



Innovation of Project Base Learning (PjBL) on Outdoor Study for PGSD's Student Activity on Education Diffusion

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This study aims to determine the response of students participating in learning activities by applying the Project Base Learning (PjBL) model based on outdoor learning in innovation diffusion courses. The research method uses a qualitative descriptive method by direct observation and documentation. The instrument used was the observation sheet and student response questionnaire. The results showed a student response of 87.1% with the criteria of strongly agreeing to the PjBL model based on outdoor learning. PjBL outside the room was in the form of training, counselling and group discussion forums.

Keywords: *Innovation, Project Base Learning, Outdoor Study*

INTRODUCTION

Science and technology continue to develop in accordance with the demands of the times. This has an influence on the curriculum of tertiary institutions in Indonesia. The university curriculum must develop to be better. Curriculum development also means that there must be developments in the learning system, so that the concept of learning carried out in tertiary institutions is not only limited to the process of transferring knowledge but also is truly a complex and coherent process of developing knowledge for students in the future. One of the curriculum developments is the development of learning methods from lecturers to students. The classical lecture paradigm is a paradigm based on active student learning. Lecturers can teach using many variants of learning models that lead to contextual learning and collaborative learning. Trianto states the learning model is a conceptual framework that describes systematic procedures for organizing learning experiences to achieve certain learning goals, and serves as a guide for learning designers and teachers in designing and implementing learning (Trianto, 2007).

Diffusion of innovation is one of the courses in the Primary School Teacher Education (PGSD) study program that discusses the diffuse nature of educational innovations, diffusion theory of innovation, various innovations in basic education, diffusion of educational innovation procedures, components of diffusion of educational innovation and the design of diffusion of educational innovations. After learning, students must know and be able to apply various concepts of diffusion and educational innovation, as well as be able to design the diffusion of educational innovations in accordance with the diffusion of educational innovation procedures. The diffusion of innovation is defined as the spread of innovation ideas through communication processes carried out using certain channels within a certain time span among members of the social system in society.

The main objective of the diffusion of innovation is the adoption of an innovation by both individuals and certain social groups that encompasses ideas, science and technology. The diffusion of an innovation cannot be separated from the process of delivery from one individual to another through the social relationships they have. Research shows that a group that is solid and close to one another adopts innovation through its group. In the process of adopting innovation, communication through mass media channels quickly raises awareness about the spread of new innovations compared to interpersonal communication channels. Interpersonal communication influences people to adopt innovations that have previously been introduced by the mass media.

According to Everett M. Rogers, the diffusion of innovation is the process of communicating innovation to members of the social system through certain communication channels and takes place all the time (Wilkening, 1963). Based on observations made in the dominant lecture process using cooperative learning models with class discussion methods shows that the model makes students less active in learning. Students are shown to be less active in conveying ideas and ideas, lacking concentration, and bored with learning. In fact, in the

lecture process students should be able to find innovative ideas and be able to apply them in elementary school.

Based on this problem, the researcher wants to apply a learning model that can provide direct experience for students to get a learning experience that can benefit themselves and others. One learning model that is suitable for learning diffusion of educational innovation is the Project Based Learning (PjBL) learning model with an outside study methods room. The project-based learning model is the use of the project as a learning model. The project places students in active roles, namely as problem solvers, decision makers, researchers, and document makers (Arif, Putri, Murni, & Maisa, 2018; DeFillippi, 2001; Leung, 2012; Weber, 2000). The outdoor learning method of implementing learning is done outdoors. According to Vera, Outdoor Studies involves teaching and learning activities between teachers and students that are not carried out in the classroom, but outside the classroom or outdoors (Vera, 2012). This mode of learning uses several methods such as lectures, assignments, discussions and experiments, using the open world as a classroom tool. This method is in accordance with the project assignments because it is done outside the classroom.

Based on the background of the problems stated above, the following research problems can be prepared: (1) How are students' activities in learning diffusion of innovation using a learning model based on outdoor learning projects. (2) How do students respond to diffusion innovation learning using learning based on outdoor learning projects

The purpose of the study is based on the problem formulated above and is to find out: (1) The description of student activities on diffusion innovation learning using project based learning on outdoor learning; (2) Student responses to the diffusion innovation learning process using a project-based learning model based on outdoor study methods.

