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Manifestation of Axiological and Motivational Aspects in E-Learning Products

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Introduction

The objective of the present paper is to explore and evaluate the quality of e-learning courses in terms of their promotion of value attitudes and motivation development.

Any professional activity tends to give prominence to the values reflecting the relationship of an individual with his/ her work object in addition to the values reflected in his/ her social relationship and emotional manifestation as well as development of individual skills.

Contemporary educational methodology singles out the following fundamental directions of training: the methodological trend of individual-oriented education based on the ideas of humanist psychology and liberal education which promotes the objectives of achievement of self-implementation and foregrounding of individuality; the work productivity-oriented trend of education considering the pursuit of job-related objectives as the most important ones, and the solution-oriented trend of education giving prominence to the development of skills of critical and strategic reasoning, self-sufficiency and entrepreneurism; it also emphasizes the uniqueness and socialization of an individual. These methodological ideas being reflected in ample documentation of the European Union [1, 2] are sensible to be employed in e-learning pedagogical technologies promoting critical reasoning where the foregrounding of individuality and sociality of a person predominates. This provides an opportunity of endowing the value context to the content of e-studying, which is highly topical since researches demonstrate that students tend to treat professional values inadequately [3].

On the other hand, the pedagogical process is an interrelationship between an educator and a trainee. Consequently, pedagogical technologies and e-study products are to present opportunities to fulfill the objectives of both the developer and the user of a product.

Professional activity largely foregrounds values reflecting the relationship of an individual with the work object and the values reflecting the development of social relationships, individual skills and emotional attitudes.

When developing e-study products, a number of unsolved pedagogical issues are encountered, this is also emphasized by EU researchers and their suggested solutions.

According to communication of the Commission [1], the quality, while being quite complex to define and requiring changes concerning pedagogical adaptation and new skills, depends on the purpose of its use, simplicity, coherence of design, etc.

It is claimed that the quality of e-learning at the pedagogical level should include motivation, program flexibility, goal orientation, motivation, the teacher's role, learner control, the user's activities, cooperative learning, etc. [4]. It is stated [5], that the pedagogical dimension is to take the central role. Besides, motivation is the key factor of success in e-learning; thus it is to be included as part into the pedagogical model descriptor. According to U.D.Ehlers, quality improvement may be defined as the sum of all the activities and efforts aimed at the upgrade of the teaching/ learning process. When improving the quality, the actual situation of the student, his/ her needs and the possession of specific competences must be considered. [6, 7].

The results of the e-learning quality research analysis [8] showed that the majority of investigators expect e-learning quality by 2013 to be superior in comparison with the quality of traditional teaching.

According to the respondents [8], the most important criteria in assessing the quality of e-learning should be as follows: first, the functioning of the system without consumer issues, and second, the quality of the design principles regarding clear educational focus considering the specific type of student needs and the context of the study process.

The analysis [9] of e-learning quality estimates

showed that a number of models are used; however, they are largely different from each other and contain different basic hypotheses. On the other hand, in this evaluation of the recommendations the value approach towards the quality of e-learning estimation is missing.

The results [10] of student survey on e-learning quality showed that the spectrum of the student-posed requirements for the quality of e-learning is very broad.

The e-learning quality estimation model ELQ (model for quality assessment of e-learning) was suggested [11] in order to cover the ten aspects of the quality which are very important in assessing the quality of e-learning: material/content structure/virtual environment; communication; cooperation and interaction; student assessment; flexibility and adaptability; aid (student and staff assistance); staff qualification(s) and experience; vision and leadership at the level of the institutional management (i.e. the governing body) ; resource allocation, and the holistic aspects of the process. According to the criteria presented in the article review [12], in the years 2006 to 2007, only two articles were found containing holistically-oriented analysis of learning process.

A learner seeks not only to absorb the training material or get a good evaluation for his/ her achievements but also the satisfaction because of their achievements. High-scoring work results evoke pride and further positively affect the results. High levels of performance are the cause of complete satisfaction rather than its consequence.

