ECOLOGICAL EDUCATION BY MEANS OF E-LEARNING EXEMPLIFIED BY THE STUDENTS OF SIBERIAN FEDERAL UNIVERSITY (KRASNOYARSK, RUSSIA)

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Annotation. The article presents an analysis of the results of the study students of Siberian Federal University readiness to receive education in the direction of «ecology and environmental management» using distance methods. It is shown that students consider mixed learning to be more effective.

Keywords: e-learning exemplified, анкетирование, distance learning

The rapid pace of information growth in the modern society demands the life-long learning for any specialist. In recent years, "life-long education" concept is associated with the necessity to search for new approaches related to knowledge and learning technology transfer.

E-learning is a combination of technologies assigned for delivery of the base amount of the materials studied, interactive activities and self-studying during the course (Andreev, 2013).

This type of education is actively developing worldwide (Marks et al., 2005; Arbaugh, Benbunan-Fich, 2007; Peltier et al., 2007; Huda et al., 2018). E-learning offers many advantages to students like availability to all groups of people including physically disabled ones, blended study and individual training.

Education in Russia implemented with e-learning tools is considered to be a form of learning process arrangement but it is not a form of getting education (Weindorf-Sysoeva,

Shitova, 2013). Educational organizations are eligible to apply distance learning technologies while fulfilling the educational programs of any levels and forms of receiving education (their combination) as well as while running different types of academic, laboratory and practical classes and training (except for the work experience internships), ongoing follow-up, intermediate performance evaluation.

Distance learning in the system of Russian education will be developing and advancing substantially with Internet technologies progress and e-learning tools update (Burlaka et al., 2018). The following development of e-learning systems requires the highest level of their interactivity. At the same time, heavy workload for courses development, a lack of teaching experience among academic staff and weak system of student control and identification are appeared to be basic issues of distance learning (Andreev, 2013; Magomedova, 2013; Ivanov et al., 2017).

The School of Ecology and Geography in Siberian Federal University (Krasnoyarsk, Russia) has elaborated electronic educational resources (e-courses) within the framework of the project called "Lifelong Learning for Sustainable Development SUSDEV   574056-EPP-1-2016-1-PL-EPPKA2-CBHE-SP" which allow students to gain «green skills». They include optional courses and compulsory ones.

Many disciplines have blended format when realizing «ecology and environmental management» training program i.e. partially by means of e-courses. However, some part of the disciplines is arranged traditionally.

Taking into consideration the relative novelty of blended type of learning that combines methods of classroom teaching and e-learning platform usage, the research is committed to evaluate how the Siberian Federal University students of «ecology and environmental management» training program are prepared to receive education through e-learning methods.

Research Methods:

The main research tool applied is a questionnaire survey. The questionnaire with 15 questions has been specifically created. The survey is aimed at tracking students' feedback on e-learning quality and efficiency in terms of ecological disciplines realization as well as knowledge level received during e-learning process. 70 BSc respondents from 1st to 4th year of study took part in the survey.

Results:

The survey showed that almost all the interviewees know what distance learning means. 66 % of respondents indicated that the most effective form of learning is blended one with

traditional and distance methods combined whereas only 4 % voted for distance learning as the most effective one (Picture 1).
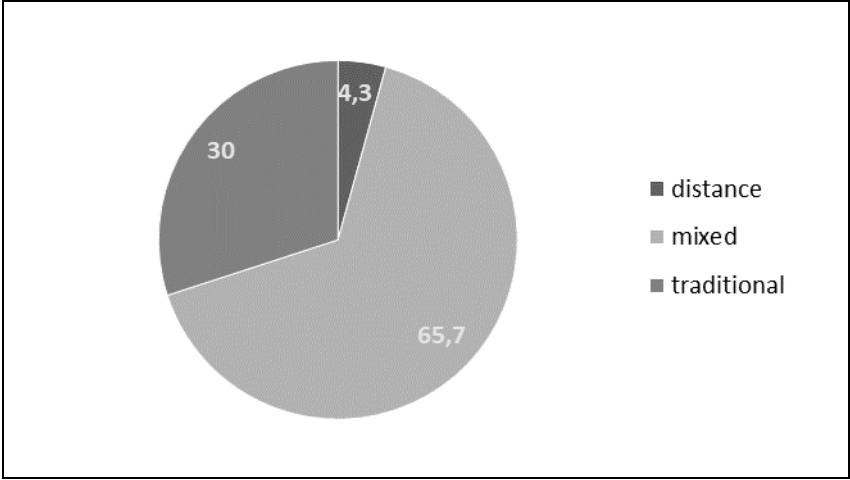
Picture 1. Proportion of responses to a question «What form of learning do you think is the most effective?» (%)

The students outlined the main types of distance learning used by academic staff during e-courses: tasks and tests completion – 46 %, lectures - 34 %. The lowest percentage belonged to forums and chats – 15 and 5 % respectively.
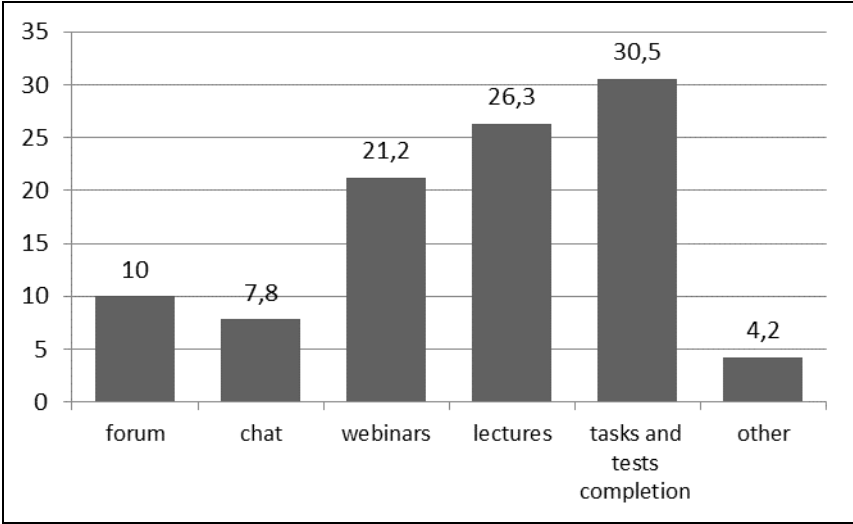

