

Thiang Meadthaisong 2009: Development of Learning Activities by Project-Based Learning Approach for Construction of the Object Made of Digital Electronic Blocks of Electronic Technology Students of Phetchaburi Rajabhat University. Doctor of Philosophy (Vocational Education), Major Field: Vocational Education, Department of Vocational Education. Thesis Advisor: Associate Professor Chairit Photisuwan, Ph.D. 269 pages.

Industries require a supply of people to cope with a rapidly and dramatically changing world. The University has a mission and is responsible for satisfying that need. The Technology Industries Faculty of Phetchaburi Rajabhat University found that there was a problem in the learning and the teaching of knowledge and skills for use in the workplace. The specialty is thinking skills, problem solving skills and graduates who have not been accepted in the workplace. The research methodology is teaching by a project-based learning approach for the construction of the object made of digital electronic blocks based on Constructionism for problem solving as students lack of knowledge and skills in work. The objectives of this research were: 1) to develop a learning activity by project-based learning approach for construction made of digital electronic blocks. 2) to study of learning achievement by project-based learning approach for construction of object made of digital electronic blocks in four areas: 2.1) digital electronic concepts; 2.2) problem solving electronics project.; 2.3) collaboration in constructing the electronics project and 2.4) study of reflect in action of using digital electronic blocks to help in the building of a product. The research process has two main steps: 1) the design step, of learning activity by synthesis from the theory and design of digital electronic blocks. 2) study of learning achievement in four areas: digital electronic concept, problem solving, collaboration and reflect in action. The population used in the study was Electronic Technology students of Phetchaburi Rajabhat University consisting of 36 people. Collection data and analysis was undertaken using both quantitative and qualitative methodologies..

The findings can be concluded that 1) project-based learning activity consists of six steps: 1.1) introduction which gave basic knowledge needed to build; 1.2) students play with digital electronic blocks; 1.3) students reflect in action from play 1.4) students imagine building the project to and share ideas; 1.5) students build the project 1.6) students play with the product. If we require the students to build the project quickly we support by giving them the activity work sheet to guide them. 2) learning achievement 2.1) students acquire the digital electronic concept; 2.2) students acquire the problem solving method two types: order and random; 2.3) students collaborate by sharing external experiences and internal experiences as continuing loop; 2.4) students reflect- in -action of building the project using the concepts of knowing- in-action to knowledge- in -action. Student will reflect every time when they encounter problems and surprise.

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Student's signature

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Thesis Advisor's signature