ISSN 1392-0340
E-ISSN 2029-0551

Pedagogika / Pedagogy
2017, t. 128, Nr. 4, p. 175–192 / Vol. 128, No. 4, pp. 175–192, 2017

LIETUVOS EDUKOLOGIJOS UNIVERSITETAS

Didactical Opportunities and Dilemmas of Technology Enhanced Learning

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Abstract. The purpose of this research is to identify the didactical characteristics of Technology Enhanced Learning (TEL) and to reveal the main opportunities and dilemmas of TEL didactical solutions in different types of organizations. Didactical characteristics of TEL such as measurable learning outcomes, interactivity, flexibility, experimentation, use of open educational resources (OER) as well as a need for social participation are studied and discussed. Quantitative research method was used to compare didactical characteristics of TEL used for training purposes of employees and teachers in a community, vocational education and training (VET) and business organizations and reveal main opportunities and dilemmas in organising of learning process. Research revealed that a variety of learning methods are used to enhance active learning and that open education resources are used while learning (free access of textbooks, documents, video material), that TEL focuses on practically used teaching/learning outcomes and that TEL curriculum structure creates possibilities for flexible learning and enhances learner mutual cooperation. Problematic areas appeared to be the following: use of technology enhanced assessment and self-assessment tools, clarity of workload.

Keywords: *Technology enhanced learning, didactical characteristics, organisations.*

ISSN 1392-0340
E-ISSN 2029-0551

Introduction

Learning and technology may no longer be considered as didactic rivals. They are increasingly treated among educators as compatible and synergizing each other. Learning has penetrated in people's daily lives in so many multiple ways and spheres that the learning process may not be thought or planned separately from technology. Young people as well as other generations may not imagine their daily routines without different bits of technology, so why should they be excluded from technology in their learning? Researchers agree that ICT as such cannot improve educational processes, but ICT may enhance learning, trigger and enable the use of innovative methods that make learning more efficient and attractive to learners.

Technology enhanced learning (TEL) is synonymous with but wider than e-learning, distance learning, online learning, multimedia learning, internet and web based learning and training, etc. Nevertheless, TEL is a broader concept than e-learning referring to the use of electronic media and ICT in education.

TEL offers wide and far reaching new opportunities for teachers and learners enhancing and not restricting the opportunities for wider content and further accessibility of learning. However, adequate didactic decisions need to be introduced for fluent implementation and high results of teaching and learning. Teachers and their learners often hold distinct views on the integration of technologies in schools. This distinction is related to their beliefs about the benefits and disadvantages of technology. There is a defensive narrative from the side of some teachers about "technology replacing teachers". However, many educators advocate the enhancement of learning with technology (Hoffner, 2007; o'Bannon & Puckett, 2007) and are apprehensive about the impact of technology integration in classrooms. The discourse is not about technologies replacing teachers, but about technologies enhancing teaching and learning.

ICT skills development is an issue for practitioners and researchers (Admiraal & Lockhorst, 2009; Hamburg & Hall, 2013). Even though TEL is widely used across education system it is most often used to describe ICT applications in teaching and learning. Researchers dealing with TEL emphasize different aspects of the topic: comprehensive support for the staff (Olapiriyakul & Scher, 2006; Beck, 2008); separate TEL tools (Specht & Klemke, 2013); emphasize the role of administrative staff in promoting staff development, motivation, satisfaction with a virtual environment, analyze different aspects of distance learning (Motteram & Forrester, 2005); present e-learning comparisons with the traditional learning (Díaz & Entonado, 2009); analyze the role of blended learning in the development of higher education (Graham & Harrison, 2013). Successful integration of technologies is not as simple as it may appear from the first glance. As Govindasamy (2002) put it, e-learning is another way of teaching and learning, but all pedagogical principles that apply to traditional classroom delivery also count in technology enhanced learning; however, they need to be extended to accommodate technological progress. Successful

ISSN 1392-0340
E-ISSN 2029-0551

technology penetration into learning process requires a totally different mind-set from teachers. It is also related to increasing requirements for ICT skills of teachers but not limited to those as didactics is quite as important.

