

Improving the Ability of Communication Student Develop Model *Project Based Learning* (PjBL) With Media LKS Based *Experiential Learning*

J A Lubis ^{1*}, F A Lubis ¹, M Darwis ², P Dongoran ³, N Pardede ⁴

¹ Program studi Pendidikan Biologi, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Muhammadiyah Tapanuli Selatan
Tapanuli Selatan

² Program studi Pendidikan Fisika, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Muhammadiyah Tapanuli Selatan

³ Program studi PKN, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Muhammadiyah Tapanuli Selatan

⁴ Program studi Bimbingan Konseling, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Muhammadiyah Tapanuli Selatan

* Author: jalilah.azizah@um-tapsel.ac.id

Abstract. Communication in teaching matters very important role in determining teaching success. Prospective teachers must have good communication and basic teaching skills to improve student teaching communication by applying the Project Based Learning (PjBL) model withbased LKS media *experiential learning* because putting students into practice does not merely follow the lessons because of the demands of assignments in the form of projects. The purpose of this study is to improve student communication by applying thelearning model *Project Based Learning* (PjBL) withbased LKS media *experiential learning* in microteaching that impacts on the practice of field lectures. This type of research is Descriptive quantitative and research subjects are students of Biology Education in microteaching subjects. Stages of conducting research with initial investigation, design phase, realization phase, evaluation phase, implementation phase. The data analysis technique used is descriptive statistics describing learning outcomes and the value of student field practice. Obtained the results of student microteaching learning analysis increased in accordance with learning achievements, the impact can be seen from the value of the practice of field college students in the next semester increased with the overall value of students very satisfying.

Keywords: *Project Based Learning*, Communication, Quantitative Descriptive.

1. Introduction

Communication in education and teaching is very important and a big role in determining the success of teaching to achieve maximum student learning outcomes. Communication is a success in education In the teaching and learning process most of the activities occur communication between teachers and students as well as between students so that in the process good interactions occur and



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can convey knowledge well, so that the competency of the child is getting better in terms of affective, psychomotor and cognitive skills coupled with character values in communication. UNESCO International Commission for education entering the 21st century states that in contrast to the previous period, in entering the 21st century teachers have a very strategic role because it is expected to be able to shape the character and intelligence of the younger generation or in the original language "molding characters and minds of young generation "[1] supported by Trianto opinion that learning is an aspect of complex human activity, which cannot be fully explained". Simple learning can be interpreted as a product of going interaction between development and life experiences [2]. In the complex meaning of learning is a conscious effort of a teacher to teach his students (directing student interaction with other learning resources) in order to achieve the expected goals.

Creating a professional teacher is very difficult. Starting from academic competence, pedagogical competence, personal maturity, a dedicated attitude, adequate welfare, career development, a conducive work culture. Efforts to improve the quality of human resources must be followed by improving the quality of education and teachers. With the commitment of the government to play a role in improving the quality of education and also teachers, and efforts to improve the quality of education can be carried out well, it is hoped that in the future there will be an intelligent, creative, and competitive generation to participate in building the nation and state to realize a nation and state that forward in the future [1]. Therefore teachers and prospective teachers must have good communication and basic teaching skills. The basic abilities of teaching include: opening skills, closing skills, explaining skills, asking questions, guiding skills for small groups and strengthening skills. All of these basic abilities are supported by good communication so that good communication skills are needed for prospective teachers who will carry out direct field practice to be applied to channel the knowledge obtained properly to students at the school location to be addressed. According to Siswanto the learning process will take place well if the teacher is able to master and implement basic teaching skills in the classroom [3]. The mastery and implementation of basic teaching skills play an important role in creating conducive learning situations and conditions.

Through the initial observation results obtained interviews with tutors in biology subjects in schools where student practice has been addressed in the implementation year of 2016 shows that students have problems in rhetoric when delivering subject matter to students so that interaction during the learning process does not work smoothly, and some students feel bored with the material taught by prospective teachers who have passed the microteaching course. Where the language used when explaining teaching materials is convoluted and too monotonous to follow the style of local languages, asking questions to students does not develop concepts and increase students' reasoning power so students are less responsive and interested in answering and solving questions given by prospective teachers. Lack of variation in managing learning so that students in the class only want to play and tell stories with peers and do not participate in continuing the lessons given.