LITERATURE REVIEW

Project Based Learning Model

According to CORD et al, as quoted in Wana, project-based learning is an innovative learning model and emphasizes contextual learning through complex activities (Wana, 2014). The focus of learning lies in the core principles and concepts of the discipline, which involve students investigating problem solving and other meaningful task activities. This gives students the opportunity to work independently in building their own knowledge and reaching its peak to produce tangible results. Other definitions of Project Based Learning by Susanti state that Project Based Learning is innovative learning that is student-centred and places the teacher as a motivator and facilitator, where students are given the opportunity to work independently to build their learning (Susanti & Muchtar, 2008).

Project Based Learning is a learning method that uses projects / activities as a medium. Learners explore, assess, interpret, synthesize, and information to produce various forms of learning outcomes (Bell, 2010; Suhartatik & Adi, 2014; Susanti & Muchtar, 2008). Project Based Learning is a learning method that uses problems as a first step in gathering and

integrating new knowledge based on experience in actual activities (Capraro & Jones, 2013; Kurubacak & Yuzer, 2012; Sanfilippo & Austreng, 2018). Project based learning is a student-centred learning model for conducting an in-depth investigation of a topic. Students constructively deepen learning with a research-based approach to problems and questions that are weighty, real, and relevant (Fernandes, Flores, & Lima, 2012; Krajcik, 2018a, 2018b; Littlefield, 2017; M. Thomas, 2017).

Project Based Learning is innovative student-centred learning and places teachers as motivators and facilitators, where students are given the opportunity to work independently to build their learning (Lucas, 2005; Sirih, Ibrahim, & Priyono, 2019). Thus, this model teaches students to be active and independent in learning. Students work on assignments, solving problems with groups so that communication between peers is established. Project-based (syntactic) learning steps developed by the George Lucas Educational Foundation (Lucas, 2005):

- a. Learning begins by giving essential questions that can give assignments to students carrying out an activity. Task topics relate to the real world and are relevant to students. They begin with an in-depth investigation.
- b. Designing project plans (Designing Plans for Projects) is done collaboratively between the teacher and students. Thus, students are expected to feel that the project is "owned." By integrating a variety of possible subjects, and knowing the tools and materials that can be accessed to help complete the project, planning contains the rules of the game, as well as the selection of activities that can support and answer important questions.
- c. Set a schedule (create a schedule). Lecturers and students together arrange a schedule of activities in completing the project. Activities at this stage include: making a timeline (time allocation) for completing projects, determining deadlines (deadlines) for completing projects, guiding students to plan new ways, guiding students when making ways related to project, and students must make an explanation (containing reasons) about the selection of methods.
- d. Monitor student and project progress. Lecturers are responsible for monitoring student activities during project completion by facilitating students in each activity process. In other words, the lecturer acts as a mentor for student activities. To facilitate the monitoring process, a rubric is created that can record all important activities
- e. Assessing the results of assessments conducted to help lecturers measure achievement, play a role in evaluating the progress of each student, provide feedback on the level of understanding that students have achieved, assist lecturers in developing the next learning strategy.
- f. Evaluating the experience (Evaluate the Experience) at the end of the lesson. Lecturers and students reflect on the activities and results of the projects that have been carried out. The reflection process is also done individually.

Project based learning has different characteristics from other models. These characteristics are as follows. (1) Centrality: In project based learning projects become central to learning. (2) Driving question: Project based learning is focused on questions or problems that lead students to look for solutions with appropriate scientific concepts or principles. (3) Investigation: In project based learning, students build their knowledge by conducting investigations independently with the teacher as a facilitator. (4) Autonomy based learning is student centred and require students to be problem solvers of the problems discussed. (5) Realism: Student activities are focused on work that is similar to the actual situation (Arif et al., 2018; DeFillippi, 2001; Weber, 2000; Yan, 2012). This activity integrates authentication tasks and results in a professional attitude.

The project-based learning model has advantages according to Suhartatik, namely: (1) problem solving, (2) unidirectional learning (fostering and training a sense of responsibility, initiative and freedom to learn independently), (3) creative thinking (training creativity) in creating new things, (4) learning of real world relationships (real world) that can be applied in the real world, (5) cooperative and collaborative learning, (6) reflection (people practice to be able to express their learning experiences), (7) authentic material (there are tangible products from student work) (Suhartatik & Adi, 2014).