The problem of the research is related to the lack of scientific research, analyzing the didactic elements of the teaching/learning process and principles of integrating TEL in educational and other types of organizations that provide non-formal education. Considerable attention is paid to educational organizations, teachers and students, however, the lack of comparisons between different types of organizations in this area is noted. The research questions are: (1) what are the didactical characteristics of Technology Enhanced Learning (TEL)? (2) Whether different types of organizations pay equal attention to didactical issues of TEL? The purpose of this research is to reveal the main opportunities and dilemmas of TEL didactical solutions in different types of organizations.

Structure of content creates possibilities for flexible learning

TEL creates independence and convenience in organizing the teaching/learning process in a comfortable way using technology-based methods of interaction and providing opportunities to choose the intensity of communication between the teaching/learning process participants. A particular characteristic of TEL is its virtual learning medium which eliminates the limits of time, accessibility of technological equipment and information. TEL includes all ways of teaching which existed hitherto (distance, e-learning, and etc.) and can be integrated with a traditional form of teaching/learning (blended TEL). The full form of TEL (when face-to-face interaction in one physical area is impossible) proceeds only in virtual community on the internet.

Contemporary learners hold the features of the recent generation and require connectivity and multitasking in different surroundings juggling different requirements for work, family and learning. Accordingly, learning providers need to cater to this new demand for connectivity and accessibility. TEL is being constructed to meet learners' choices for convenience and individual needs (Larsson, Rydeman, & Hedvall, 2012). Besides, flexibility is not a homogenious notion. Collis and Moonen (2002) refer to five teaching/learning dimensions related to flexibility in learning:

1) Time (beginning and end of the course, task deadlines, learning speed and moments of assessment;

2) Content (course topics, sequence of topics, theoretical or practical orientation of the course, main learning materials, standards of assessment and requirements for the fulfillment of the course;

3) Requirements for the participation;

4) Instructions and resources (social teaching/learning organization, course teaching language, teaching/learning resources, learning organization;

5) Course presentation and logistics (teacher and learner meeting place and time, methods and technology of support and contact, communication and required technologies, place and technology for participation, channels for content submission and communication.

Curriculum authors should create efficient and effective instructional strategies (Morrison & Anglin, 2012). They indicate that curriculum designers should employ applicable technologies for presentation of information, for interactions, and pacing of the instruction. Learning environment should be constructed to allow learners to adequately manage their time, especially those who are employed, to allow reconciling work and learning and assure the learner with the feeling that the learning project may be a success (Olapiriyakul & Scher, 2006).

Jahnke et al. (2012) prepared a conceptual paper to investigate the challenges that teachers and learners face in mobile learning. The observed shift from a textbook to learning requires being creative. This creates difficulties for administrators in academic institutions as they may need to make new policies, visions and strategies. Furthermore, it creates uncertainty for a teacher in how to teach creatively and for students to deal with uncertainty in finding ways to become creative to solve complex world problems. The second challenge, noted by Jahnke et al. (2012), is that informal learning is integrated in the formal education what requires new teaching methods. Thirdly, traditional teaching routines are disrupted by innovative ways which put additional workload on the teaching staff and learners, as they have to learn how to exploit these innovations for learning. Finally, TEL connects informal learning and collaborative work. This creates challenges to learn to cooperate and participate in the team while opposed to the traditional approach where individuality is promoted as the lecturer is speaking on his own and the students are learning on their own.

TEL encourages learners to use and establish interactivity

The more remote/distant learning is in terms of teacher/learner relation, the more different didactic and technological decisions are to be made by those who plan and design the learning process. E.g., a simple social interactivity that may easily be achieved in the classroom because of eye-contact and emotional rapport is to be intentionally planned in distance e-learning even in case of synchronous teacher-learner communication in video connection, not to mention how difficult it is to create interactivity in asynchronous distance learning. There is a need for different technological and didactic solutions and even more – a need for a different didactic paradigm in technology enhanced learning.

