

A TBLA-Based Reflective Learning Model Analysis is Effective as a Technique for Strengthening Students' Pattern of Learning

Ni Ketut Suarni^{1,*} Gede Nugraha Sudarsana¹ I Wayan Sujana² Ketut Susiani² I Gusti Agung Ayu Wulandari²

¹ Guidance and Counseling Study Program, Universitas Pendidikan Ganesha, Singaraja, Indonesia

² Elementary School Teacher Education Study Program, Universitas Pendidikan Ganesha, Singaraja, Indonesia

*Corresponding author. Email: niketut.suarni@undiksha.ac.id

ABSTRACT

The purpose of this study was to analyze the effective transcript-based lesson analysis (TBLA) based reflective learning model as a technique for strengthening the pattern of learning for elementary school students Cluster IV Buleleng District. This is done through analysis of learning outcomes using transcripts of the results of conversations in learning between students and students, students and teachers through in-depth observation, followed by analyzing learning transcripts. The sample of this research was elementary school students in Cluster IV, Buleleng District, which were selected by random sampling of 50 people. The design of this study used a post-test control group design. The research data were analyzed using a t-test. The result of the research is that the TBLA based reflective learning model is effective as a technique for strengthening the pattern of learning for elementary school students with the value of $t\text{-count} = 2.413 > t\text{-table} = 2.011$. The results of the study have implications as an alternative reference in developing teacher reflective learning activities in strengthening the character of students according to the demands of the era of society 5.0, through various behaviors to strengthen the pattern of learning of elementary school students.

Keywords: TBLA, Pattern of Learning

1. INTRODUCTION

(The) Elementary School students start from the age of 7 years to 12 years. Psychologically this period goes into late childhood. Also referred to as the group period through exploration in adjusting to the environment, which is related to the child's desire to be accepted by his peers and interact. Each child has unique characteristics that serve as a differentiator between students from one another, such as relating to singular personalities, parenting backgrounds, and experiences, as well as different ways of learning. The characteristics of elementary school children according to Preston are children have more attention to the world around them, children have the urge to find new things for themselves, children have a strong interest in small things even though they are often less meaningful, and children always want to do something or something. carry out environmental exploration [1].

This research is motivated by the existence of learning activities that are less responsive to various kinds of individual characteristics. To meet these demands, teachers need to understand the characteristics of their students. If the teacher in delivering the subject matter does not pay attention to the characteristics of students and the personality traits of students are not used as a foothold in learning, students will have difficulty understanding the subject matter. Whatever efforts are chosen and carried out by teachers and learning designers if they do not rely on the individual characteristics of students as Learning subjects, the learning developed will not be meaningful for students. Characteristics of students are very important to be known by educators, because this is very important to be used as a reference in formulating learning strategies. (The) Learning strategies are prepared by teachers and implemented through learning methods to students so that learning objectives can be achieved effectively and efficiently.

Characteristics of students are very important to be known by educators, because it is very important to be used as a reference in formulating teaching strategies. Teaching strategies consist of methods and techniques or procedures that can support students in achieving learning objectives. Learning strategies and methods are useful to achieve the desired learning objectives. According to Kemp, the learning strategy is a learning activity that must be carried out by teachers and students so that learning objectives can be achieved effectively and efficiently [2]. Furthermore, by quoting the thoughts of David, it is stated that the learning strategy contains the meaning of planning. This means that the strategy is basically still conceptual about the decisions that will be taken in the implementation of learning. Judging from the strategy, learning can be grouped into two parts, namely: 1) exposition-discovery learning and 2) group-individual learning [2].

Reigeluth [4] as a learning scientist, even explicitly places student characteristics as the most influential variable in the development of learning management strategies. Learning experts like Banathy, Romiszowski, Dick and Carey, Gagne and Degeng [3], placing the step of analyzing student characteristics in a very important position before the step of selecting and developing learning strategies. All of this indicates that any learning model developed or any strategy chosen for learning purposes must be based on the individual or group characteristics of the learner. To develop optimal learning strategies, the teacher first needs to know the characteristics of students as a basis.