In the above discussed studies, the value and motivation aspects of e-learning quality estimation are missing.

Methods

The present research employs the *expert assessment* method (10 point scale system) which is based on e-teaching product quality assessment criteria predominating in Lithuania [13].

The following nine groups of assessment criteria (87 criteria in total) were singled out: one value aspect related to interactivity and sustainability as well as seeking affective (emotional) educational goals [14] and eight groups of criteria reflecting (1) a systemic approach to the solution of educational problems, (2) appropriately prepared information for the learner about the course (goals and "the learning guide"), (3) the logical structure of presenting the teaching material, (4) the application of virtual learning environment in the e-learning process, (5) implementation of self-assessment tasks, (6) design elements, (7) forms of intermediate assessment and (8) the validity of methods for evaluating the acquired competencies. The interactivity elements of e-learning courses oriented towards the emotional goals of education were evaluated with regard to the value aspect. Due to this, the assessment includes those structural elements of e-learning educational technologies that ensure the interactivity of the course involving acceptance, reaction, evaluation and organization of emotional goals.

Four university lecturers highly experienced in e-course development and application were invited to perform expertise (the leader of the expert group was prof. Sigitas Daukilas). Students (i.e. users of the product) also assessed the products. Additionally, the students were asked to evaluate the usefulness of these courses regarding four group-specific criteria: attention, relevance, confidence and satisfaction.

In 2009, expertise evaluation of two e-training courses (Theoretical background of bioenergetics; Electronics) was conducted with the objective of determining how the authors of the courses strived to reflect e-learning methodologies and the content of education. Students (n = 46) produced their evaluations at the end of the semester.

Research results

The results of e-learning course expert assessment (means and standard deviation) are presented in Fig.1.

The results of the expert assessment show that when designing e-learning pedagogical technologies provided in the virtual media, the most-difficult-to-solve problems are related with the four criteria receiving the lowest expert assessment scores: the meaningfulness and expediency of the learning environment used in training courses; the general relevance of the e-course interface design elements; the value aspect of the content of courses (interactivity (in terms of relevance and quality) regarding the implementation of emotional (i.e. affective) educational goals); the methodological reasonableness of the competencies acquired in general.

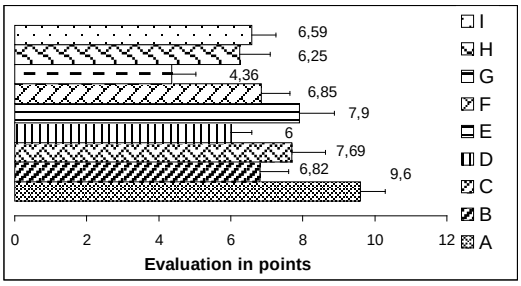

Fig. 1. Results of e-learning course expert evaluation

The marks in Fig.1 stand for the following: A: implementation of the systemic approach towards training tasks (issues); B: quality of the preparation of the self-evaluation assignments; C: logical structurization of the training materials; D: the relevance of the e-course interface design elements in general; E: the completeness and intelligibility of the information about the course; F: the adequacy of the competence acquisition forms; G: the meaningfulness and expediency of the study environment employed in the relevant training courses; H: the most valuable aspects of the content of courses (interactivity (relevance, quality) in terms of the implementation of emotional (affective) educational goals expressed in the form of affective educational goals); I: the reasonableness of the applied methodologies in the context of the target competencies taken into the full estimation scope (including the value aspect of expression). Fig. 2 provides the student outlook concerning the same issues.

The results of e-learning course student assessment are presented in Fig. 2.

The results of the student estimation are not statistically significantly different from the corresponding results of the expert assessment ($p>0.05$) even though the average estimation value is higher (6.9) than that delivered by the experts (6.75). The mutual correlation coefficient of the expert and student assessments is r = 0,598. The maximum difference in the evaluations by the experts and students were obtained in the following criteria: the meaningfulness and expediency of the learning environment used in training courses; completeness and intelligibility of the information about the course; implementation of the systemic approach of training tasks; logical structuring of the training materials.

