

The Effect of Learning Strategies and Types of Personality on Learning Outcomes of Teaching Planning In Lesson Study

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Abstract: *This study aims: (1) To find out the learning outcomes of student teaching planning given with a higher problem posing learning strategy compared to those given expository learning strategies. (2) To determine the difference in learning planning learning outcomes between students who have an extroverted personality type and those who have an introverted personality type (3) To determine the interaction of the use of learning strategies and personality types on student learning planning learning outcomes. The results of the study show that: (1) Learning outcomes of student teaching planning taught with problem posing learning strategies are higher than students taught with expository learning strategies; (2) Learning outcomes of teaching planning for students who have an extroverted personality are higher compared to students who have introverted personalities; (3) There was an interaction between learning strategies and personality in influencing the learning outcomes of student teaching planning.*

Keywords: *Learning strategies, personality types, teaching planning*

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I. Introduction

The learning process in Teaching Planning subjects was seen from the completeness of learning and student learning outcomes, there was no indication of significant problems such as in courses in the education group. However, in the learning process that takes place in the class until now, it was still centered on lecturers or often referred to as teacher centered or known as traditional approaches [1]. In this learning, lecturers as individuals who are more active in teaching and students act as objects that receive knowledge passively. Even though some methods have been tried to be implemented like discussion methods, students still have not responded well. They are still passive in expressing their opinions, more discussion was dominated by lecturers. If this was allowed, it was feared that students will bring their learning experience when they go to college to the field, which was their classes when they become teachers.

Teaching planning was something that was most important for teachers in carrying out their duties. Teaching planning was a projection of something that will be done by the teacher in the teaching and learning process. Learning will be more optimal if the teacher prepares teaching plans first. Teaching planning needs to be done by the teacher to coordinate the learning components. Character-based learning planning means arranging learning plans that prioritize aspects of attitude, behavior, character that will be internalized in students.

One effort to improve the quality and professionalism of teachers in facilitating the learning process. Teaching Planning courses are deliberately chosen because the content of this course was an effort to provide skills to prospective teachers to be able to design learning. From various teaching planning courses the main was how prospective student students are able to design various components that support the implementation of learning with various learning strategies that will be used.

Lesson study was a model of educator professional development through the study of collaborative and sustainable learning based on the principles of collegiality and mutual learning to build learning communities. The lesson study coaching model can be used as a model of teaching guidance for lecturers towards students. One effort to improve the quality and professionalism of teachers in facilitating the learning process. Teaching Planning courses are deliberately chosen because the content of this course was an effort to provide skills to prospective teachers to be able to design learning. From various teaching planning courses the main was how prospective student students are able to design various components that support the implementation of learning so as to produce references that are in line with the willingness of stakeholders and the government through their curriculum. After the learning process was complete, a discussion was immediately conducted between the model lecturer and the observer. At first the lecturer model conveyed the

impressions during the learning process, then continued by the observers. Observers must convey the facts of their findings in class honestly and wisely to improve the learning process. Model lecturers must be able to receive input from observers to improve learning in the next stage. In principle, all people involved in lesson study activities must obtain learned lessons. Thus lesson study activities can be used to build a learning community [2].

To overcome this problem, the researcher considered applying one of the learning strategies with the Problem Posing approach and the student personality type; introvert and extrovert. Student personality types must get attention in learning so that teachers can determine the right learning strategies for students. Understanding the personality types of students was not easy. So that between teachers and students are both learning.

Personality type was very influential in the learning process because lessons or material can be understood by students when focusing on what was being discussed and the accuracy of the selection of strategies was expected to create satisfying learning outcomes in teaching planning lessons. Research

Strategy was a general pattern of activities that must be carried out to achieve certain goals. Sanjaya [3]. In the context of learning, the strategy can be said as a general pattern that contains a series of activities that can be used as guidelines so that competence as a learning goal can be achieved optimally. Dick & Carrey [4] also states that learning strategies are a set of material and learning procedures used together to generate learning outcomes for students. In line with the above opinion, Amri [5] explained that learning strategies are appropriate and careful planning and actions regarding learning activities so that basic competencies and learning indicators are achieved. Learning was an effort to create a climate and service for the abilities, potentials, interests, talents, and needs of diverse students so that there was optimal interaction between teachers and students as well as students and students. Furthermore, Ambarjaya [6] also explained that the learning strategy was an action plan (series of activities) which also includes the use of strategies and the use of various resources in learning.