Basically there are various factors that influence the success of education, including: teachers, students, facilities and infrastructure, educational environment, curriculum [4]. From these factors, the teacher in the learning process activities in schools occupies a very important position and without ignoring other supporting factors, the teacher as the subject of education is crucial for the success of education itself. Biology is closely related to reality, to everyday life. The low quality of educators and the acquisition of science or biology subject learning outcomes of these students shows an indication of the low student learning performance in understanding the basic abilities of teaching teachers in managing quality learning. UNESCO concluded that effective teachers related to their assignments must be able to explain clearly and stimulate students to learn.

To improve students' basic teaching skills, they are overcome by improving instructional communication by using training or training procedures through modeling, practical work, peer teaching, and real teaching [5]. Students as candidates who are educated and trained as prospective teachers make observations on learning, discuss creative learning plans and present teaching in accordance with observational and modeling experiences that will be used to improve teaching skills. Lecturers as one of the facilitators to create prospective professional teacher candidates must teach

good communication methods so that students' confidence will increase during teaching practice. One of the efforts made to improve student teaching communication is by applying to improve student teaching communication by applying the Project Based Learning (PjBL) model with-based LKS media *experiential learning*. Project Based Learning (PjBL) is one of the learning methods that emphasizes providing opportunities for students to produce work through the development of knowledge, attitudes, values and social skills. The work produced can be a design, prototype model or tangible products that can be applied in the community. While student worksheets (LKS) based on experiential learning are expected to deepen students or better understand in detail and detail of what material is taught to them. students learn from each other about attitudes, skills, information, social behavior, and views, eliminate selfishness, build friendships that can continue into adulthood, encourage teacher candidates to creatively improve their performance [6]. This learning model places students in the position of having expectations for the lectures they receive, it can be practiced not just to follow the lessons because of the demands of assignments in the form of projects. The task is done in groups and from the results of the task that can be observed student communication skills in project work visible communication activities carried out between students in expressing opinions and delivery of the language used, facial expressions in addressing a problem. With the above problems, the researcher wants to find a solution to the problem by conducting a study with the title "Development of learning models *Project Based Learning* (PjBL)with experiential learning based LKS media to improve the ability student communication "

2. Method

type of research is quantitative descriptive of the practice of microteaching learning of student learning by taking certain actions that describe the results of research based on data obtained to determine the level of student learning success using based worksheet *experiential learning* with Project Based Learning models. This study uses the Plomp development model in [7] stating there are five stages that must be passed in developing a learning model :

2.1. *Preliminary investigation phase (preliminary investigation)*, the initial investigation phase (*preliminary investigation*) the purpose of the initial investigation is to find out the fundamental problems in carrying out communication when learning micro teaching, so that the development of learning models is needed.

2.2. *Design phase (design)*, this phase aims to design learning models as a solution to the problems that exist in learning micro teaching. In this phase a collaboration design learning model is held as well as making learning modules.

2.3. *Realization phase (realization / construction)*, carried out learning by collaborating the steps of the project-based learning model with media based LKS *experiential learning*

2.4. *The test phase, evaluation (test evaluation and revision)*, looks at the achievement of the objectives of improving students' communication skills by using collaboration models and seeing what needs to be improved in research.

2.5. *Implementation phase (implementation)*, the design of activities that have been determined implemented in learning micro teaching. During learning activities take place, learning is observed by observers, the goal is to observe student activities. It was also evaluated through the spread of the questionnaire to see achievement.

Data were analyzed descriptively viewed from student learning outcomes while attending lectures on teaching planning, microteaching and field lecture practice. The observation process lasted for three years. Student research subjects in the fourth semester of the 2015 academic year.