One of the characteristics of students who are quite potential to be considered by teachers in learning management is the pattern of learning in students. Furthermore, what is meant by a pattern of learning in this study is related to the strategy of student learning patterns. As a professional teacher, you must really understand the learning strategies that are applied according to the needs of students at that time. Reinforcements are needed in carrying out learning with the aim that cognitively the child's needs are met, and the fulfillment of the child's character development is also fulfilled. To balance this, it is important to pay attention to the pattern of student learning, by focusing on three indicators, including 1) cognitive regulation strategies, 2) motivational regulatory strategies, and 3) academic behavioral strategies.

But what happens in the field, many teachers only meet the needs of students cognitively. Teachers tend to deliver learning by the existing curriculum and rarely pay attention to cognitive development that is tailored to the behavioral academic needs of students. The four competencies as a teacher need to be equipped with the three indicators of the development of the pattern of learning. The goal is that teachers can meet all the developmental needs of students in various aspects such

as cognitive and behavioral. To meet these needs, a teacher needs to apply one of the learning model strategies to strengthen students' patterns of learning, namely the reflective learning model based on transcript-based lesson analysis (TBLA) for elementary school students who are in the period of concrete operational development.

This study aims to analyze the effective reflective learning model based on Transcript-Based Lesson Analysis (TBLA) as a technique for strengthening learning patterns in Cluster IV Elementary School students, Buleleng Regency.

2. LITERATURE REVIEW

2.1. Pattern of Learning

The pattern of Learning or commonly referred to as a learning pattern is said to be a series of procedures in the learning process for students to understand the learning material. Patterns are characteristics of learning which include content, methods, place, time allocation, goals, and learning problems [5][6].

There are many understandings about learning patterns expressed by experts, there are many speculations submitted by experts including there are. According to Sriyono, the learning pattern is a series of procedures in learning that can help students master the subject matter [7]. Learning patterns include independent learning patterns, guided learning patterns, group learning patterns, discussion learning patterns, and others. Each of these learning patterns has advantages and disadvantages. In its implementation, the independent learning pattern has been commonly done by students in their respective homes. Learning patterns consist of individual learning patterns, group learning patterns, guided learning patterns, leaving learning patterns, and supervising learning patterns [8]. It is seen from the point of view of the preparation of teaching and learning strategies, so several learning patterns can be considered by teachers and students so that teaching and learning activities can run regularly according to certain patterns. This learning pattern will simultaneously reflect the attitudes of the teacher and student activities as well as the interaction between the two.

So that it can be synthesized that the pattern of learning is a series of learning processes carried out by students to be able to understand learning materials effectively to meet the learning objectives made together.

The pattern of learning in this study adheres to the understanding of the indicators described by Wolters et al. [9] namely: 1) cognitive regulation strategy, having indicators of rehearsal, elaboration, organization, and metacognition regulation; 2) motivational regulation strategy, having indicators of self-cons equating, environmental structuring, mastery self-talk, extrinsic

self-talk, relative ability self-talk, situational interest enhancement, and relevance enhancement; 3) academic behavioral regulation strategy, has indicators of effort regulation, regulating time, study environment, and help-seeking.

2.2. Reflective Learning

Istarani [10] states that “providing teaching through pieces of paper as a medium for making basic concepts or keywords from existing learning materials that students can reflect on”. In the sense that it has been experienced every day so that what is learned is by what has been done or experienced by students. This method is the use of the Reflective Learning model.

According to Aprilia, the implementation of the Reflective Learning model is based on the assumption. The application of the learning model seeks to bring together the learning model, seeks to reconcile the teaching model of educators and the learning model of students (social cognitive perspectives), emphasizing students as teachers and teacher as learner and researches [11]. Furthermore, Aprilia also explained that the Reflective Learning model also encourages students to think creatively, question attitudes, and encourage student independence. Thus it can be said that the Reflective Learning model is a continuous thinking process [11].

