

EXPERIENTIAL EDUCATION

Experiential education is a philosophy according to which educators engage their students directly to the object of knowledge and later on to a focused reflection relative to that engagement in order to increase knowledge, develop skills, clarify values, and develop their capacity to contribute to their communities. According to the philosopher and educational reformer John Dewey [1], learning is promoted not through books and lectures, but is left to emerge during the elaboration of the experiences of students themselves. Students are encouraged to get personally involved in projects, experiments, etc. and during that involvement they are “internally enforced” to learn them. This educational approach has been described as “learning by doing”.

In 1984 Kolb [2] suggested a four-stage learning cycle to describe what is happening during the transformation of the experiences. According to that cycle the initial concrete experience is being elaborated and reflected upon (reflective observation) in order for the learner to reach an abstract conceptualization, which is the third stage of the learning cycle. That abstract concept is being applied in real life situations (active experimentation) so that a new concrete experience emerges which is elaborated and reflected upon and so on. Kolb’s cycle has been used in engineering technology courses [3], where usually lab exercises are incorporated into engineering courses [4].

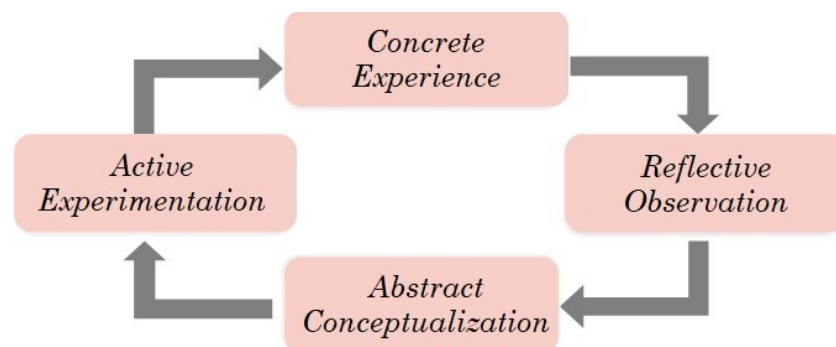


Fig. 1. Kolb's four-stage learning cycle

References:

- [1] J. Dewey, “Experience and Education”. West Lafayette, IN, USA: Kappa Delta Pi, 1938/1998.
- [2] D. A. Kolb, “Experiential Learning”. Englewood Cliffs, NJ, USA: Prentice Hall, 1984.
- [3] R. J. Durkin, “Experiential learning in engineering technology: A case study on problem solving in project-based learning at the undergraduate level,” J. Eng. Technol., vol. 33, no. 1, pp. 22–29, Spring 2016.
- [4] M. Abdulwahed and Z. K. Nagy, “Applying Kolb’s experiential learning cycle for laboratory education,” J. Eng. Educ., vol. 98, no. 3, pp. 283–294, Jul. 2009.

source:

P. Kotsampopoulos, V. Kleftakis, N. Hatziargyriou, “Laboratory Education of Modern Power Systems using PHIL Simulation”, IEEE Transactions on Power Systems, Vol. 32, Issue: 5, September 2017