There are four basic strategies in learning according to Djamarah as quoted by Ambarjaya [7], namely: (1) identifying and setting specifications and qualifications of changes in behavior and personality of students as expected, (2) choosing a system of teaching and learning approaches based on the aspirations and views of the community, (3) choosing and establishing teaching-learning procedures, methods and techniques that are considered the most appropriate and effective so that they can be used as guidance by teachers in carrying out their teaching activities, (4) establishing norms and minimum limits criteria and standards of success can be judged by the teacher's guidelines in evaluating the results of teaching and learning activities which will then be used as feedback for improving the instructional system in question as a whole.

1.1 Problem Posing Strategies

Problem Posing Strategy was an English term, as the equivalent was said to be used by the term "formulate a problem (problem) or make a problem (a problem)". Problem posing has become one of the main themes in teaching planning learning. The latest reform of teaching planning planning recommends the application of problem posing in teaching planning learning [8].

There are several notions of problem posing. Problem posing as the making of questions by students that they can think of without any restrictions whether related to the content or context. Besides that problem posing can also be interpreted as forming questions based on known contexts, stories, information, or images [9]. Submission of questions can help students develop their beliefs and preferences for teaching planning, because student teaching planning ideas are tried to understand the problems being worked on and can improve their performance in problem solving. Submission of questions was also a means of communication for student teaching planning.

Brown & Walter [10] was very focused on using problem posing in the field of teaching planning because it can help students to see the basic topics of each material more lightly and allow students to understand the topic more deeply. This was because problem posing was able to create new ideas and creations from the topic presented.

From the description above, it appears that the involvement of students to participate in learning by applying problem posing learning strategies was one indicator of learning effectiveness. Students not only accept material from the teacher, but students also try to explore and develop themselves. Learning outcomes not only result in increased knowledge but also improve thinking skills. The ability of students to work on similar types of description needs to be trained, so that the application of problem posing learning strategies can be optimal. This ability will be clearly seen if students are able to ask questions independently or in groups. The student's ability to work on the problem can be detected through his ability to explain the solution to the problem he posed in front of the class. By implementing problem posing learning strategies can train students to learn creatively, discipline, and improve students' thinking skills.

1.2 Expository Strategy

The expository learning strategy emphasizes the process of delivering material verbally from a teacher to a group of students with the intention that students can master the subject matter optimally. According to Roy Killen in Sanjaya [11] named this expository strategy with the term direct learning strategy. In this strategy the subject matter was delivered directly by the teacher. Students are not required to find the material. The lesson material seems to have been made. Because expository strategies emphasize the narrative process, it was often also called the term "chalk and talk" strategy.

Swaak [12] say expository learning focuses more on memorizing definitions, similarities, reading texts and many tasks to students. Ambarjaya [13] explains that expository strategies are a form of teacher-oriented learning approaches. In this approach, students simply accept what was presented by the teacher. So the teacher has prepared and planned systematically so that students can receive it easily. For this reason, in the learning process, the teacher needs to do apperception, which was to remind the knowledge related to the teaching material to be presented.

The expository learning strategy was a form of a teacher-oriented approach. That said, because in this strategy the teacher holds a very dominant role. Through this strategy the teacher delivers learning material in a structured manner in the hope that the subject matter delivered can be mastered by students well. The main focus of this strategy was the student's academic achievement.