3. Results and Discussion

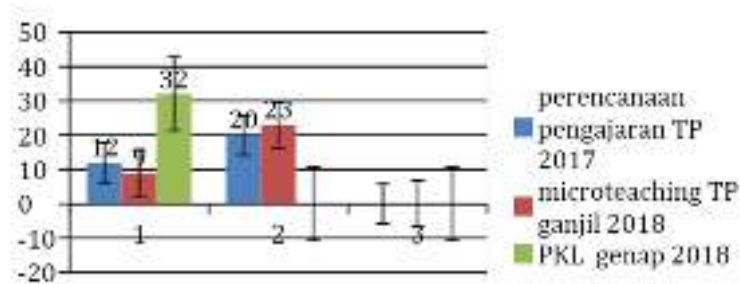


figure 1. Student learning outcomes 2015 Biology Education using the model *Project Based Learning* with the help of based worksheet *experiential learning*

3.1. *Preliminary investigation phase* (), questionnaire distributed questionnaires to school teachers who had become student tutors during the Field Study Practice (PKL) which had been carried out in the even semester. then 15 teachers were interviewed to their respective schools. From the results of the questionnaire, it was found that there was still not a good way of delivering students in teaching because there were still many students who had not been able to master the material to be taught in depth. Resulting in less than maximum student teaching results and an impact on the development of high-level mindset students are less seen from the results of student tests after carrying out monthly exams.

3.2. *The design phase*, given the project assignments to students observing the learning process to public schools in accordance with biology subjects, from the results of observations and interviews with subject teachers, it was concluded that the problems that were mostly found in learning lacked student interest in learning and students were not yet completely answered questions that lead to higher order thinking skills. Students create interesting learning designs and easily communicate knowledge with students. When lectures take place students are active in completing worksheets that are guided by the final results of individual student work projects. The resulting work project in the form of a complex plan to support a biology learning material in class X high school. Student projects are completed within two months with satisfactory average results, students study more and make concepts in planning local wisdom teaching and the conditions of the school environment that will be encountered when learning takes place, because in the next semester students will enter the microteaching stage. This is in accordance with the essence of education that was expressed by John Dewey in which citizens learn not only to be prepared to be ready to work, but also to be able to live their lives in reality until death. Citizens learn to think and their minds can function in everyday life. Truth is an idea that must be able to function real in practical experience [8]. From the data obtained by the learning process of the Project Based Learning model using experiential learning based LKS, the learning outcomes of students when learning to complete teaching planning as a whole where it looks 37.5% get an A value and 66.6% get a value B.

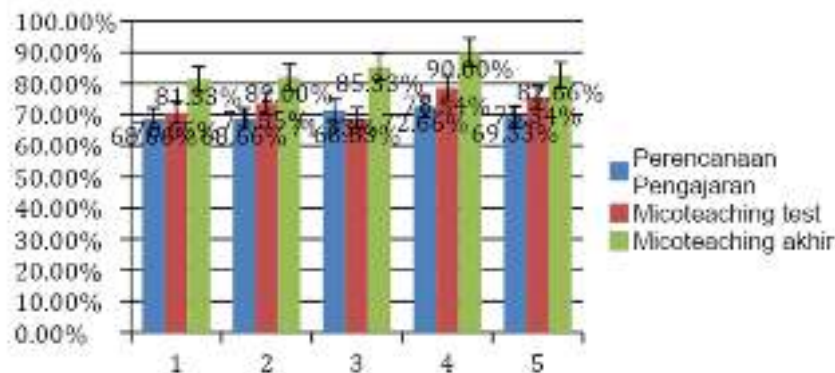


figure 2. Percentage of Student Activities at the design, stages realization and evaluation

3.3. Realization phase (realization / construction), The next stage students carry out microteaching lectures. At the time of each lecture, students are required to study the learning process in the classroom by observing directly in the field how to teach teachers in classrooms where the teachers appointed as people who add to the student's experience in carrying out the learning process are teacher teachers recommended by the school principal and supervisor. The observations were redesigned by students what elements are needed in teaching the material. Students review and re-identify what indicators need to be achieved by students and how to teach the material so that it attracts students' interest and student creativity to think at a high level in analyzing the material. Each student understands the basic abilities of teaching from the results of his planning products and his observations in the field. Because according to sholehah in nasroh the use of experiential learning is a model that there is a process of individualistic internalization of students through real experience, the process of observation and reflection of their experiences, the acquisition of reflection results are accommodated into cognitive structures, and new hypotheses are formulated to be tested in new situations in context social interaction. [9] This stage is carried out during microteaching tests, the availability of observers as commentators and advisers to improve the teaching process of prospective teachers can further motivate other students by developing creative ways of learning so as to improve student communication by creating new ideas.