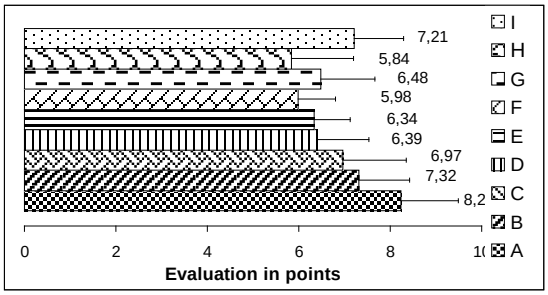

Fig. 2. Results of e-learning course student evaluation

The criterion of the meaningfulness and expediency of the learning environment used in the training courses was marked by the students at 2.12 points higher than the evaluation of the experts, which is most likely because of student work experience regarding web sites and their advantages in terms of acceptability of e-learning devices as a training medium.

The expert and student assessment essentially coincides; thus the student competence in assessing the e-learning courses seems to be adequate in both their own and expert opinion; thus when improving courses it must be taken into consideration. Students express an opinion that the most important objective is to improve the emotional aspect of courses. It is especially relevant [15] because of the development of emotional intelligence increasing the levels of attention concentration.

The student evaluation of e-learning courses in terms of the aspect of attention concentration is presented in Fig. 3.

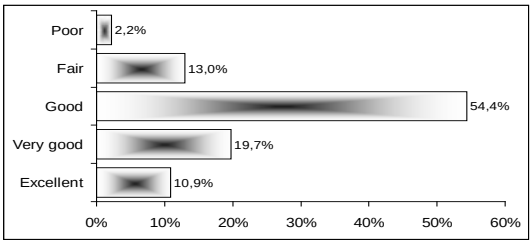

Fig. 3. Student evaluation of e-learning courses in terms of the aspect of attention concentration

More than a half of the students (54.4 per cent) evaluated attention concentration as "good". This may be one of the basic reasons boosting the students' e-learning motivation. It was established [16] that 75 per cent of the surveyed students indicate that they are disciplined and possess adequate skills of e-study. However, only 3 per cent of them note that they are motivated to study when specifically e-learning technologies are applied.

E-learning course student evaluation in terms of relevance is presented in Fig. 4.

The vast majority of students (78.3 per cent) evaluate the relevance of the course materials as perfect.

Student evaluation of the e-learning courses regarding the aspect of confidence is presented in Fig. 5.

The dominant majority of students (78 per cent) involved in the evaluation of e-learning courses see confidence as a highly valued aspect regarding the efficiency of training.

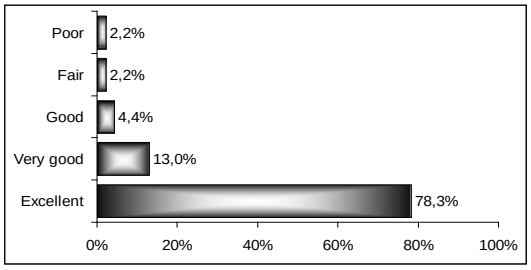

Fig. 4. E-learning course student evaluation in terms of relevance

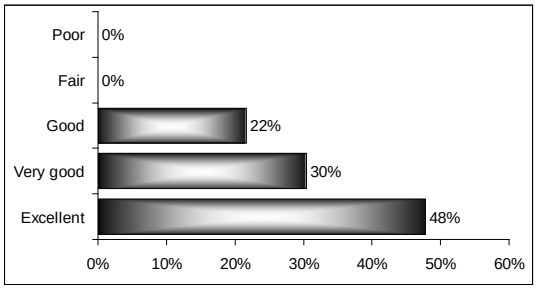

Fig. 5. Student evaluation of the e-learning courses regarding the aspect of confidence

Student evaluation of the e-learning courses regarding the aspect of satisfaction is presented in Fig. 6.