1.3 Personality

Feist & Feist [14] says personality was a pattern of certain traits and characteristics, which are relatively permanent and give, both consistency and individuality to one's behavior. Whereas Alwisol [15] defines personality as part of the soul that builds human existence into a single entity, not divided into functions. Understanding personality means understanding me, myself, self or understanding a whole person. McLeod defines personality as quoted by Shah [16] as a characteristic of someone. In this case, another word that was very close means character and identity. Personality was also defined by Pervin, et al [17] was someone's characteristics that cause the emergence of consistency of feelings, thoughts, and behavior in response to a situation.

Eysenck defines personality in Prawira [18], was all the potential of individual behavior determined by heredity and environment. Individual personality originates and develops by the interaction of four factors, namely intelligence, character, temperament, and somatic. Jung identified two basic dimensions of attitudes found in one's personality. In other words, the analysis of secondary factors produces two different dimensions of individual differences, which are interpreted as two central structures of human attitudes, namely (1) Introverts; and (2) Extroverts [19].

1.4 Introverted Personality

In terms of etymology, introverts have a closed meaning, while terminology was a personal one that leads to subjective experience, concentrates in the inner and private world, where reality comes in the form of observations, tends to be solitary, quiet, and unfriendly and anti social. Generally introverts are happy to be introspective and busy with their own internal lives. Of course they also observe the outside world, but they do it selectively, and use their own subjective views.

The term introvert was popularized by a figure of Psychology named Carl Gustav Jung as quoted by Feist [20], namely the flow of psychic energy towards the inside which has a subjective orientation. Introverts have a good understanding of the world within themselves, with all biases, fantasies, dreams and individual perceptions. These people will accept the outside world very selectively and with their subjective views.

The distinctive personality of an introvert was to direct the person to a subjective experience, to focus on the world in a private place where reality comes in the form of observations, tends to be alone, quiet, unfriendly, even anti-social. Generally, introverts are introspective and busy with their own internal lives [20].

1.5 Extroverted Personality

Extroverted attitude directs the person to objective experience, focuses his attention on the outside world, tends to interact with people around him, active and friendly. Extravertive people are very concerned about other people and the surrounding world, active, relaxed, interested in the outside world [21]. According to Eysenck as quoted by Pervin et al [22] argues that extroverts are generally sociable, like parties, choose many friends, like excitement, and act in moments of moments, and spontaneous.

Jung also said in Hall & Lindzey [23] that extroverts are personalities that are more influenced by the objective world, their orientation was mainly outward. His thoughts, feelings, and actions are more determined by the environment. While introvert was a personality that was more influenced by the subjective world, its orientation was inward.

Extroverted personality was usually associated with an open personality and tends to enjoy activities in the midst of humans. Therefore, students with extroverted personalities are students who think about things objectively and broadly, enjoy communicating, chatting, chatting with people, even without information that was really necessary to communicate.

Furthermore Crow & Crow in Sobur [24] describes in more detail the characteristics of the two groups in the Table as follows:

Table 1. Characteristics of Extrovert and Introverted Personality According to Crow and Crow

No	Ekstrovert	Introvert
1	Smooth in speaking	More fluent writing than talking
2	Free from worries or anxieties	Tending to or often overwhelmed by worries
3	Not shy and not awkward	Quick shame and awkward
4	Generally conservative	Tends to be radical
5	Having an interest in athletics	Like reading books and magazines
6	Influenced by objective data	More influenced by subjective feelings
7	Friendly and gregarious	Rather covered in his soul
8	Like working with other people	It's more like working alone
9	Lack of caring for suffering and self-possession	Strongly guarding / being aware of suffering and his own
10	Easy to adjust and flexible	Difficult to adjust and rigid in association

II. Method

This research was conducted in Mechanical Engineering education program, Odd semester. The research population was mechanical engineering students who took teaching planning courses, which consisted of 3 classes, and each class consisted of 105 students, which meant the population of the study consisted of 70 students. While this study sample was set in 2 classes with techniques (Cluster Random Sampling). The study design was a factorial 2x2 experiment. The learning strategy was divided into two, namely problem posing learning strategies and expository learning strategies. Personality types are also divided into two, namely extrovert and introverted personality.