Basic Concepts of Outdoor Study

Outdoor study (Learning outside the classroom) is one of the efforts to develop learning, avoid boredom in students, and their perception of learning as only taking place in class. The outdoor study approach (outdoor study) is a learning approach that uses the atmosphere outside the classroom as a learning situation for various games as a way to transform the concepts conveyed in learning (Lugg & Slattery, 2003; Prince, 2005; Vera, 2012; Wigglesworth & Heintzman, 2017).

The learning approach outside the classroom uses several methods such as assignments, questions and answers, and practical learning while playing (Humberstone, 2017; Snelson, Geens, Al-Madfai, & Hillier, 2008; Street, 1999; Sung, Hu, Zhao, & Wei, 2014). This learning approach outside the classroom has advantages that support student learning. First, it encourages student learning motivation, because it uses an open natural setting as a classroom tool, and provides support for the overall learning process that can add fun and enjoyment. Second, teachers are able to create a pleasant learning atmosphere because they can participate in creating a learning atmosphere such as play. Third, in learning outside the classroom students use concrete learning media and understand the surrounding environment. Learning media is used in accordance with the actual situation, namely various children's games such as slides, swings, seesaw and others. Fourth, it sharpens physical activity and student creativity because of the learning strategies used while practicing in accordance with assignments (Damhuri, Amaluddin, & Sejati, 2018; Kiik, 2017; Rasmilah, 2016; Theobald, 1977). In addition to having strengths, the approach outside the classroom as a learning approach also has a weakness: it requires extra attention from the teacher when learning

because it uses media that is in accordance with reality in the children's playground that can allow the child to continue playing in that place.

Learning outside the classroom (outdoor study) is learning that is done outside the classroom or outside the school building, or in the wild, such as: playing in the environment around the school, in the park, or in the surrounding community so that knowledge and values are obtained and grades are related to the learning outcomes of the material delivered outside the classroom (Luchs & Fikus, 2013; Paisley, Furman, Sibthorp, & Gookin, 2008; Seaman et al., 2014; Shahriari & Bergevin, 2016; G. Thomas et al., 2019). The approach of learning outside the classroom (Outdoor study) is an approach taken by the teacher, where the teacher invites students to study outside the classroom to see events directly in the field that are used as learning resources. The role of the teacher here is as a motivator, meaning the teacher is a guide by which students learn through the experience they have gained.

Learning outside the classroom (outdoor study) is as a learning approach in improving the understanding of opposing worlds to students (Lai Murphy, 2012; Polley & Thomas, 2017). By learning outside the classroom (outdoor study) students can feel direct experience through their own experience outside the classroom with an object in the environment that will improve their understanding. From an educational point of view, educational activities carried out outside the school environment contain at least three main concepts, namely the concept of the learning process, activities outside the classroom and the environment. The concept of the learning process through outdoor classroom activities (outdoor study) is an interdisciplinary learning process that is conducted through a series of activities designed to be carried out outside the classroom.

This approach consciously exploits the potential of the natural setting to contribute to physical and mental development. By increasing awareness of reciprocal relationships with the environment, programs can change attitudes and behaviours towards the environment. Second, the concept of activity outside the classroom is an approach using outdoor life that provides many opportunities for students to acquire and master various forms of basic skills and attitudes, as well as learn an appreciation for various things that are outside the classroom. The forms of activities outside the classroom can be in the form of exploring or observing the environment around the school, learning something through the environment where we live and so forth.

The concept of the environment refers to ecological exploration as the mainstay of living things that are interdependent with one another. The importance of the environment is not only used as a place of learning but the environment can also be used as a source of learning. Through their direct experience of outside the classroom, the learning process is shown not only to be done in the classroom but also the environment outside the classroom, which can further improve student learning outcomes on a learning material.

METHOD

This study uses descriptive qualitative method by conducting direct observation on the application of learning based on Project Based Learning model of Outdoor Study and obtaining products in the form of activity reports that have been carried out by each group. The research was carried out in Campus 3 of the State University of Malang Jl. Ir. Soekarno No. 1 City of Blitar and 6 elementary schools in the city of Blitar, which is where the activities were carried out. The response of students in the application of this learning model was gained through a questionnaire.