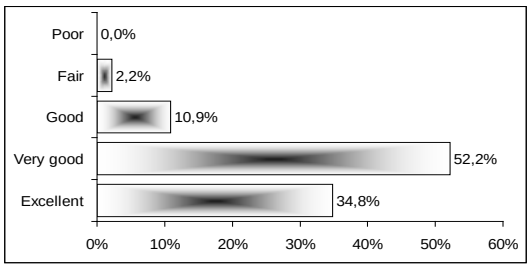

Fig. 6. Student evaluation of the e-learning courses regarding the aspect of satisfaction

Most of the students (87 per cent) express satisfaction concerning the application of e-learning courses. The majority of the courses undertaken by the researched students involve traditional pedagogical techniques, which simplifies the assessment of the e-learning courses in terms of the aspect of satisfaction.

The results of investigating the student opinion show that with the development of e-courses, it is important to consider the principles of pedagogy. This is also noted by the authors of other studies [8].

The variety of the employed criteria of evaluation of the quality of e-courses hampers the comparison of the

results that are obtained in different studies; however, in this case, it is possible to assert that the students more positively evaluated the quality of e-courses with the exception of attention concentration the way it is represented in review [8].

Conclusions

1. Evaluation of e-study products regarding value attitudes and motivation development of students reveals various aspects of product quality when the interests of both parties (authors and users of the product) are taken into consideration. In terms of quality, expert and student opinions regarding the assessed e-study products essentially coincided.
2. Students are competent to assess various aspects of e-learning courses and their estimations do not largely differ from ones of the experts ($p>0.05$); the correlation coefficient between the assessments was $r = 0.598$.
3. Students evaluated the e-learning courses they undertook in terms of concentration, relevance, and confidence aspects well. Most of the students expressed satisfaction with the e-learning courses.

Acknowledgment

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The objective of the present paper is to explore and evaluate the quality of e-learning courses in terms of their promotion of value attitudes and motivation development. The evaluation was conducted by applying thirteen group criteria. The difference between the evaluations of the experts and students it is not statistically significant ($p> 0.05$). This result helps to draw together the attitudes of the instructors as well as those preparing the products of e-learning and users, i.e. students; this enables to improve the product quality. Ill. 6, bibl. 16 (In English; summaries in English, Russian and Lithuanian).

А. Думчене, С. Сипавичене. Развитие ценностных установок и мотивации в продуктах э-обучения // Электроника и электротехника. – Каунас: Технология, 2010. – №. 6(102). – С. 135–138.

Представлены результаты оценки продуктов э-обучения в аспектах развития ценностных установок и мотивации. Оценка проводилась по тринадцати группам критериев. Разница в оценках экспертов и студентов статистически незначитеьна ($p>0,05$). Оценка позволяет сблизить отношения преподователей, подготавливащих продукты э-обучения и пользователей – студентов и это позволяет улучшить качество. Ил. 6, библ. 16 (на английском языке; рефераты на английском, русском и литовском яз.).

A. Dumčienė, S. Sipavičienė. Studentų vertybinių nuostatų ir motyvacijos ugdymo raiška e.mokymosi produktuose // Elektronika ir elektrotechnika. – Kaunas: Technologija, 2010. – Nr. 6(102). – P. 135–138.

Pateikta vertybinių nuostatų ir motyvacijos ugdymo raiškos e. mokymosi produktuose vertinimo rezultatai. Vertinta pagal trylika kriterijų grupių. Ekspertų ir studentų įverčių skirtumas statistiškai nereikšmingas ($p>0,05$). Vertinimas padeda suartinti dėstytojų, ruošiančių e. mokymosi produktus, ir tų produktų naudotojų studentų požiūrius bei gerinti kokybę. Studentai gali talkinti gerinant e. mokymosi kokybę. Il. 6, bibl. 16 (anglų kalba; santraukos anglų, rusų ir lietuvių k.).