The data collection technique used was the test technique. The test used for data collection was a test to measure the learning outcomes of teaching planning through lesson study which was based on learning outcomes according to the IQF. The second test was a test to measure critical thinking skills. To test the validity carried out using biserial correlation. While the reliability test was done using K.R-20

Data analysis techniques are carried out using descriptive and inferential statistics. Descriptive technique was to describe data (average, median, and standard deviation). While inferential techniques are to test hypotheses. Inferential techniques used to test the hypothesis of this study are 2-way variant analysis (ANAVA) technique and continued in further testing.

III. Results

The results of this study are presented in Table 2. as follows:

Table 2. Summary of Data from Descriptive Analysis Calculation Results

Personality type		Learning Strategy		Total
		Problem posing	Expository	
Extrovert	n	20	15	35
	$\sum X$	720	485	1205
	\bar{X}	36,05	32,27	34,16
Introvert	n	17	18	35
	$\sum X$	506	610	1116
	\bar{X}	31,64	32,10	31,87
Total	n	37	33	70
	$\sum X$	1227	1094	2321
	\bar{X}	33,83	32,18	33,01

Overall the results of Anava calculations for hypothesis testing can be seen in Table 3 below:

Table 3. Summary of Factorial ANOVA 2 X 2

Variation Sources	dk	JK	RJK	F _{count}	F _{table}	Remarks ($\alpha = 0,05$)
Learning Strategy (A)	1	64,58	64,58	6,48	3,97	Significant
Personality Type (B)	1	114,16	114,16	9,86	3,97	Significant

Interaction (AxB)	1	62,11	62,11	5,37	3,97	Significant
Intergrup	3	238,85	-			
Error	66	766,42	12,60			
Total	70	1242,12				

Based on the results of data calculations, it can be seen that students taught using problem posing learning strategies obtain an average value = 33.83, while the learning outcomes of student teaching planning taught with expository learning strategies obtain an average value = 32.18.

The results of the analysis of variance for both learning approaches show that the Fh price of 6.48 was greater than the Ft price of 3.97 at a significant level $\alpha = 0.05$ so that Ho was rejected at a significant level $\alpha = 0.05$. Thus it can be concluded that the group of students taught using the problem posing learning strategy obtained higher learning planning learning outcomes from the group of students who were taught with expository learning strategies that were validated.

Furthermore, based on the calculation of data, it can be seen that students who have extroverted personality types obtain an average value of teaching planning learning outcomes = 34.16, while the learning outcomes of teaching planning students who have introverted personality types obtain an average value = 31.87.

The results of the analysis of variance for the two personality type approaches show that the Fh price of 9.76 was greater than the Ft price of 3.97 at a significant level $\alpha = 0.05$ so Ho was rejected at a significant level $\alpha = 0.05$. Thus it can be concluded that there are differences in learning outcomes of teaching planning of students who use extroverted personality types using the introverted personality type to be verified.

Based on the results of testing the above hypothesis obtained Fh = 5.37 and the value of criticism Ft = 3.98 with dk (1.68) at the level of $\alpha = 0.05$. These results indicate that Fh = 5.37 > Ft = 3.97 so that the hypothesis stating that there was an interaction between the use of learning strategies and personality types in influencing the learning outcomes of student teaching planning was validated.

Because there was an interaction between learning strategies and personality types in influencing the learning outcomes of student teaching planning, further testing (post hoc test) was needed, to find out which sample learning outcomes are different. To see the form of interaction between learning strategies and personality types in influencing the learning outcomes of student teaching planning, further tests were conducted using the Scheffe Test. The results of calculations using the Scheffe Test can be seen in Table 4 as follows:

Table4. Summary of Calculation Results of the Scheffe Test

No	Interaction	Fcount	Ftable ($\alpha = 0,05$)
1	$\mu A_1 B_1$ with $\mu A_2 B_1$	4,25	2,75
2	$\mu A_1 B_1$ with $\mu A_2 B_2$	4,87	2,75
3	$\mu A_1 B_1$ with $\mu A_1 B_2$	4,62	2,75
4	$\mu A_1 B_2$ with $\mu A_2 B_1$	1,52	2,75
5	$\mu A_1 B_2$ with $\mu A_2 B_2$	1,14	2,75
6	$\mu A_2 B_2$ with $\mu A_2 B_1$	1,39	2,75