Web 2.0 technologies allow creation of virtual communities or social networks where teachers and learners interact for learning purposes. Cockbain, Blyth, Bovill and Morss (2008) indicate that communication between teachers and learners is an important part

ISSN 1392-0340
E-ISSN 2029-0551

of a learning process. Interaction allows increasing personal engagement and critical thinking. Learning communities support learner motivation to learn together and emphasize the advantages of knowledge and learning (Terzi & Celik, 2005).

Teacher's role changes considerably in online training as TEL requires a learner centred approach instead of teacher centred approach, nevertheless, teacher is a central figure in the process of technology rich curriculum integration (Cviko et al., 2011) as he is the one who makes decisions about technologies to be employed and didactic approaches to be used.

Teachers who hold constructivist beliefs with a learner-centred approach to teaching and learning have a more positive attitude towards classroom use of technology (Hermans et al., 2008), whereas teachers holding teacher-centred approaches have a more negative approach to teaching and learning. According to Partlow and Gibbs (2003), online courses designed on the basis of constructivist principles tend be interactive, project-based, collaborative and providing learners with some choice and control over their learning. The survey conducted by Kim and Bonk (2006) indicated a shift from traditional teacher-directed approaches to learner-centred techniques in online learning. This implies a more active use of collaboration, case learning and problem-based learning in online learning. The teacher is the central figure in making decisions regarding the use of technologies in a course, but the methods employed need to be learner-centred. As Paechter, Maier and Macher (2010) have concluded from their study, the teacher does not lose his importance in e-learning but is more valued for his expertise and support for students.

Feedback for the learners should be ensured in any type and manner, while pacing possibilities should ensure full control to the learner over curriculum sequence and openness. The effective activity design could be achieved (Macdonald & Black, 2010) through the use of interaction in an online community when participants have a sense that they belong to an active group of fellow participants.

A variety of learning methods is used to enhance active learning online and practical applicability

Emerging technologies require new emerging didactics. It is clear that teachers may not use their 20th century didactic approaches for the 21st century technology rich environments. Innovative technologies challenge the world of education for innovative didactics. Effective employment of technologies in learning requires a considerable shift of planning and activity organizing for teachers. According to Fang (2001), introduction of technology enhanced learning causes trends that appear to be so strong to make it a shift of paradigms.

The survey conducted with 562 online instructors in the US in 2003 showed that the pedagogical and didactical skills (22.9% of respondents) were treated as more important

than the technological skills (15.3%) in online training (Kim & Bonk, 2006). It is a challenge and a task for educators to penetrate different aspects of technology into learning curriculum and the didactics of the learning process. According to Govindasamy (2002), the prerequisite of successful implementation of e-learning is the need for careful consideration of the underlying didactics, or how learning takes place online, as in practice this is often the most neglected aspect in any effort to implement e-learning.

Technology has enabled a highly effective information search and storage and, therefore, there is no point in people passively gathering and remembering the information when it is available online, in the computer files, etc. and at any time can be acquired using search engines such as Google which only requires internet connection and this retrieved information can be used immediately or stored in a hard-drive. Consequently, this has changed learning patterns and the new type of education is getting the edge (Garrison & Vaughan, 2013). This type of learning is called inquiry learning, active learning (Pundak, Herscovitz, & Shacham, 2010), problem-based learning or student-centred (Park, 2009).

Active learning is a natural evolutionary product of a changing society and is more adaptive than traditional ways of learning (Pundak, Herscovitz, & Shacham, 2010). Besides, this is a more meaningful type of learning and promotes curiosity and creativity of the student. As the authors observe from other studies, active learning deepens the understanding of a study material, increased student engagement and responsibility taken for student's own learning outcomes. They also noted that instead of learning the content of a course students tend to focus more on how they learn and on their thinking strategies. The most important aspect of active learning is to learn how to handle the information made available to students by Internet and other resources and use it meaningfully while developing ways of its effective organisation, analysis, application and evaluation.