Picture 2. Efficiency of specific types of distance learning according to respondents (%)

The students defined the most effective types of e-course learning: tasks and tests completion (30 %), lectures (26 %) and webinars (21 %). Forum and chat summed up with 18 % that might be explained by their low usage from the part of academic staff.

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The next question in the survey related to understanding the quality level of the disciplines realized with e-course as opposed to the disciplines realized traditionally. It should be noted that interviewees' opinion has been almost equally distributed as 40 % of respondents think that e-learning tools improves the quality of disciplines whereas 34 % have a reverse point of view. The others couldn't decide upon the response (option reply «I don't know»).

51 % of students report that e-learning methods do not make the disciplines studied more complicated in comparison with traditional ones. At the same time, 36 % of responses confirm that the distance disciplines add the complexity to learning process while 13 % couldn't reply on this question.
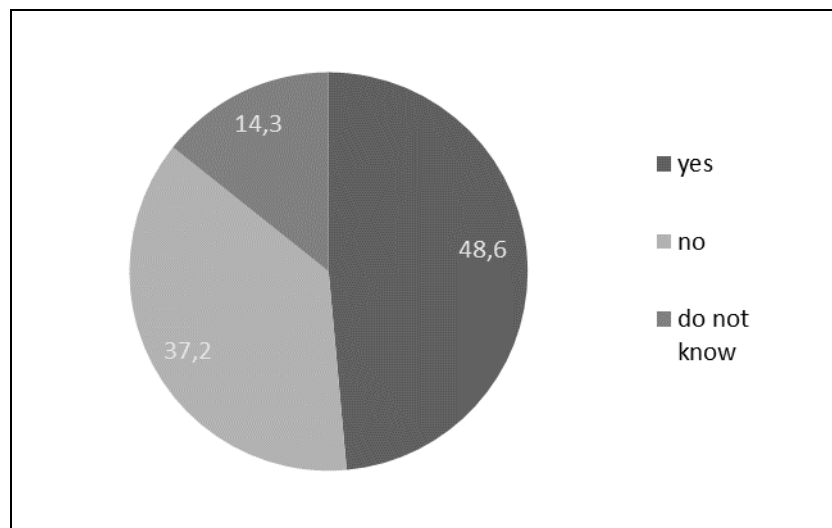
Picture 3. Proportion of responses to a question «Do e-learning methods enable to get clear understanding of key issues (aspects) of the discipline studied?»

Almost half of the respondents said «yes» for the question «Do e-learning methods enable to get clear understanding of key issues (aspects) of the discipline studied?» (Picture 3). Sufficiently large amount of the students (37 %) think that e-learning doesn't help them at all. The group of respondents who found it difficult to answer the question ended up with 14 %.

Another essential question collected the answers that reflect the importance for students to get a feedback in the «tutor-student» system. The survey showed that performance evaluation during the e-course is valuable for the most part of the respondents (61 %). So far,

26 % of students chose answer «no» as the evaluation is not critical for them and the rest ones 13 % couldn't decide upon the response and chose answer «I don't know».

The students were also recommended to express their opinion about digitalization of all the disciplines (Table 1). One third of students responded that it would help them to manage time, less amount of students believe that it would make their learning more complicated and equally the other respondents left were negative about e-courses tasks.

The results of the survey to track how the students-ecologists are prepared to switch to the distance learning. More than a half of respondents (63 %) are ready to e-learn only certain disciplines like optional courses but not the base disciplines. Previous answers demonstrated that the students are more attached to traditional learning methods (classroom lectures and workshops). Only 16 % of respondents are ready to be fully engaged with e-learning in case the higher education diploma is guaranteed upon completion. In the meantime, 21 % of interviewees reported their negative attitude about distance learning and answered «no» in the questionnaire.

Table 1. Student opinion about digitalization of all the disciplines studied

Question	Suggested answers	%
What would you think of digitalization of all the disciplines?	That would be great, I would be able to manage my time	30,8
	It would make my learning more complicated	27,2
	I don't like accomplishing tasks at the e-course at all	27,2
	It makes no difference to me	7,4
	Other	7,4

The survey analysis generally revealed that the students of «ecology and environmental management» training program consider blended learning to be more efficient education format when teacher combines traditional learning methods (classroom lectures and workshops) and e-course assignments like tasks and tests. It should be noted that the majority of students needs feedback from the teacher in the form of assessment and comments while accomplishing tasks. Consequently, the courses developed within the framework of the

project are positively qualified by the students and they would contribute greatly to «green skills» acquisition in the field of ecology and environmental management.
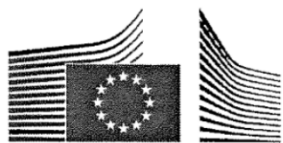
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