Acceptance criteria if Fcount > Ftable, then tested significantly. Based on the Scheffe test results in the table above it can be seen that there are six pairs of statistical hypotheses, namely:

- From the calculation results prove that Fcount = 4,25 > Ftable = 2,75, so that there are differences in learning outcomes of student teaching planning if taught using problem posing learning strategies with extroverted personality types with expository learning strategies that have extroverted personality types validated.
- From the calculation results prove that Fcount = 4.87 > Ftable = 2.75 thus giving a decision that there are differences in learning outcomes of student teaching planning using problem posing learning strategies that have extroverted personality types with problem posing learning strategies that have an authenticated introverted personality type.
- From the calculation results prove that Fcount = 4.62 > Ftable = 2.75, thus giving a decision that there are differences in learning outcomes of student teaching planning using problem posing learning strategies that have extroverted personality types with expository learning strategies that have an authenticated introvert personality type.
- From the calculation results prove that Fcount = 1.52 < Ftable = 2.75, thus giving a decision that states the difference in learning outcomes of teaching planning students taught using problem posing learning strategies that have introverted personality types with expository learning strategies that have no extrovert personality type proven.
- From the calculation results prove that Fcount = 1.14 < Ftable = 2.75, thus giving a decision that states the difference in learning outcomes of teaching planning students who are taught using problem posing learning strategies that have introverted personality types with expository learning strategies that have no introverted personality type proven.

- f) From the calculation results prove that $F_{\text{count}} = 1.39 < F_{\text{table}} = 2.75$, thus giving a decision stating the difference in learning outcomes of teaching planning students taught using expository learning strategies that have introverted personality types with expository learning strategies that have untested extrovert personality types the truth.

IV. Discussion

The first research hypothesis was about the differences in the influence of problem posing and expository learning strategies in student lesson study turned out to be accepted. This shows that the two learning strategies used in the study will affect student learning outcomes. From the average value of student teaching planning learning outcomes can also be seen the difference between students taught by using constructivistic learning strategies and students taught using expository learning strategies in lesson study.

The results showed that the use of learning strategies characterized and constructive teaching planning through lesson study allows students to jump-start their thinking skills carefully about learning objectives, subject matter, and not only pay attention to learning for one meeting or one subject, but how to teach one subject matter units and even fields of study, and also pay attention to student development in the long term.

According to Dick & Carey in Suryosubroto [25], learning strategies have five main components, namely (1) pre-instructional activities, (2) presentation of information, (3) student participation, (4) tests, and (5) actions go on.

In teaching teaching planning teachers should use strategies that give more opportunities to students to solve problems and find themselves, because this was in accordance with the purpose of teaching teaching planning was to produce students who are active, analytical, critical, dynamic and optimistic in living their lives in the future come. To obtain the abilities, skills and attitudes about teaching planning, the teacher must be able to choose the right strategy in presenting the lesson. Besides that, in the teaching and learning process teaching planning was expected to use more problem solving strategies, discoveries and discussions so that students are more active in learning, so that students are more passionate and enthusiastic in learning teaching planning and can apply it in daily life.

According to Silver & Cai in Siswono [26], problem posing was applied to three different forms of cognitive activity in teaching planning, namely: (1) pre-solution submission (pre-solution posing), namely a student makes a question of the situation (2) Submission in the solution (within-solution posing), namely a student reformulates the question as it has been completed (3) Submission after the solution (post-solution posing), namely a student modifies the purpose or condition of the problem that has been solved to make a new question. Basically problem posing was the development of learning with problem solving. This development can be seen in the learning process that in problem posing students need the ability to understand the problem, plan the steps to solve the problem, and solve the problem. The three steps are part of the learning steps with a problem solving approach.