Problem-based learning enables and is enabled by higher level thinking with its key products such as argumentation, judgment of advantages and disadvantages, dealing with uncertainty and making decisions accordingly (Pundak, Herscovitz, & Shacham, 2010). The content is learnt as well, however, not by memorizing the material given, but by hands-on approach in solving complex problems (Park, 2009). Students must also learn to work independently and with less guidance in online compared to traditional face-to-face learning.

Assessment and self-assessment tools are technology enhanced

Teacher's expertise in the field and in e-learning contributes hugely to students' knowledge, skills, competencies and student satisfaction with the course. A study by Graham, Woodfield and Harrison (2012) compared typical teachers in problem-based learning with experts in this area and the main differences appeared in that expert teachers col-

ISSN 1392-0340
E-ISSN 2029-0551

laborate more with other teachers, promote student self-evaluations and reflections on the learning process and provide students with guidelines for self-monitoring.

Macdonald (2003) emphasizes the importance of assessment in ensuring online participation of learners and in supporting the practice and development of online collaborative learning. A study on e-learning learner satisfaction indicates employment of different means of assessment among several key issues that are critical factors affecting learners' perceived satisfaction (Sun et al., 2008).

Self, group and peer assessment is considered as an efficient tool to increase higher learner involvement in TEL (Roberts, 2006). Peer evaluation when learners are helping each other through web-based collaboration offers a good potential to improve learning results in online environment without teacher involvement. The assessment tools in TEL are subject to constant development but online quizzes, surveys, instant chat quizzes or online rubric writing could be good examples for self, peer or group assessment.

Using Open Education Resources (OER)

For several decades different researchers have analyzed Open Education Resources (OER) and their development (D'Antoni & Savage, 2009; Schuwer & Mulder, 2009; Butcher et al., 2011; Wiley & Green, 2012) identifying their influence on education as revolutionary (Wiley, Green, & Soares, 2012) and opening possibilities for free resources (Wilson, 2008).

A term Open Education Resources (OER) was first mentioned in 2002 UNESCO meeting supported by William and Flora Hewlett Foundation. OER was defined as digital educational material openly accessible to teachers, students and independent learners for personal learning needs, teaching and scientific research (Wiley, 2006). The learning resources may include courses/programs, educational software, modules, learning objects, collections and journals, maps, individual learning programs, methodological materials, textbooks, visual materials, multimedia files, podcasts, models, simulations, user guides, scientific articles, articles, assessment tools, data bases, etc.

OER require time investments to find and adapt them to the course but do not require financial investments as all materials are free of charge. All one needs is a computer connected to the Internet and an Internet browser without any particular software (Schuwer & Mulder, 2009). Using OER learners and teachers may gain TEL experience which is especially relevant to those who do not belong to the generations that grew up with computers and Internet (Schuwer & Mulder, 2009).

OER hold many advantages such as flexibility, accessibility, user-friendly software, open access, no time and space limitations. OER increases possible choices for learning materials, but especially opens accessibility to different disadvantaged groups. OER accessibility from work, home and other places with Internet connections and in any suitable time constitute the main advantages – being accessible when and where needed

ISSN 1392-0340
E-ISSN 2029-0551

and also updated upon necessity. Traditional lectures may be changed for video courses or modules on the Internet; printed materials may be changed for video or audio information and learner may use electronic support instead of face to face teacher support (Santos, McAndrew, & Godwin, 2008).

