

Economic Education Laboratory: Initiating a Meaningful Economic Learning through Laboratory

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Abstract

Laboratory is considered as one of the resources in supporting the learning process. The laboratory can be used as facilities to deepen the concepts, learning methods and enriching students' knowledge and skills. Learning process by utilizing the laboratory facilities can help lecturers and students in grasping the concept easily, constructing the learned concepts, and developing the thinking skills. The roles of Economic Education laboratory is to be the source of learning; as a learning methods and also as a supporting place for infrastructure. The purpose of this article is to develop an the understanding on the importance of the economic education laboratory function in preparing prospective teachers to achieve competency in economic. It is concluded that laboratory has an important role to encourage greater student engagement and helps to improve the quality of economic education.

Keywords: Economic Education Laboratory, Education Infrastructure, Learning Quality

1. Introduction

Enhancing the quality still become the main priority of education development in Indonesia. It is widely known that the goal of national education development is to improve the quality of teaching and learning in the classroom with focusing on every aspect of students' development. Instinctively, the students want to have a learning that is concrete, fun and covers all aspects of their development.

In accordance with Permendikbud No. 49/ 2014 of National Standards for Higher Education section IV the learning process in higher education should be interactive, holistic, integrative, scientific, contextual, thematic, effective, collaborative and student-centered. Learning activities requirements cannot be achieved without the ability of the lecturers in organizing learning activities that encourages students' involvement . In addition to the capability of lecturers, the success of learning processes will also depends on adequate learning infrastructures, including laboratories. In the Permendikbud No. 49/2014 article 31, stated a minimum teaching, infrastructures in form of laboratory should be possessed. Laboratory is one of the learning facilities that can not be ignored. Thus, the lecturers can facilitate laboratory-based learning activities.

Nowadays, a laboratorium always projected as a science laboratory that is equipped with a lot of tools and science machines. In reality, laboratory is not solely for field of exact sciences study (science and technology), but also on the social sciences study that istudy of Economic Education. Laboratory actually required by all courses to support the learning process, including the Economic Education courses. The Economic Education laboratory role is central to teaching and learning activities for both lecturers or students, and where miniature Economic activity can be seen. Laboratory in Economic Education Studies Program at the Institute of Education of Teaching (LPTK) largely covers the laboratory for business practices such as shops, banks, taxes, mini office, and the stock exchange. While laboratory to practical associated with the basic concepts of economics that has not been exist.

Richardson (1957: 70) stated that the laboratory has several functions: 1) it can generate the sorts of problems to be solved, 2) a good place for students to do experiments, training, demonstration or other methods, 3) may lead to understanding and students 'awareness about the role of scientists, 4) may lead to understanding and students' awareness of facts, principles, concepts and generalizations, 5) provide opportunities for students to work with tools and certain materials, cooperate with friends, motivated to express, find and satisfaction of the achieved results, 6) pioneered the development of attitudes, good habits and skills that are useful.

Based on the above opinion, laboratory became a place to explore concepts, develop learning methods, enrich their knowledge and skills. In addition, laboratory as well as a place for students to learn to understand the economic concepts through the optimization process skills and develop a scientific attitude.

The equipment in the laboratory can be used as a medium or a good medium in the laboratory, classroom and taken out of the classroom / environment, to enhance the skills of the process. Thus, students do not only become more skilled but also affect the formation of a scientific attitude and also the achievement of knowledge (Freedman, 1997: 353). Therefore, laboratory is needed in the formation of a scientific attitude of students.

There are four reasons for the importance of the practicum (Woolnough and Allsop; 1985). First, laboratorium generates learning motivation. Through laboratory activities, students are given the opportunity to satisfy the urge of curiosity and want to be. This principle would support the practicum where students discover knowledge through exploration. Second, develop basic skills in conducting experiments. Doing an activity that many experiments conducted by scientists. To perform this experiment, it takes some basic skills such as observing, analyzing and communicating the lab results to understand economic concepts. Through practicum, students are trained to develop basic training skills in experimenting with their ability to perform the activity and practice and observe carefully and interpret experiments. Third, the lab becomes a rides for learning the scientific approach. Through practicum, students like a scientist who is conducting experiments, they are required to formulate the problem, designing experiments, interpret the data acquisition, as well as communicate via the report that should be made. Fourth, the lab can support the subject matter. These activities can be concluded that the lab can support students' understanding of the subject matter, particularly economic concepts which are abstract.

