-being and Social recognition.

As the frequencies of conceptual codes did not correspond to normal distribution after Kolmogorov–Smirnov, the correlations among the conceptual codes were measured by using a Spearman rank correlation.

Finding 3

The effort to overcome challenges, interest and motivation to study in the subject area, and perform study-related tasks are essential features in order to promote students' generic competences.

The results of quantitative data processing (see Table III) show that students' experience (the code '*one's own biography as a construction*') does not correlate directly with self-recognition (the code '*search of one's ideals*').

Codes	SF_mo	SF_w	E_oobac	E_n_bee	E_p_bee	E_sel	SR_np	SR_soi	SR_pp
SF_w	0.57**	1.00	0.436*	0.43	0.22	0.42	0.442*	0.730**	0.473*
E_oobac	0.46*	0.44*	1.00	0.15	-0.01	0.29	0.443*	0.34	0.518*
E_n_bee	0.40	0.43	0.15	1.00	0.23	0.27	0.26	0.622**	0.36
E_p_bee	-0.04	0.22	-0.01	0.23	1.00	0.20	-0.04	0.16	0.16
E_sel	0.65**	0.42	0.29	0.27	0.20	1.00	0.607**	0.499*	0.591**
SR_np	0.62**	0.44*	0.443*	0.26	-0.04	0.607**	1.00	0.577**	0.891**
SR_soi	0.68**	0.73**	0.34	0.622**	0.16	0.499*	0.577**	1.00	0.670**
SR_pp	0.63**	0.47*	0.518*	0.36	0.16	0.591**	0.891**	0.670**	1.00
SR_ase	0.41	0.65**	0.37	0.30	0.28	0.14	0.21	0.445*	0.32

*$p < .05$; **$p < .01$ Asymp. Sig. (2-sided).

Table III. Spearman rank correlation.

However, students' experience, as a mediator, moderately correlates with motivation (rs = 0.45, $p < .05$). Students' negative basic emotional experience tightly correlates with their social recognition (the code '*search of one's ideals*' (rs = 0.62, $p < .01$).

Finding 4

It is important for a student to be personally involved in activities that are connected with essential challenges, overcoming of which creates satisfaction.

There is a relation between description of sense of well-being (the code '*wishes*') and experience (the code '*success experienced in learning*'). The results of quantitative data processing (see Table III) confirm that there is no direct correlation between sense of well-being (the code '*wishes*') and experience (the code '*success experienced in learning*'). It could be assumed that there is some type of mediated relation between them as students' experience (the code '*success experienced in learning*') tightly correlates with sense of well-being (the code '*motivation*') ($rs = 0.64$, $p < .01$). This needs to be studied further.

Example

Student A compares her experience of her previous studies with her present studying in the e-environment in the master's programme (the code '*one's own biography as a construction*').

'I am afraid that, in spite of my efforts to cope with all the study requirements, I don't have many positive feelings [the code '*negative basic emotional experience*'] to e-studies and, to my mind, it's not the best one. Yet, I have decided to overcome all the difficulties and achieve all the pedagogic goals set in the beginning of the programme [the code '*motivation*']. At the moment only this goal keeps me from leaving the programme [the code '*search of one's ideals*'].'

Finding 5

Students who are able to cope with new tasks and problems speak about the emergence of definite aims for their life, as this subjective experience motivates them for further activity.

In order to succeed, students had to use several languages. At first, it was a stumbling block but later they learnt to collaborate and managed to organise their learning process much more efficiently. For example, a tendency to translate all the terms and expressions was observed at the start of the studies. The linkages that were determined showed a relation between experience (the code '*one's own biography as a construction*') and social recognition (the code '*search of one's ideals*') where a student explained that she had been trying to literally translate the text and understand every single word and came to a conclusion that in order to succeed it is necessary to learn Spanish. Gradually the students learnt how to work with a glossary. The linkages that were determined showed a relation in social recognition between the code '*search of one's ideals*' and the code '*positive patterns*'. This means that the students learnt from the patterns as well as others' (tutors') experience and improved their learning outcomes. Students were willing to share their ideas on everything they discovered. The linkages validate cooperation and show a relation between experience (the code '*one's own biography as a construction*') and social recognition (the code '*search of one's ideals*') where a student admits that she has a very limited foreign language capacity and she expresses a wish to collaborate, to form a team in order to master the course. She is convinced that such cooperation will widen her opportunities for learning and ensure personality development.

Finding 6

A supportive social climate and clearly defined aims significantly influence widening of experience acquired during the study process. In its turn the challenge for the professor is connected with coordinating each new study activity with the student's previous experience, potential, motivation and expectations.