Research methodology

Quantitative research method (using a questionnaire survey) was used to compare didactical characteristics of Technology Enhanced Learning (TEL) used for training purposes of employees and teachers in a community, vocational education and training (VET) and business organizations and reveal main opportunities and dilemmas in organising of learning process. The research data was collected using an online questionnaire survey in May-June 2014. This article analyses the part of a broader research, focusing on the block of questions on the didactical characteristics. The respondents were anonymous with regard to researchers, as not only the instrument was anonymous, but also its sharing and collecting as the survey was administered on the Internet. Later all collected surveys were coded and processed in the SPSS programme for further analysis. The analysis was performed applying appropriate statistical methods, using MS Excel and SPSS (Statistical Package for Social Sciences) Version 22. To generalize the data, descriptive statistics, parametric and non-parametric criteria, reliability calculations were applied. Calculation of response index for mentioned block of questions was calculated, as the sum of responses presented by the respondents to each of the provided ten statements. Block of questions related to didactical issues consisted of 10 questions, with the response value from 1 to 5; the range of changes in the assessed block was from 10 to 50. General index for three types of organizations was calculated. Internal consistency of the questionnaire by calculating Cronbach α value regarding didactical issues block is 0,923.

Target organizations

All organisations selected for research were located in Lithuania over the country in the area of education, business and community activities.

The educational institutions, which participated in the research, were modern and dynamic *VET organisations*, which respond to labour market changes rapidly and responsibly and apply innovative forms of learning for students as well as for their employees. The organisations provide qualitative services of formal and non-formal education (initial vocational education and training, lower secondary (9 and 10 forms) and upper secondary education, adult education, pre-school education), offering attractive

ISSN 1392-0340
E-ISSN 2029-0551

and prospective specialities, which are acquired in premises for practice equipped with modern technologies.

Business organisations in the research represent companies, working in IT sector and employing specialists of quality assurance and documentation, systems analysts, programmers, system engineers, data operators, project managers, teachers, specialists of law and economics, and others. The companies are constantly recruiting new staff and expanding. According to the need and the specifics of the projects they develop, part-time employees and experts of the projects are employed.

Community organisations represent members to be involved in a public life, promote healthy neighbourhood, the partnership of all community organizations, strengthen the traditions of volunteering, represent community interests in the governmental institutions. The main activities of Communities are: building the social capital in a community; promotion of social activities and civic participation; forming the policy of harmonious development and the system of non-formal learning; support and encouragement of community leaders; organization of clubs and unions according to age groups and interests; adaptation of good practice examples from foreign community life; organization of project activities.

The organisations were purposefully selected from three types of organizations: community, VET and business. The distribution of the respondents from all three types of organizations was almost equal: 158 respondents were from community organizations, 153 from education, and 155 from business organizations.

The research participants represented organizations of various sizes, i.e. representatives from enterprises which have more than 200 employees comprise 33.3 %; 101 – 200 employees – 18.9%; 51 – 100 employees – 14.3%; up to 50 employees – 33.5%.

Out of 466 respondents who participated in the research only a little bit more than half were females (307 respondents or 65.9%), 34.1% of the respondents were males. The majority of the research participants were possessing higher education diploma (77.7%).

Research limitations

The received results may also have been influenced by the features of business organizations which were focused in their selection process: the selected business organizations worked in the area of creation of information systems, application and use of technologies, and organization of trainings. Teachers and administration staff of VET organisations were surveyed as representatives of educational organisations. Representatives of community organisations were the persons who live in rural communities. Consequently, generalisations can be applied only to such type of organisations that researched was performed in.

ISSN 1392-0340
E-ISSN 2029-0551

Findings

Research results are presented according to the block of questions focusing on the didactical statements. Each statement results are presented and described for three types of organizations in the following way:

- how each statement is assessed within the block of questions: means of responses for each didactical statement in all participating organisations is analysed,
- general index for three types of organisations is calculated, then
- average of responses for each statement within block of questions is calculated, and
- means of responses for each criterion within block of questions are statistically compared for three type of organizations.

