

TECHNOLOGY OF E-LABS DEVELOPMENT IN LIFELONG LEARNING

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Development of high technologies in industry requires an implementation of a multidisciplinary approach in modern science. It put forward higher requirements for specialists in different fields of science and makes it necessary to increase the intellectual level of the individual. Lifelong learning could be a good solution to these requirements. The essential instrument of such training is becoming distance e-learning. It provides sufficiently quick development and modernization of new training courses. This is especially relevant in natural and engineering sciences, focused on working with unique and complicated equipment, since it requires a broad range of laboratory and practice work to improve existing technologies and methods of education. In spite of the problem of educational knowledge and information accessing in e-learning is successfully resolved, the acquiring experimental skills remains a scientific and methodical issue that requires a solution. By using network technologies and electronic educational tutorials with interactive demonstrations, student can learn subject, perform tests, prepare the actual research and perform remote and virtual laboratory work independently. These tools provide additional opportunities for implementing such basic teaching methods as information-receptive, reproductive, heuristic, problem-based and research learning in the development of electronic labs. Especially useful electronic educational technologies may be at problem-based and research learning method application. In this case, the main developer task is to create a problematic situation which may have several solutions. To solve the problem each student activates his creative mental performance and the interest which is the mandatory motivation for the task. Both methods are the ways of the

scientific knowledge and extremely important for high school. These methods should always be used in natural and engineering e-labs and lifelong learning courses, because the functioning of the higher school is impossible without scientific activity. To implement the basic learning techniques such as information- receptive, reproductive, and heuristic, laboratory work and course should be filled with tutorial and demonstration content selected by teacher. In this work were considered the modern ways and means of computer technologies, which give the possibilities for e-labs and the student's practical skills level improving according to the lifelong learning requirements. The important aspects of practical skills during the performance of laboratory work in the natural sciences were analyzed. The types of electronic labs and stages of their creation without involving professional programmers were examined. Special attention was paid to the independent work of students to enhance their unaided mental activity. E-labs could be a good tool to study the installation and equipment with limited access in connection between theoretical knowledge and real scientific researches.

E-labs created at the Institute of High-Technologies of Taras Shevchenko National University of Kiev are available on the website. [1].

Literature:

1. Virtual Labs of IHT . [Electronic Resource]. - Mode of access: URL <http://iht.univ.kiev.ua/uk/library/e-books/elektronni-metodichni-posibniki> - Title from the screen.

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