Practical activities in the laboratory can be used as a means to improve the understanding of the concept and improve the students' misconceptions (Roth, 1992). Thus, the existence of laboratory can be used as a means to implement a miniature practical associated with economic activity to increase understanding and improve student misconceptions. Given the importance of economic education laboratory as a learning resource, it is important to realize economic education laboratory that can support the learning economy and ultimately improve the quality of professional graduates.

2. Importance of Economic Education Laboratory

The availability of infrastructure in education is undeniably important in improving the quality of education itself. One of the important infrastructure facilities is laboratory. Laboratory is a room where the practice or research activities is conducted and supported by the existence of a set of laboratory equipment as well as the complete laboratory infrastructure. Amien, Moh (1988) distinguished types of laboratories in terms of the purpose and function which can be divided into: 1) a basic laboratory, a place that can be used by the student to introduce and understand the basic concepts which are demanded to develop further knowledge; 2) development laboratory is used to develop specific tasks, according to the specialization fields of science by personnel in the laboratory; 3) teaching methodology laboratory is a ride and a pedagogical competence development (teacher training) for prospective teachers; and 4) research laboratory is a place to conduct scientific activities in the discovery of concepts, principles, theories, principles, rules, or laws in the field of knowledge acquired or referred to as a scientific product.

Laboratory is a platform to train students' skills in practice, demonstrations, experiments, research, and development of science. Laboratory in question which does not only mean a room or building used for scientific experiments, for example in the field of science, biology, chemistry, physics, engineering, and so on, but also including the activities of the scientific itself either experimental, research, observation, demonstration involved in economic learning activities. In other words, the scientific activity in the laboratory is a place made by students or lecture, or other parties, either practical, observation, research, demonstration or development of learning models undertaken in the framework of the learning activities.

Based on the above explanation, the definition of laboratory is not only included the building or space and equipment, such as laboratory chemistry, physics, engineering, and so on. However, the definition laboratory as well as schools / classes and even society itself. Organizations, institutions / agencies, the natural surroundings are also a laboratory that is a source of learning and the media in the teaching-learning process that will not run out.

In the implementation of learning, which also covers economic learning, should not only convey the theory, but also linking between theory and practice. The principles will be assessed in practice while contained in practical experience sought basics in theory. The relationship between theory and practice is integrative, in which theory and practice are alternately and gradually complement and assess each other. The relationship between theory and practice which is the logical reason why the laboratories and other facilities in the learning process becomes such important point.

Thus, all the necessary laboratory studies program can support the learning process, including courses for Economic Education. However, in the Economic laboratory Education Program at the Institute of Education of Teaching (LPTK) largely covers the laboratory of business practices such as shops, banks, taxes, mini office, and the stock exchange. While laboratory for practices related to the concepts of economics as well as to practice

the learning economy does not exist. Economic laboratory education is a source of learning for students, such as at universities in developed countries have economic education laboratory. For example, in the Department of Economics and Related Studies at the University of York, Heslington has economic laboratory called EXEC laboratory (center for experimental economics) used to conduct experiments related to economics. This laboratory is the best laboratories in the world.

Economic laboratory can be used to study the strategic economic decision making through developing a combination of economic theory, game theory, behavioral economics, laboratory experiments, and research surveys. The utilization of Economic Education laboratory can be used as a way to have a better understanding on human interaction over economic decisions. Thus, the Economic Education laboratory is central point for teaching and learning activities, economic studies, both conducted by teachers and learners, and where miniature economic activity can be seen.

Economic education laboratory and all of the tools in it are considered as education facilities and infrastructure. Laboratory along with a tool that is in it is the infrastructure required directly by faculty and students as well as teaching and learning process in order to achieve learning objectives. Laboratory equipment in economic education has an important role in teaching and learning activities, namely: a) to explain the concept, so that students acquire the ease in understanding matters raised by the lecturer; b) establish mastery of the material that has to do with the material to be learned; and c) develop thinking skills.

In addition, laboratory has a very important role in teaching and learning activities, economic education laboratories as a learning resource; educational methods; and education infrastructure. Economic education laboratory as a learning resource means an activity spot for investigation, reveal and solve a problem or perform experiments to achieve the learning objectives. As a method of education, means economic education laboratory activities looked position as observation method and experimental method. Meanwhile, as the infrastructure of education, economic education laboratory is a learning process container equipped with a variety of equipment with a variety of conditions that can be controlled.