3.4. Phase test, evaluation (test evaluation and revision), When the implementation of microteaching is done twice per student, namely tests and examinations, five observers are prepared in the room to provide suggestions in the learning process carried out by students. It was concluded that a number of students had not mastered the entire material to be taught so there was still a need for extensive training and understanding of the material. So each student must review and repeat the learning process during the exam. Students are directly involved in the learning process and students construct their own experiences so that they become knowledge. Students will get experiences that are different from what they have learned, this is because of the differences and the uniqueness of each learning style. From the learning outcomes obtained students who achieved a very satisfactory value of 28.1% and reached a satisfactory value of 71.8%.

3.5 Implementation phase, the next semester students who are used as objects of research carry out practical work practices (PKL) in public and private schools in the city of Padangsidempuan. Implementation of field work practices PKL for 2 months, and bring the planning that has been prepared in lectures and practiced directly in the learning process. At the time the implementation of street vendors took place a questionnaire was given to all officials to be considered by researchers in providing conclusions in the evaluation phase. From the data obtained 100% of students achieved very satisfying grades. This means that in accordance with Kolb's statement, 1984 in [8] that Experiential learning is defined as "the process where knowledge is created through the transformation of

experience. Knowledge results from the combination of grasping and transforming experience". Where as according to Savin 2004 in [4] Experiential learning emphasizes the human capacity to reconstruct experiences and then interpret them even Dewey believes that in education is an ongoing process to reconstruct and grow experiences, where the role of educators is to manage learning activities that are built from the past experiences of citizens learning and relating it to new experiences in the questionnaire concluded that there were still 32% of students who lacked character and ethics in socializing with teachers at school, but in terms of teaching prospects students were already fit to appear in front of the class.

4. Conclusions

From the research conducted it can be concluded that the improvement in students' communication skills in the teaching process by using a learning model Project based Learning with the help of Experimental Learning-based worksheets begins when participating in teaching planning lectures that continue in microteaching lectures and the results at the time of field study practice students are accustomed to teach smoothly without being limited by language settings in the delivery of learning material. With an increase in learning outcomes of teaching planning 30%, Microteaching 25% and practical fieldwork (PKL) are very satisfying 50% and the average learning activity is above 67%.

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References

- [1] S. Bahri, "Profesionalisme Guru Dalammeningkatkan Kualitas Sumberdaya Manusia," *J. Curricula*, vol. 2, no. 1, pp. 2–4, 2017.
- [2] M. A. Titu, "Prosiding Seminar Nasional 9 Mei 2015 PENERAPAN MODEL PEMBELAJARAN PROJECT BASED LEARNING (PjBL) UNTUK MENINGKATKAN KREATIVITAS SISWA PADA MATERI KONSEP MASALAH EKONOMI," *Pros. Semin. Nas.*, pp. 176–186, 2015.
- [3] F. Wijarini and S. Ilma, "The Analysis of Teacher Candidates' Teaching Skill in Department of Biology Education, University of Borneo Tarakan, Through Pre-service Teaching Activities," *J. Pendidik. Biol. Indones.*, vol. 3, no. 2, p. 149, 2017.
- [4] S. Wina, *kurikulum dan pembelajaran*, 1st ed. jakarta: kencana prenatal media group, 2008.
- [5] Y. Muhammad, *Media dan Teknologi Pembelajaran*. jakarta: Prenadamedia Group, 2018.
- [6] D. Dunn and M. C. De Saintonge, "Experiential learning," *Med. Educ. Suppl.*, vol. 31, no. SUPPL. 1, pp. 25–28, 1997.
- [7] J. Kreano, "Desain Model Pengembangan Perangkat Pembelajaran Matematika," *Kreano J. Mat. Kreat.*, vol. 3, no. 1, pp. 59–72, 2012.
- [8] I. Prasetyo, "Telaah Teoretis Model Experiential Learning Dalam Pelatihan Kewirausahaan Program Pendidikan Non Formal," *Maj. Ilm. Pembelajaran*, vol. 7, no. 2, 2011.
- [9] F. Nasroh and E. Oktavianty, "Penggunaan experiential learning untuk meremediasi miskonsepsi peserta didik pada sub materi hukum archimedes smp," pp. 1–12.