Through problem posing learning strategies, students can learn actively and independently. He will build his knowledge from simple to complex knowledge. And with the help of teachers, students can be directed to associate information with other information so that a new understanding was formed.

Thus, it can be said that learning through problem posing strategies can improve the mindset of teaching planning that was very suitable with the learning objectives of teaching planning, which can improve the quality of learning and enable students to learn.

The steps of learning expository approach in general according to Daryanto [27] are as follows: (1) the teacher prepares the material and equipment to be delivered, (2) apperception by repeating the previous lesson a little, (3) after that the teacher presents material concepts, (4) creative teachers will prepare supporting equipment, such as pictures, tapes, etc. adjusted to the situation and conditions, (5) the teacher begins to conduct learning, (6) the teacher concludes, confirms, and gives follow-up.

Whereas Sanjaya [28], mentions the steps of the expository strategy include 5 things, namely: (1) preparation (preparation), namely preparing students to receive lessons, (2) presentation (presentation), namely the step of delivering subject matter accordingly with preparations that have been made, (3) correlation (correlation), which was a step of connecting subject matter with student experience or with other things that allow students to capture the linkages in the structure of knowledge that they already have, (4) conclude (generalization), namely the stages to understand this from the subject matter presented are, (5) applying (application), which was a step for students' abilities after listening to the teacher's explanation.

Through Lesson Study, the calan students involved involved realize the importance of lesson study in improving teacher professionalism because they can improve pedagogical competencies by looking at the various methods implemented during learning, academic competencies by developing collaborative learning plans, social competencies by giving each other, accept the results of reflection, as well as share material concepts, and professional competencies by always having the desire for lifelong learning. Lesson study was an effort to improve teacher professionalism to improve the quality of learning so that its implementation needs to

be continuously implemented and developed in various schools [29]. Supported by research results from Rahayu, Mulyani, & Miswadi [30], show that the results of the study show that using the Problem Base learning strategy through lesson study can help teachers develop a set of learning tools and provide better learning.

In the study showed that through the same lesson study activities aimed at increasing teacher professionalism through improving teaching methods and increasing knowledge [31]. Observation of student learning activities, aims to find out the teaching method or teaching method that can be taught or not, so that from observations of students can be used to correct and improve the learning methods used in teaching planning courses.

Introverted students are not always passive, moody, or unable to get along. Introverted students can be active, cheerful people who like to socialize, but usually after so much time socializing, introvert students need privacy, need peace, For a crowd introvert makes their energy quickly drained. Therefore usually they only interact once, then shut up.

Introverted students tend to enjoy more personal mental states, whose enthusiasm will increase when reflecting, and decrease when they have to interact; talk less while in groups and enjoy activities that can be done alone or with close friends, preferring to concentrate on one activity at a time, preferring to observe before participating; easily depressed by the amount of stimulation and input that occurs at social gatherings; more choosy in socializing.

Individuals who have introverted personality adjustments to the outside world are not good, their souls are closed, difficult to get along, difficult to relate to other individuals, less able to attract other individuals, the individual adjusts to his own mind well. The danger of the introvert type was that if the distance from the objective world was too far away, then individuals with personality types like this can escape the objective world. When under stress, introverts prefer to be alone or just want to share with one or two people they trust. For introverts, quiet atmosphere was a comfortable atmosphere.

Research conducted by Hudson & Robert [32] found that the personality possessed by individuals can change along with the desires and motivations of these individuals. In addition, Suryabrata [33] also stated that the concept of personality in individuals will continue to develop following the development of the individual. Personality development was learning to use new ways to reduce stress, which arise because individuals face various things that can be a source of tension. It can be said that the personality development of regular students was also the result of their learning in reducing stress. The stress in question was the presence of diffable students where the subject was placed in a different environment than before and things cause discomfort especially for regular students who are for the first time joining disabled students in the class.