The role and function of economic education laboratory is considered has a big influence on the success of teaching and learning activities. As a place to do something experimental and investigative activities, economic education lab makes it easy for students to understand and master the subject matter being studied or delivered lecturers. As for teachers, teaching and learning activities carried out in the laboratory it provides ease in conveying concepts that are less controlled by the student, thus reducing the possibility of occurrence of verbal student, and make teaching more interesting, not boring, which in turn can develop their skills and success teaching of economics itself.

3. The Function of Economic Education Laboratory

Laboratory as a place for a group of people who perform a wide range of research activities, observation, training, and scientific testing as an approach between theory and practice (DeCaprio, 2013). Laboratory is not only used for natural sciences but also used for the social sciences. Social laboratory can be an environment that becomes the object of observation and experiment. Thus, economic education laboratory can be interpreted as a means or a place that supports the learning process in which associated with the development of the understanding, skills, and innovation in the field of economics. Economic education laboratory referred in this article as a rides, in which lecturers and students can practice related to economics and economic learning methodology.

In general, the laboratory has several functions, as expressed by DeCaprio (2013) as follows: 1) the balance between theory and practice unify science and between theory and practice; 2) provide the skills of scientific work for researchers, both from the students, lecture or other researchers, 3) provide and cultivate courage researchers to look for the nature of scientific truth of an object of knowledge in the natural environment and social environment, 4) increase the skills and expertise researchers in the use of media tools available in the laboratory to find and determine the scientific validity in accordance with various kinds of research or experimentation to be performed; 5) fostering the curiosity to researchers on a wide range of knowledge so that will encourage them to always examine and seek scientific truth by means of research, testing and experimentation; 6) the laboratory can cultivate and foster confidence in the skills of researchers obtained or to be obtained in the process of finding work in the laboratory activities; 7) lab can be a source of learning to solve problems through practical activities, whether it has a problem in learning, academic problems, and problems that occur in the community who need treatment; and 8) laboratory can be a learning tool for students, professors, activists, researchers and others to understand the science of abstract nature so that it becomes something that is concrete and tangible.

Laboratory has its functions as a learning resource for economics education and as a learning infrastructure. Economic education laboratory is a resource to solve problems or conduct experiments related to competence in economics. For example, stock exchange laboratory can be used as a learning resource to dig for information and data about the capital market and perform simulations related to trading securities. Other

examples such as import-export laboratory, which can be used as a source of learning about export and import procedures along with the device. Economic education laboratory is an education infrastructure in implementing the learning process. This laboratory consists of an enclosed space or open space. A closed space is equipped with a variety of equipment that is designed in a variety of situations that can be controlled, especially equipment and supplies to carry out a simulation of economic activity. Open space is a real condition that can be used as a source of learning and education, for example, the economic activities carried out by people around the students. Lecturers and students can take advantage of laboratories in applying methods of experimental / simulation and methods of observation.

Professional lecturers who would always required creativity in making simple tools, innovative learning media to explain the theories and concepts of economics to be easily understood by students. In learning activities necessary visual aids that can be used by lecturers in the learning process. There are simple props that can be made by lecturers and students and props that can not be made due to funding constraints and capabilities, such as screens, LCD, Laptops / computers, cash registers and other. Visual aids become important in economic education laboratory.

In this article, the economic education laboratory is developed in the learning activities, where students can make observations and experiments related to economic concepts. Besides, the laboratory can also be shaped room, where there are a variety of instructional media, tools, data and economics books that can be used by faculty and students in deepening economic concept. Thus, there will be a transfer of knowledge related to the application of innovative learning models that are useful for LPTK graduates, particularly Economic Education. Economic education is used as a laboratory simulation laboratory to apply economic competencies to support the economics learning process. Some forms of activities that can be performed in the economic laboratory are: 1) Simulation of Scarcity and choice; 2) Simulation of "Block Note" production; 3) Simulation for auction; 4) Simulation for "apel" (competence supply and demand) market; 5) simulation of the stock market; 6) taxation material simulation; 7) simulation of import-export activities; 8) simulation activities related to banking; 9) activity is observed through analyzing the behavior or activities of economic events in the society life, and so on.

4. Economic Learning Implementation at Economic Education Laboratory

Some examples of activities in the economic study which utilizes Economic Education laboratory in this article are presented three examples which are:

4.1. Scarcity and Choice Simulation in the Context of Indonesian Economic

In this activity, students are asked to participate as a producer of two goods, so that they can explore the scarcity problem. They make choices about the use of the scarce resources to produce two goods or only one of the two goods. Furthermore, they should make the curve possibilities, incorporate opportunity costs and concluded that: scarcity requires choices and each choice has costs opportunity. At the beginning of the learning, the lecturer explained that the students will play as producers. By dividing the class into several small groups of 2-3 students per group, each group was given several pieces of media images and scissors. Each group has the same task to produce several rectangular or triangular.