Data collection techniques used in this study are observation and documentation techniques. According to Nawawi and Martini, "Observation is a systematic observation and recording of elements that appear in a symptom or symptoms in the object of research" (Nawawi & Hadari, 1992). Researchers can thus find out the activities that have been carried out by each group in each step of the learning model. The documentation method is information derived from important records from institutions or organizations or from individuals (Barlian, 2018). The documentation of this research is taking pictures by researchers to strengthen the results of the study.

According to Sugiyono, documentation can be in the form of writing, pictures or monumental works from someone (Sugiyono, 2008). The documentation method is to find data about variables in the form of notes, transcripts, books, newspapers, magazines, inscriptions, minutes of meetings, agendas and so on. Student response data collection techniques on project-based learning models are based on outdoor study using a questionnaire with Likert scale. The sample of the research was the 2015 class of students who took the course of educational innovation diffusion, and totalled 35 students who were randomly selected.

Overview of activities using learning models: the data analysis technique used in this study is interactive analysis. This model has 4 components of analysis, namely: data collection, data reduction, data presentation, and conclusion drawing. According to Moleong, "Data analysis is the process of organizing and sorting data into patterns, categories, and basic unit descriptions so that themes and places can be formulated as working hypotheses as suggested by the data (Moleong, 2004)." The steps of data analysis, according to Miles and Huberman, are as follows: First, Data collection, that is, collecting data at the research location by observing, interviewing, and documenting through the data collection strategy that is considered appropriate, and will focus and deepen the data in the next data collection process. Second, Data reduction, which is as a selection process that focuses, abstracts, and transforms rough data that is on the direct field, and continues at the time of collection. Thus, the data reduction begins when the researcher focuses the research area. Third, the presentation of data, which is a series of information organizations that allow research to be carried out. Presentation of data is obtained through various types, networks, activities. Fourth, Withdrawal of conclusions, namely in the collection of data, researchers must

understand and be responsive to something that is examined directly in the field by preparing policing patterns and cause and effect.

Response to Learning Models, data analysis techniques for student responses to the learning model using a Likert scale questionnaire, each student was asked to answer a statement with the answers: Strongly Agree (SS), Agree (S), Less Agree (KS), Disagree (TS), and Strongly Disagree (STS). For positive statements it is associated with the values of SS = 5, S = 4, KS = 3, TS = 2 and STS = 1, and vice versa (Sujana, 1989). The questionnaire used in this study consisted of 11 statements. Thus the maximum score that can be achieved by students is 175 and a minimum of 35. The score of each statement for all students is averaged and expressed in terms of percentage of achievement by using the equation:

$$\text{Index formula\%} = \text{Total Score} / Y \times 100$$

Where: Y = Maximum questionnaire score

In this study, the authors only want to find out the percentage of student responses to the learning model that has been done. The types of statements submitted to teachers will be included.

RESULTS AND DISCUSSION

Description of student activities in using project-based learning in outdoor learning

This innovation diffusion course was held over 16 meetings. The 8th and 16th meetings were the midterm and final semester exams. Project-based learning models based on external study methods are conducted at meetings 6 to 14. Students design activities based on the problems that exist in each object that have been observed beforehand. Furthermore, students look for solutions, make a schedule for each activity to be carried out, design innovations that will be carried out and deliver the activities that have been designed in the form of workshop activities and group discussion forums on each object. Activities that have been carried out by students in learning the diffusion of educational innovation are based on outdoor learning models. Students are formed into 6 groups and are then carried out to 6 elementary schools where the objects in implementing the innovations that have been designed are. Activities undertaken in implementing this innovation consist of training, counselling and group discussion forums with teachers at the school to deal with problems that have been observed previously.

In the first group, students conduct training activities after observing at SDN Karangtengah 3 based on the problems faced by teachers in elementary schools. Students design innovations by providing training on the use of power points in creating learning media. The results of this training activity compile a tutorial on how to use power points in making media. In the second group, students conducted a training activity with the title "Use of LCD projectors and how to download videos through "YouTube" at Karangtengah Elementary School 3. The

target of this training activity is elementary school teachers. Students design innovations by providing training on how to operate an LCD projector and how to download videos from “YouTube” to add media for learning. The results of this training activity are a tutorial on how to use an LCD projector and a tutorial for downloading videos from YouTube.