Didactics are very important in TEL. It is one of the most understandable and most positively evaluated in all participating organisations. Analysing how the statements on the didactical issues were assessed, it is evident that positive evaluations exceed 60% (Fig. 1) Even 85.2% of the respondents agree that experiential knowledge and skills are important in TEL process. Over 70% support the statement that using TEL, a variety of learning methods are used to enhance active learning and that open education resources are used while learning (free access of textbooks, documents, video material), that TEL focuses on applicability in practical activities, that TEL didactical structure creates possibilities for flexible learning and enhances learner mutual cooperation. However, 31.2% respondents wonder on clarity of workload and suitability of schedule for learners. The least supported statement in all organizations was that learning outcomes are measurable. Quite big number of respondents (37.9%) has doubts on possibility to set measurable learning outcomes while using TEL.

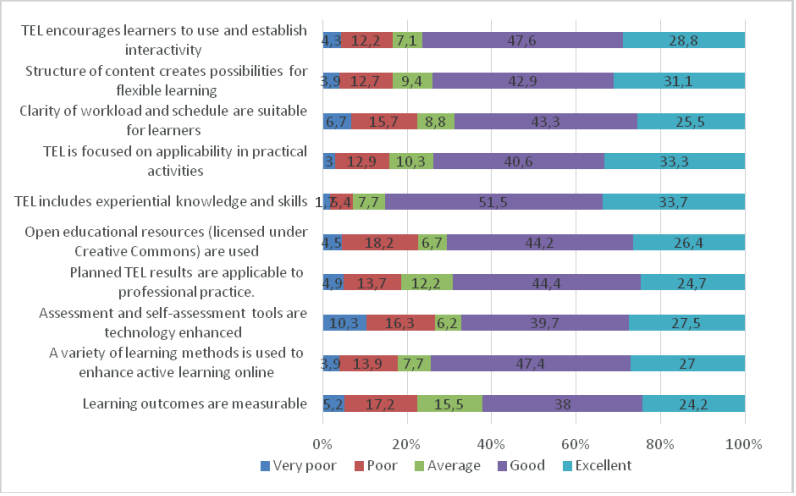

Fig. 1. Means of responses for TEL didactical statements in all participating organisations

ISSN 1392-0340
E-ISSN 2029-0551

It also was found dissatisfaction on *assessment and self–assessment tools* are technology enhanced as 10.3% and 16.3% respondents indicated statement *very poor* and *poor*. In general Figure 1 demonstrates that the didactical characteristics are present and appreciated in all types of organizations, participating in the research.

Having calculated the general index, evaluations of business organisation representatives were the highest in comparison with the evaluations obtained from education or community organisations. It is interesting to note that community organisation staff evaluations were higher in comparison with those of education organisations. These results indicate that TEL is not widely used in training provided in VET organisations compare with other organisations. ANOVA results show statistically significant differences ($p = 0.000$, Fig. 2).

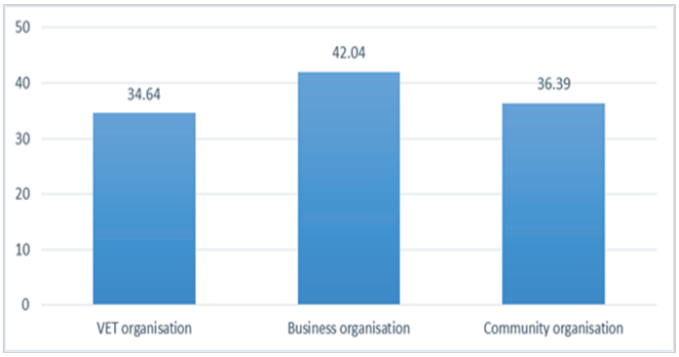

Fig. 2. General index of TEL didactical characteristics for three types of organizations

Assessing the didactical characteristics it is noticeable that all means of responses received from business organisation respondents are highest in all cases; in addition, experiential learning knowledge and skills are used most often (Fig. 3). Although it might be assumed that in the VET organisation, didactical characteristics should receive the highest evaluation still 8 out of 10 statements were higher evaluated by the representatives of community organisations. In all types of organisations the preference is given to a variety of methods and interactivity. Problematic areas appeared to be the following: use of technology enhanced assessment and self-assessment tools, seeking for measurable learning outcomes.