The lecturer gave the students a few minutes to make a rectangular or triangular shape. Based on the experimental results, the students created a table and drew a production possibilities curve in the graph. Students were asked to identify and explained the findings based on experiments regarding: the scarcity experienced the group; the resources used to produce a triangle a rectangle, explains the cost opportunity, and described the production possibilities curve. At the end of the lesson, the lecturer confirmed the concepts they have learned through experimentation in the production of triangle and rectangle. (Guinkel, Liudmila, 2002).

4.2. The Simulation of "Block Note" Production

Through this production simulation, the students learn about what productivity, why productivity is important for the economy and how to improve it. The learning objectives of this production practice, are to make the students able: to mention the advantages and disadvantages of production based on contract system and specialization, to define labor productivity as output per worker, to identify the effects of new technology on the productivity of workers, and to analyze how productivity can be increased through specialization, training and education, capital investment and technological upgrading. In this activity, the lecture can use waste papers as raw material in the production of block notes, scissors, rulers, markers and clips. At the beginning of the learning, lecturer divided the class into two large groups. One group is a group of specialties and the other as a wholesale group. Each group is further divided into small groups consisting of 3-4 members. Each of the small groups should produce block notes with resources that have been provided with the appropriate technique by the large group. If a small group is a member group of specialties, then the group should be produced using the method of specialization and vice versa. The lecturer set the course of the production time of up to 3 rounds / 3 times the production process. The lecturer gave the means of production as finding technology to improve the productivity of the group that can produce the most products. After production practical activities completed, the students

discuss: the advantages and disadvantages of each method of production, what efforts to increase the productivity of workers, the impact of technology findings in production activities. At the end of the lesson, the lecturer gave an explanation of the concepts learned through practical activities and linked to the concept of economic growth. (Elaine C. Coulson and Sarapage McCorkle, 1994)

4.3. *The Concept of Market Failure through Observation of Real Event*

Activities in the economic education laboratory can be done by observing existing events in surrounding environments. One example of the events is where the students were asked to observe a short movie about the limitations of the existing campus parking lot that can not accommodate all students and lecturers' vehicles. After that, students' comprehension was tested in general, does it need to bring this case back to the main theme of the movie: is this a case of market failure? It will depend on the time of introducing this material in the lesson. The definition of market failure may need to be explained, along with the three main causes: (i) externalities; (ii) asymmetric information; (iii) the strength of the market. Wayne Geerling (2012) found that students usually can provide a common example, for example they understand how economic case works in reality, but are not aware of the theoretical or the conceptual related to the case. Thus, this reality signifies the need to observe activity to help students make a connection between theory and the reality. The concept of market failure is an important concept in economics, but it is often misinterpreted by many students. The central issues are: 1) the market fails to allocate resources efficiently; 2) there is no market solution: in this case, the market is the problem. Teachers need to ask the students to consider whether the car parking problems related to this issue or not? Are they able to identify market failure in the community? Another important issue is: what is the role of the government (or in this case, the university) in addressing the market failure? This can be attributed to the broader debate among the economists about how much the government intervention in the economy (Wayne Geerling, 2012).

5. Conclusion

Economic education laboratory is meant to be the source of learning for students who used to conduct experiments related to economics. Economic education laboratory also used to study the strategic economic decision making. Economic learning by utilizing the laboratory helps in facilitating lecturers and students to explain various economic concepts, facilitate understanding for the lectures, mastery of the material being studied, and develop thinking skills. The roles of economic education laboratory can be as a source of learning; educational methods; and education infrastructure.

Lastly, the role and function of the economic education laboratory is significant to the success of teaching and learning activities. As a place to conduct experimental and investigative activities, economic education lab makes it easier for students to understand and master the subject matter being studied or delivered by the lecturers. As for the teachers, teaching and learning activities which is carried out in the laboratory provides easier to convey the concepts that are less controlled by the student, thus reducing the possibility of occurrence of verbal student, and make teaching more interesting, not boring, which in turn can develop their skills and success teaching of economics itself. Learning in the laboratory will develop the transfer of knowledge related to the application of innovative learning models that are useful for LPTK graduates, particularly for Economic Education program. It can also be used as laboratory simulations to apply economic competencies to support the learning process in economics. The economic subject becomes more meaningful if the learning is conducted by experimenting.

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