In the third group, students conduct training activities for students at SDN Gembongan 05 with the title "Activities of Lending Friendly Credit Banks (BPRS)". Activities carried out by students provide material about waste management. Students who provide this innovation include procedures for implementing BPRS in the form of vouchers which can later be exchanged by students when exchanging a number of rubbish vouchers, which can be collected in accordance with the rules made by the team, and can then be exchanged with stationery. The results of this training activity are the BPRS (Waste-Friendly Credit Bank) Program along with the BPRS implementation procedures.

In the fourth group, students conducted counselling activities for students at SDN Sentul 1 in Blitar City about character strengthening. Students get into problems that occur in elementary school like quarrelling with friends, and doing things that are not obscene to their female friends. This group makes innovations that provide extensions to strengthen character and provide a good example for hanging out with friends. The results of this activity are in the form of posters that attract good and bad things in relationships. In the fifth group, students conduct Forum Discussion Groups with teachers about problems in the Gedog 1 Elementary School in Blitar City. The innovation designed by the group was named "Fun Ecopreneur". Entrepreneurship program that discusses the problem of garbage and healthy snacks. With the aim of growing students' sensitivity to the environment. The result of this activity is the Fun Ecopreneur Program along with the Fun Ecopreneur implementation procedure.

In the sixth group, students conducted a Discussion Group Discussion with the teacher about the problem of using the library and increasing interest in writing and reading at SDN Turi 1 Blitar City. The innovation designed by the group was named LIMIT (Literature Fifteen Minutes). This program is expected to be useful in increasing interest in reading and writing and the use of libraries. The result of this activity is the LIMIT (Fifteen Minutes of Literacy) Program along with the implementation procedures.

Based on the above activities, it shows that the student has conducted an outdoor study-based project activity. Students perform this activity based on structured syntax. In their implementation, students appear to be active in carrying out projects and play active roles as problem solvers, decision makers, implementers, and activity reporters. This is consistent with Bell's opinion that this learning model can encourage students to work together to examine a problem so as to improve student communication skills [14]. This learning model is considered new by students. Students gain new knowledge about the implementation of each program that has been designed and created, which conveys the program. This model gives students the experience of how to communicate well in public. In addition,

collaboration between students is the key to the successful implementation of the activities carried out.

Student responses to project-based learning models that are based on outdoor study methods

Based on the results of a questionnaire analysis of student responses to the questionnaire to the project-based learning model based on the outdoor study method, it can be concluded that the students gave a positive response to the project-based learning model based on outdoor study that was applied to the diffusion learning of educational innovation. To find out the students' responses to learning by using learning models based on external learning projects, see table 1.