It was known that extrovert and introverted personality types have differences in characteristics that represent each personality type, where extroverted personality types are more oriented to the world outside themselves and are happy about interactions with the environment. While the introverted personality type focuses more on oneself and prefers to withdraw from the outside world or from the surrounding environment [34]. Although the two personality types have differences in interaction, the level of social acceptance shown was the same, namely low social acceptance of students with disabilities. Good low social acceptance on extroverted and introverted personality types was one of the behavioral patterns shown by each of these personality types. The behavioral patterns displayed by each of these personality types are shaped and influenced by internal and external factors.

Jung argues that introverts are reversing psychic energy into an orientation to subjectivity. Introverted people always listen to their inner feelings, and have their own perceptions. They remain in touch with the outside world, but they are more selective in choosing which world was right and based on their subjective views. While extroverts are attitudes that exert psychic energy out so that someone was oriented towards something objective, and away from being subjective. Extroverts are more influenced by the environment around them than their own inner world. They tend to focus on objective attitudes and repress their subjective attitudes [35].

V. Conclusion

The conclusion of the results of this study are as follows:

1. The average learning outcomes of student teaching planning taught with problem posing learning strategies are higher than students taught with expository learning strategies.
2. The average learning outcomes of teaching planning for students who have extroverted personalities was higher than students who have introverted personalities in teaching planning learning.
3. There was an interaction between learning strategies and personality in influencing the learning outcomes of student teaching planning.

For students with extroverted personalities, it was more effective to improve teaching planning learning outcomes if taught using problem posing learning strategies, while for students who have introverted

personality, it was more effective in improving teaching planning learning outcomes if taught with problem posing learning strategies.

