



Electronic Project-Based Learning for Self-directed Thinking

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Abstract. We try to investigate self-directed thinking using electronic project-based learning under this research. We are researching with college students to attain this aim. We feel that electronic project-based learning has a place among educational methodologies since it can bring significant benefits over regular training. This is also corroborated by the questionnaire data that we utilized to collect student answers after the study was did. Almost all pupils believe that electronic project-based learning is extremely intriguing. From that reaction, it was established that electronic project-based learning was beneficial for the self-directed thinking process of everyone.

Keywords: Electronic Learning · Project-Based Learning · Self-Directed Thinking

1 Introduction

Issues linked to self-directed thinking in education and have been a subject that has gotten a lot of attention lately. At the 9th PICEEBA international conference with the topic “Leap to the impending future: Seizing Possibilities in Education, Economics, and Business.” held in 2022 offered a variety of research findings relating to numerous opportunities in education, economics and business. This research is a component of arranging the conference since it is in keeping with the subject associated to it confirm that electronic project-based learning was effectived in self-directed thinking process everyone. This article also outlines how electronic project-based learning should be able to lead to the development of complicated abilities through boosting self-directed thinking as part of enhancing life success in the 21st century via education.

Project based learning electronic learning models often appear in the development of learning technology. One example of the development of learning technology in project based learning is project simulation. This project simulation is very helpful for students in completing projects related to learning materials. This project simulation is able to provide students with a concrete picture of how phenomenal things are happening in the field that supports the theoretical studies they have learned in class. This project simulation can also be used to stimulate the growth of students’ independence in obtaining the rules of thinking [1, 2].

The implementation of online project simulations is supported by an in-depth computer web study. The era of digitalization now uses learning technology with an optimally activated internet connection. Therefore, the use of learning technology today has gained an important position as a new approach to developing creative and original teaching models. Learning reform in economic education is related to the process of modernizing learning technology, this of course requires a fairly high role of educators to shape the learning experience of students. Students are helped to understand lessons through project simulations so that they can think scientifically and actually independently. Methodically the existence of technology in learning aims to help educators, then the technological learning model can improve the quality of learning either before or after the project simulation process. The use value of technology in Internet-based learning has been the focus of several global studies [3, 4].

This Project-Based Electronic Learning directs students to be involved in choosing and determining what will be taught and how and what path will be taken. The task of educators is to direct students in stages, but behind that it is very important to analyze that the work of educators who plan and organize “self-directed learning environments” has a tremendous effect on achieving learning goals in accordance with what is planned and desired by educators. Learning is a process that encourages students to take independent action which sometimes involves one individual, generally in a group. Independent action aims to combine academic information with students’ daily lives in such a way as to achieve meaningful goals. This goal can create tangible and intangible results from the learning objectives themselves [5, 6].

Independent thinking is described as a learning activity that takes place more motivated by their own decisions, choices, and responsibility for learning. The notion of independent thinking in learning is based on the premise that a learner is solely oriented to learning outcomes, ranking skills, growing reasoning, and forming attitudes until he discovers himself when he experiences himself in the process of obtaining these learning outcomes. The capacity to monitor their own learning can be enhanced by activities that represent the awareness of learners to suit their learning demands. It is also often described as the capacity to “stand alone, reflect critically, make judgments, and act independently.” Thus, students realize that as learners, they must be responsible for the need to obtain certain information or skills [8].

Based on the previous description, it can be said that educators can train students’ independent thinking through providing experience and training, accommodating willingness, choice, and responsibility, creating the capacity to monitor their way of thinking. And in action, freedom to make choices, judgments, views, and individual responsibilities [9–12]. So to complete the generalization of the idea of independent thinking, the question arises, what kind of learning model can continuously be the basis of educational elements that lead to adult learning? When an individual or group decides to acquire detailed information, knowledge or skills, they usually seek help from a professional to explain how to proceed and monitor the learning process. They are aware that they need internal control through the change process. However, sometimes a learner must be prepared to accept significant responsibility for what they have done. This of course aims to organize, launch, and conduct learning projects responsibly. This behavior can be called successful if a learner can instruct himself to carry out the thinking process

in learning independently, so that independent study activities will give birth to independent teaching and independent thinking. This research identifies three factors that influence a learner so that he can think independently as follows [13], (1) Individuals who take the initiative in independent thinking are more familiar with things that are individual thinking and thus have an impact on making students learn better than they do. Those who sit and listen to directions to be taught. (2) Independent thinking is more in line with the natural psychological growth process of students, so that naturally every student has the ability to think independently, which is the problem of how to explore and bring it up. (3) Many effects of educational progress, especially those related to educational technology, burden students to take fair initiatives in their learning. With the following three implications (a) It is no longer practical to characterize the purpose of education as communicating what is known. (b) There must be relatively diverse ways of thinking about learning. (c) It is unfair to associate education with the maturity of students.