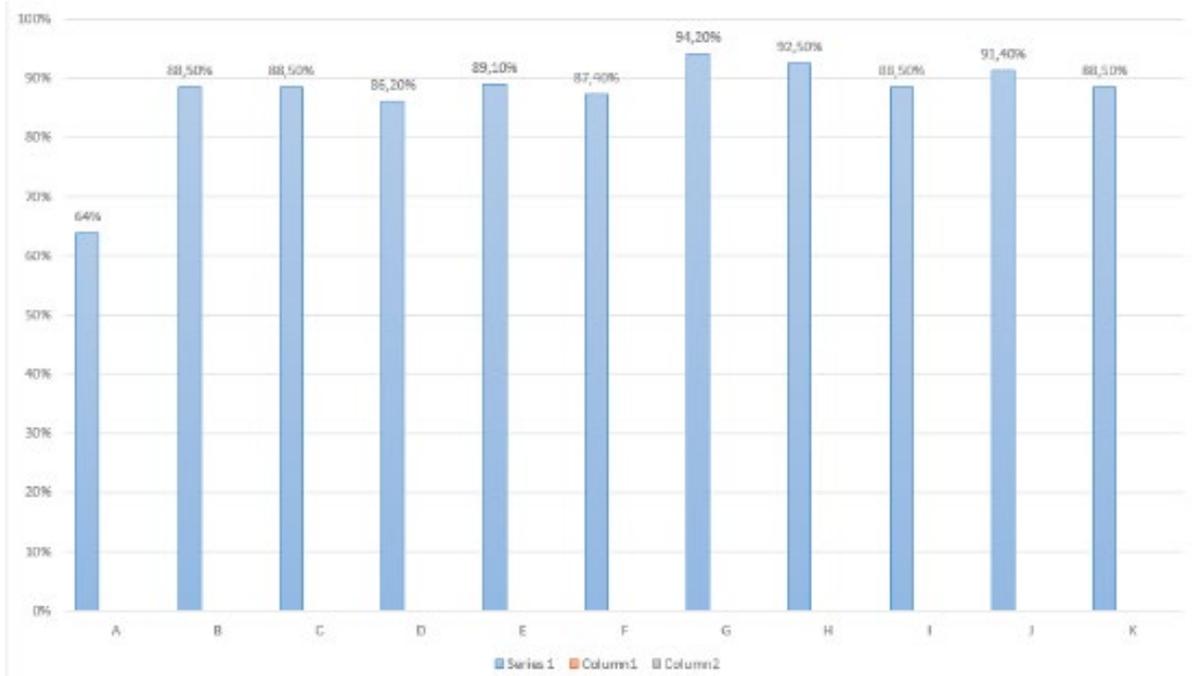
Table 1. Student response to learning

No	Question	Average	Average (%)	Category
1	With the Learning model in the innovation diffusion course last semester, I have a high willingness to attend lectures and increase motivation in learning.	4.48	64	Agree
2	Learning with the learning model in the innovation diffusion course last semester was very interesting and not boring	4.45	88.5	Strongly agree
3	The learning model in the innovation diffusion course last semester made it easier for me to understand the concept	4.42	88.5	Strongly agree
4	With the learning model in the course of innovation diffusion last semester I was easier to solve problems in learning	4.28	86.2	Strongly agree
5	The learning model in the innovation diffusion course last semester provides facilities in learning to find information from valid sources	4.42	89.1	Strongly agree
6	The learning model in the innovation diffusion course last semester motivated me to excel and work	4.37	87.4	Strongly agree
7	The learning model in the innovation diffusion course last semester made me gain new knowledge	4.71	94.2	Strongly agree
8	The learning model in the innovation diffusion course last semester made me more able to work with friends	4.62	92.5	Strongly agree

No	Question	Average	Average (%)	Category
9	The learning model in the last semester's innovation diffusion course provides activities to learn something related to my daily life	4.42	88.5	Strongly agree
10	The learning model in the innovation diffusion course last semester needs to be applied in other lectures	4.54	91.4	Strongly agree
11	The learning model in the innovation diffusion course last semester each group member participated in the activities carried out	4.45	88.5	Strongly agree
	Average	4.47	87.1	Strongly agree

The following is a diagram about student responses to the implementation of the Pjbl model based on outdoor studies.

Figure 1. Diagram results of student responses



Based on Figure 1, point A shows that this innovation can increase learning motivation. Point B shows that this innovation can be interesting and not boring. Point C shows this model makes it easy to understand the concept. Point D shows that students can more easily solve problems in learning. Point E of this learning model provides facilities in learning to find

information from valid sources. Point F shows that this model can make students motivated to excel and work. Point G shows that this model can make students gain new knowledge. Point H shows this model can make students more able to work with friends. Point I shows that this model allows students to learn something related to daily life. Point J shows that this model needs to be applied in other lectures and point K shows this model makes each group member participate in the activities carried out.

Based on the diagram above, it shows that the PjBL learning model based on outdoor studies is very interesting and not boring according to students, and motivates them to learn, as well as desire its application in other lectures. Stages of project-based learning models can explore the understanding of concepts and train students' skills in designing, creating, and delivering innovations that have been made. Thus students are more motivated in learning and foster an attitude of cooperation in learning. This project-based learning model can train students in managing the learning activities that will be carried out. This can be seen in the results of the 2017 Isnaniah research which shows that the application of the project-based learning model increases student creativity and independence [15].

CONCLUSION

From the Outdoors Study of Innovation Models Innovation Learning Models Based on students' responses in the course of Diffusion in Educational Innovations, it can be concluded that: Innovation of Outdoor Study Project Based Learning Model in student learning activities has conducted training, counselling and Discussion Group Forum activities in 6 Elementary Schools in Blitar City. Students gain new knowledge and experience in organizing an activity. Students gave a good response to the learning model of 87.1% on the application of Learning Innovation Based on Outdoor Study Projects in the framework of Diffusion in Educational Innovation.

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