References

- [1] B. Utami, et al., Penerapan Pendekatan Konstruktivisme Melalui Model Pembelajaran Think Pair Share (TPS) dalam Kegiatan Lesson Study untuk Meningkatkan Kualitas Proses dan Hasil Belajar Strategi Belajar-Mengajar. *Jurnal Inovasi Pendidikan*, 12 (1), 2011, 1-18.
- [2] Rusman, *Model-model Pembelajaran Mengembangkan Profesionalisme Guru* (Jakarta: PT. Raja Grafindo Persada, 2011).
- [3] W. Sanjaya, *Pembelajaran dalam Implementasi kurikulum berbasis kompetensi*, (Jakarta : Kencana Prenada Media Group, 2008) 99.
- [4] Dick and Carey, *The systematic Design of Instruction*. (London: Scott, Foresman and Company, 2005) 62.
- [5] Amri, Penerapan pendekatan konstruktivisme dalam perkuliahan perencanaan pengajaran matematika. *Jurnal Edumatica*, 3(1), 2013, ISSN: 2088-2157, April 2013, 6.
- [6] B. Ambarjaya, *Psikologi Pendidikan & Pengajaran (teori dan praktik)*. Jakarta: Persada, 2012) 84.
- [7] B. Ambarjaya, *Psikologi Pendidikan & Pengajaran (teori dan praktik)*. Jakarta: Persada, 2012) 85.
- [9] P. J. Lin, Supporting teachers on designing problem-posing tasks as a tool of assessment to understand students' mathematical learning. *Proceedings of 28th conference of international group for psychology of mathematics education*. Vol 3. 2004, 257.
- [10] I. Brown, and Stephen, et al., *The Art of Problem Posing*. (London : Lawrence Erlbaum Associates, 2005) 3.
- [11] W. Sanjaya, *Strategi Pembelajaran*. (Jakarta: Media Prenada, 2010) 189.
- [12] Swaak, et al. *The effects of discovery learning and expository instruction on acquisition of definitional and intuitive knowledge*. *Journal of computer*, 2004, 226.
- [13] B. Ambarjaya, Beni, *Psikologi Pendidikan & Pengajaran (teori dan praktik)*. 2012, 86.
- [14] J. Feist, and G. J. Feist, *Teori Kepribadian (theories of personality)*. terjemahan. Handrianto, (Jakarta: Salemba Humanika, 2010) 4.
- [15] Alwisol, *Psikologi Kepribadian*. (Malang: UMM Press, 2009) 2.
- [16] M. Syah, *Psikologi Pendidikan dengan Pendekatan Baru*. (Bandung: PT. Remaja Rosdakarya, 2010) 224.
- [17] L. A. Pervin, et all., *Psikologi Kepribadian : Teori dan Penelitian*. (Jakarta: Kencana Prenada Media Group, 2011) 6.
- [18] P.A. Prawira, *Psikologi Kepribadian dengan Prespektif Baru*. (Yogyakarta: Ar-Ruzz Media, 2012) 284.
- [19] C. S. Hall, S & G. Lindszey, *Theories of personality*. (New York : John Wiley & Son Inc., 1967) 86.
- [20] J. Feist, and G. J. Feist, *Teori Kepribadian (theories of personality)*. terjemahan. Handrianto, (Jakarta: Salemba Humanika, 2010) 137.
- [21] Alwisol, *Psikologi Kepribadian*. (Malang : UMM Press, 2009) 45-46.
- [22] L. A. Pervin, et all., *Psikologi Kepribadian : Teori dan Penelitian*. (Jakarta: Kencana Prenada Media Group, 2011) 242..
- [23] C. S. Hall, S & G. Lindszey, *Theories of personality*. (New York : John Wiley & Son Inc., 1967) 88.
- [24] A. Sobur, *Psikologi Umum*. (Bandung: CV. Pustaka Setia, 2003) 64.
- [25] B. Suryosubroto, *Proses Belajar Mengajar di Sekolah*. (Jakarta : PT. Rieneka Cipta.,2009) 195.
- [26] Siswono, dan Y.E. Tatag, Pengajuan Soal (problem posing) oleh siswa dalam pembelajaran Geometri di SLTP. *Makalah seminar nasional matematika*, ITS, 2000, 7.
- [27] Daryanto. *Inovasi Pembelajaran Efektif*. (Bandung. Yrama Widya, 2013) 214.
- [28] W. Sanjaya, *Strategi Pembelajaran*. (Jakarta: Media Prenada, 2010) 189-191.
- [29] C. Chotimah, Peningkatan Profesionalisme Guru Melalui Lesson Study Untuk Upaya Meningkatkan Kualitas Pembelajaran. *Prosiding Seminar Nasional Pendidikan Biologi FKIP Universitas Muhammadiyah Malang*, 21 Maret 2015.
- [30] Rahayu, Mulyani, dan Miswadi, Pengembangan Pembelajaran Ipa Terpadu Dengan Menggunakan Model Pembelajaran Problem Base Melalui Lesson Study. *Jurnal Pendidikan IPA Indonesia, JPPI 1 (1)*, 2012, 63-70 <http://journal.unnes.ac.id/index.php/jpii>
- [31] W. Cerbin, & B. Kopp, Lesson Study a Model For Building Pedagogical Knowledge and Improving Teaching. *International journal of teaching and learning in higher education*, 18 (3), 2006, 250- 257
- [32] N.W. Hudson. & B.N. Roberts, Goals to change personality traist: Concurrent links between personality traits, daily behavior, and goals to change oneself. *Journal of Research in Personality* 53, 2014, 68-83
- [33] S. Suryabrata, *Psikologi Pendidikan*. (Jakarta: Rajawali Pers, 2014).
- [34] N. M. Ulya, Pengaruh Metode Pembelajaran dan Tipe Kepribadian Terhadap Hasil Belajar Bahasa Arab (Studi Eksperimen Pada MAN 1 Semarang). *Jurnal Pendidikan Islam*, 10(1), 2016, 1-25.
- [35] G.J. Feist, & J. Feist, J., *Theories of personality*. (New York: McGraw Hill, 2006).

Abdul Hasan Saragih. "The Effect of Learning Strategies and Types of Personality on Learning Outcomes of Teaching Planning In Lesson Study". *IOSR Journal of Research & Method in Education (IOSR-JRME)* , vol. 9, no. 1, 2019, pp. 37-44.