ISSN 1392-0340
E-ISSN 2029-0551

Fig. 3. Means of responses for each TEL didactical statements for three types of organisations

The differences of all statement evaluations in different types of organisations (Table) shows that business organisations pay large attention compare pay a larger attention for TEL didactics; however taking into account research limitations this may be a peculiarity of selected business organizations. In business organisation, the mean of evaluations of all statements exceeds 4, whereas in the rest two types of organisations only one variable was evaluated as high, i.e. the mean of one variable was higher in community organisation assessment. Regarding all statements Kruskal Wallis test results indicate that the differences are statistically significant ($p = 0.000$).

ISSN 1392-0340
E-ISSN 2029-0551

Table
Comparison of means of statements on TEL didactical characteristics for three types of organizations.

	Didactical characteristics	business organisations	community organisations	VET organisations	Kruskal-Wallis, *p*
1	Learning outcomes are measurable	4.18	3.40	3.19	0.000
2	A variety of learning methods is used to enhance active learning online	4.19	3.68	3.52	0.000
3	Assessment and self-assessment tools are technology enhanced	4.23	3.44	3.06	0.000
4	Planned TEL results are applicable to professional practice.	4.19	3.54	3.37	0.000
5	Open educational resources (licensed under Creative Commons) are used	4.01	3.73	3.35	0.000
6	TEL includes experiential knowledge and skills	4.32	4.15	3.83	0.000
7	TEL is focused on applicability in practical activities	4.27	3.83	3.54	0.000
8	Clarity of workload and schedule are suitable for learners	4.05	3.32	3.59	0.000
9	Structure of content creates possibilities for flexible learning	4.34	3.53	3.68	0.000
10	TEL encourages learners to use and establish interactivity	4.25	3.77	3.51	0.000

The research results show that differences are statistically significant for 8 out of 10 statements on the use of ICT for CPD indicated by business organizations respondents; this means that business organizations pay a larger attention for ICT application and staff CPD; however taking into account research limitations this may be a peculiarity of selected business organizations.

Conclusions

Technologies have penetrated people's lives across different generations especially the generation that has grown with computers and internet may not be segregated from the

ISSN 1392-0340
E-ISSN 2029-0551

use of technologies in their learning as well. Contemporary learners require connectivity and multitasking in different surroundings. Accordingly, learning providers, teachers and trainers need to respond to this new demand for connectivity and accessibility. TEL allows meeting learners' choices for convenience and individual needs. The technologies are enhancing learning in different ways. TEL is meeting different didactic requirements of teaching and learning in the most generous way to allow the major advantages of flexibility in terms of time, space and content, application of OER, interactivity among learners and with the teacher and active, hands-on and experiential learning.

The research results show that in all three types of organizations: community, VET and business didactic is significant when technologies are used for learning purposes:

a) responses from all participating organizations reveal main didactical opportunities in TEL process: interactivity, flexibility, experimentation, use of open educational resources (OER) as well as learners mutual cooperation;
b) the main dilemmas of TEL didactical solutions in different types of organizations relate to clarity of workload and suitability of schedule for learners, use of technology enhanced *assessment and self – assessment tools,* setting measurable learning outcomes.

Calculations of general index by ANOVA results show that differences between VET, business and community organisations are statistically significant ($p = 0.000$). Differences between responses of VET and Community organisations respondents are small. This shows that business organizations pay larger attention to the didactical issues. However it could come from features of business organizations: the selected business organizations worked in the area of creation of information systems, application and use of technologies, and organization of trainings. These results indicate that TEL is not widely used in training provided in VET organisations compare with other organisations.