The forum 'The problems of use of computers' was researched as it contains the generalised idea about the questions related to the challenges of ICT usage. Based on the data, a linkage was constructed and the frequencies of conceptual codes were tabled.

There is a relation between description of experience (the code '*wishes*' and '*positive patterns*') and social recognition (the code '*search of one's ideals*').

Example

Student E asks in the forum: 'How can I attach my CV to e-platform?' (Code: 'wishes').

Student F answers: 'I started from the very beginning, opening a new BLOG from my profile. I managed it. Try and see.' (Code: '*positive patterns*').

Student G offers: 'Hi! Go to BLOG, press "add new entry" and attach your CV. Good luck!' (Code: '*positive patterns*').

Student E replies: 'Thank you! I have managed it, too.' (Code: '*search of one's ideals*').

Discussion

The research findings confirm that in e-learning social interaction in and of itself is not a guarantee of cognitive engagement or a guarantee of meaningful learning (Garrison & Cleveland-Innes, 2005), but professors and tutors are creators of new pedagogical challenges in the e-environment. They are the ones who promote transformation of obstacles into new opportunities of communication. New challenges create interest, which is not passive. This coincides with the opinion of M.G. Derrick and others (Derrick et al, 2005), that internal conditions (attitudes and beliefs) that are necessary for sustained and enduring learning rather than the external surroundings and settings are a significant precondition in order to facilitate the development of students' competences. A wish to find a solution is typical to social interaction in e-learning; for example, students themselves initiated discussions in real life and in the e-environment, offering study-related topics for discussion in chats and forums.

E-learning reveals the connection between the previous experience which is being developed and the new experience. The development of experience is stimulated by students' motivation. The more active the student is when facing challenges, the more capable of overcoming barriers and collaborating with others he/she is, which, in turn, leads to attaining learning outcomes. New challenges form experience that teaches one to experiment in new conditions by interacting with new challenges, thus facilitating students' capabilities.

The enhancement of students' capabilities from elementary level to a level of autonomy and responsibility occurs. In order to enhance their capabilities students have to overcome increasing challenges. Each student had an opportunity to design the enrichment of their experience by making use of varied sources of self-organised interactive e-learning. Students were involved in the organisation of the study process as well as in its continuous improvement and systematically analysed their competences and planned their self-enhancement. Autonomy in planning and performing an activity improves the efficiency of their activity as the student is capable of perceiving the situation as a problematic issue which might be solved because the student is aware of his/her generic competences.

Providing new opportunities in e-learning by constructing various unknown situations and a wider spectrum of approaches offers the opportunity to educate those students who have always been uncomfortable with traditional learning. Thus, the virtual environment of communication becomes an effective educational treatment of students' learning diversity and contributes to the promotion of students' generic competences using e-learning opportunities.

Conclusion

The following challenges for the widening of opportunities were secured in e-learning for promoting students' generic competences as a learning outcome:

1. Accumulation of new experience in interactive e-learning by overcoming barriers of unusual pedagogical challenges on the e-platform takes place when performing a successful activity which corresponds to the person's own potential when receiving positive feedback from others.
2. Effort to overcome challenges, interest and motivation to study in the subject area, and perform study-related tasks are essential features in order to promote students' generic competences. It is important for a student to be personally involved in the activities that are connected with essential challenges, the overcoming of which creates satisfaction.

3. Students who are able to cope with new tasks and problems speak about the emergence of definite aims for their life, as this subjective experience motivates them for further activity.
4. A supportive social climate and clearly defined aims significantly influence the widening of experience acquired during the study process. In its turn the professor's challenge is connected with the coordinating of each new study activity with the student's previous experience, potential, motivation and expectations.
5. New challenges create students' active interest. A wish to find a solution and a disposition to be actively involved in the e-learning process testify to this. New challenges form experience that teaches one to experiment in new conditions by interacting with such challenges, which in turn enables new discoveries in the e-learning study process. In order to enhance their competences students have to overcome increasing challenges to experience something unusual. Autonomy in planning and performing an activity widens the efficiency of the activity as the student is capable of perceiving the situation as a problematic (challenging) issue which might be solved because the student is aware of his/her generic competences and his/her awareness of their self-development potential has increased.

During the studies each student had an opportunity to design the enrichment of their experience in e-learning by making use of varied sources of information, new technologies, and several languages to reach an important subjective goal. The main findings of the study show that widening of opportunities by constructing various unknown situations for communication formed an important context for academic studies, and facilitated self-development of the students' competences. During the studies the challenges were overcome, consequently widening students' learning opportunities.

These evidence-based research findings show that the study process has improved students' competences by the use of informal e-learning, which widens students' opportunities of realising new challenges.

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