Independent thinking has four variables, namely: (1) Students acquire knowledge independently and develop critical inquiry and evaluation skills; (2) have the freedom in determining goals; (3) free to carry out activities in achieving goals; and (4) increasing the responsibility of students to achieve learning objectives. There is an important point here where greater power also implies greater responsibility [14, 15].

The concept of independent thinking is: 1) Create a thinking environment, set goals, and a rounded thinking capacity. 2) Make a long-term plan and make a to-do list. 3) Between these periods a refreshing and calm pause and interlude is offered. 4) Summarize the results of each brother's processing, and prepare yourself to discuss with others. 5) Think to be targeted and directed. Interest will influence thinking to match expectations. 6) Thinking needs help, both from the lecturer and from the textbook itself. 7) Thinking requires knowledge of what it learns to achieve understanding. 8) Thinking requires effort and repetition so that what is obtained can be mastered.

One of the important goals of higher education is to equip students and adequately adapt to changes in the effectiveness of independent thinking. The aim is to educate students with solid knowledge, practical skills, and sufficient abilities to attain appropriate goals in their professional careers. This statement is one that claims that a high level of professional competence and talent is only the beginning of career success. However, although these skills, knowledge and experience are very important, they are not enough to produce excellence. The curiosity and creativity of students are disturbed by non-traditional teaching techniques, which further encourage students to be involved in lecture activities that are more field in nature. These methods focus on students' learning activities and independent thinking as they progress from passive methods of acquiring knowledge (e.g., interpretation, explanation) to more active methods of obtaining information, becoming educators who prioritize independent thinking [18].

2 Methods of Research

A quantitative descriptive approach is employed in this study—an experimental research methodology. I was comparing different action. Then, self-directed thinking is demonstrated via the distribution of interview.

3 Research Results

The results of the study were obtained based on the objectives and framework of the research questions, which include: (a) Findings from preliminary studies of the learning process in higher education today [19]; (b) surveys of lecturers/students regarding the current situation of the learning process in Higher Education [20]; (c) The results of research on the structure of the electronic project-based learning model to improve self-directed thinking in higher education [21] (d) the results of the electronic project-based learning model form increasing knowledge of ideas in higher education [22].

The success of learning can be observed through student responses to the developed model. Based on the results of the study, it was found that the value of academic achievement which was initially below the average value of the performance of lecturers/students increased. Furthermore, previously students found it difficult to find sources that could help their awareness of learning, but now they have found the learning resources they expect. Students were previously afraid to ask questions when they didn't understand, but now they have the courage. In addition, students revealed that with project simulations they found innovative ideas in learning activities and made them learn independently. Electronic project-based learning is seen as an alternative solution to the problem of independent thinking [23, 24].

Lecturers and students said that the project simulation could be said to be superior to the implementation of electronic project-based learning-based economics. Based on the results of the initial study of the purpose of education, it is known that mastering the basic concepts of economics is influenced by various factors, including: quality of learning, management by the faculty, quality of students, environment and learning support facilities [25, 26]. In learning activities, lecturers are responsible for building a quality learning process, so lecturers must have and manage pedagogic, andragogic components, and ICT literacy. This component is the initial result of researchers to see how far this learning concept can be utilized. In general, tertiary faculties, theoretical and practical factors are still relatively good, one of which is caused by their educational background and which generally appear to be graduates of Masters of Education and Doctoral degrees, which will affect the ability to make good learning plans, use these effective practices, try to teach material and in assessing learning [27–29].

4 Conclusions

The success of learning can be observed through student responses to the developed model. Based on the study results, it was noticed that the academic achievement which was initially below the average value of the performance of lecturers/students increased. Furthermore, previously students found it hard to find sources that could help their awareness of learning, but now they have found the learning resources they expect. Students were previously afraid to ask questions when they didn't understand, but now they have the courage. In addition, students revealed that with project simulations they found innovative ideas in learning activities and made them learn independently. Electronic project-based learning is seen as an alternative solution to the problem of independent thinking.

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