Calculations and comparison of average of responses for each criterion within selected block of questions revealed that respondents from all types of organizations the least supported statements differ in all types of organisations. Employers of business organisations the least supported statement on use of *Open educational resources* (value of mean –4.1); community organisations – *clarity of workload and schedule are suitable for learners* (value of mean – 3.32) and VET – assessment and self-assessment *tools are technology enhanced* (value of mean – 3.06). Assessment is a very important part of a learning process and it is obvious that teachers and administrators underestimate technology enhanced assessment tools.

Research results indicates that areas for enhancing TEL during in service training of employees and teachers should be organized in the way that allows staff to be aware of training possibilities, focusing on the constant didactical competence update. Opportunities could be expanded and dilemmas solved by paying more attention towards TEL specific didactic characteristic as knowing how to use variety of technological tools namely for assessment and self-assessment, creating courses with measurable learning

ISSN 1392-0340
E-ISSN 2029-0551

outcomes and consequently planning workload for their achievement; adjusting suitable schedule for learners and expanding use of open educational resources.

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ISSN 1392-0340
E-ISSN 2029-0551

Technologijomis grindžiamo mokymosi didaktinės galimybės ir dilemos

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Santrauka

Šio straipsnio tikslas yra nustatyti technologijomis grindžiamo mokymosi (TGM) didaktines charakteristikas ir atskleisti galimybes bei dilemas priimant didaktinius sprendimus skirtingo tipo organizacijose. Autorės technologijomis grindžiamą mokymą(si) apibrėžia kaip organizacinę formą, pritaikytą mokyti(s) nuotoliniu, elektroniniu, virtualiuoju ir kitu būdu, pasitelkiant technologijas. TGM apima nuotolinį, virtualųjį, elektroninį ir mobilųjį mokymąsi socialiniuose tinkluose. Straipsnyje analizuojamos didaktinės TGM charakteristikos kaip mokymosi pasiekimai, mokymosi lankstumas, tarpusavio sąveika, atviruųjų švietimo išteklių naudojimas, socialinis dalyvavimas. Tyrimas atliktas bendruomeninėse, profesinio mokymo ir verslo organizacijose. Tyrime taikytas kiekybinio tyrimo metodas atskleidžia TGM didaktinių charakteristikų skirtingose organizacijose esmę išskiriant jų tarpusavio sąsajas. Tyrimas atskleidė, kad pasitelkus TGM taikomi įvairūs mokymo(si) metodai, orientuojamasi į praktiškai pritaikomus mokymosi pasiekimus, ugdymo turinio struktūra sudaro galimybes skatinti besimokančiųjų tarpusavio bendradarbiavimą. Visoms tyrime dalyvaujančioms organizacijoms, įdiegusioms TGM, būdinga mokymo(si) metodų įvairovė ir aktyvusis mokymas(is). Lyginant didaktines charakteristikas rasta, kad respondentai iš verslo organizacijų visais atvejais geriau vertina didaktinius sprendimus, palyginti su bendruomenių ir profesinio mokymo organizacijų atstovais. Visose organizacijose respondentai išryškino TGM lankstumo, eksperimentavimo, socialinės sąveikos, atviruųjų švietimo išteklių naudojimo galimybes. Pagrindinės dilemos yra susijusios su vertinimo ir įsivertinimo priemonių naudojimu, mokymosi pasiekimų apibrėžtumu, mokymosi apimtimi ir tinkamu tvarkaraščiu besimokantiesiems. Rezultatai rodo, kad profesinio mokymo organizacijose mokytojai ir kiti darbuotojai menkiau suvokia ir vertina TGM didaktines galimybes, tai rodo esamą TGM taikymo ribotumą tokio tipo organizacijose, bet taip pat sudaro galimybes tobulėti ir patraukliai integruoti TGM į ugdymo procesą.

Esminiai žodžiai: *technologijomis grindžiamas mokymasis, didaktinės charakteristikos, organizacijos.*

Gauta 2017 11 14 / Received 14 11 2017
Priimta 2017 11 28 / Accepted 28 11 2017