According to Morrow, reflective learning is a learning model that prioritizes thinking processes based on self-reflection, past experiences, and future expectations [12]. This learning model relies on academic fantasy on what is observed and measured, thus giving birth to sensitivity to phenomena that occur around the learning environment [13]. This is by being responsive to the symptoms and dangers of a brawl. Reflective learning according to Bain et al. has five characteristics that indicate a hierarchy of thought processes, namely: (1) Reporting, (2) Responding, (3) Relating, (4) Reasoning, and (5) Reconstructing [14]. The reporting level is characterized by the ability to describe situations, phenomena, symptoms, or problems, at the responding level is characterized by the ability to develop an emotional response to problems, at the relating level is characterized by the ability to associate various phenomena with the theory underlying the phenomenon, at the reasoning level is characterized by the ability to explain events. based on the facts of systematic events by the methodological concept of problem-solving, and at the reconstructing level characterized by the ability to plan problem-solving actions based on theoretical perspectives and past experiences.

Reflective learning provides opportunities for students to be actively involved in the learning process by involving their own experiences as learning materials

to help form knowledge and stimulate students to think creatively based on their knowledge and experience to solve real problems in life. According to Harrington, a reflective attitude has three main components, namely: 1) open-mindedness as a reflection of what is known, 2) responsibility, as a moral attitude and professional commitment regarding the impact of learning on students, learning, and others, and 3) wholeheartedness in acting and carrying out tasks [15].

2.3. Transcript-Based Lesson Analysis (TBLA)

The teacher as one of the mediators and teaching components has an important role in achieving learning objectives and greatly determines the success of the educational process, because teachers are directly involved in it. In addition, students also determine for themselves whether they want to succeed in learning or not. So in looking at the success of the teaching and learning process in schools, we cannot look at it from one side only, but must be comprehensive. Teacher creativity in teaching also seems to greatly influence the success of an achievement of learning objectives.

Teachers must be able to create an effective learning process to meet the learning objectives achieved. This can be done by using an analytical method of learning transcripts known as the Transcript-Based Lesson Analysis (TBLA) method. The stages of activities in analyzing the learning transcript according to Matsubara [16] are recording, transcripts, word protocols, articulation of word protocols, and articulation relationships. This increases the teacher's ability to analyze transcripts and there is visible evidence of lessons that may have been missed. Transcript-Based Lesson Analysis (TBLA) aims to reveal the pattern of knowledge construction through conceptual mastery by using Transcript-Based Lesson Analysis (TBLA) [17]. By interpreting the teacher's questions, feedback, and student responses in class, the teacher can reveal whether class discussion tendencies are authoritative or dialogical and find gaps in the lesson from the objectives. Through this learning, teachers can reflect on their practice and know how to improve their learning process for better learning practices [18]. There is a relationship between one transcript that has been analyzed using other analytical approaches such as: a) individual case analysis; b) analysis of teacher questions; c) analysis of differences in students' ways of thinking; d) gap analysis between teacher plans and student activities; e) atmosphere analysis, and f) objective analysis. Subsequent learning improvements as a result of learning analysis are important data in finding suitable learning models for students.

In line with the research of Utaminingsih, et al. regarding the analysis of Transcript-Based Lesson Analysis (TBLA) which aims to reveal the pattern of knowledge construction through conceptual mastery by

using Transcript-Based Lesson Analysis (TBLA) [17]. Where the implementation is divided into several cycles, the activities in each cycle will be recorded via video or audio. Then the recording will be used as a transcript of the learning dialogue and then analyzed. In this study, researchers collected various learning artifacts from video, audio, and chat messages which were then transcribed into conversations to be analyzed using the types of student responses. Further research by Janah et al. resulted that Transcript-Based Learning Analysis can be used to reflect teachers' instructional practices [18]. By interpreting the teacher's questions, feedback, and student responses in class, the teacher can reveal whether class discussion tendencies are authoritative or dialogical and find gaps in the lesson from the objectives. Through this learning, teachers can reflect on their practice and know how to improve their learning process for better learning practices. The better the learning practices of the teacher, the higher the quality of the learning process carried out.

The above is supported by the results of research conducted by Rahayu et al. entitled "Pattern of Analysis Students' Knowledge Construction Using Transcript-Based Lesson Analysis" [19]. The purpose of this research is to provide a pattern of analysis of students' knowledge construction using Transcript-based Lesson Analysis (TBLA) through Lesson Study for Learning Community. The role of teacher questioning and student interaction helps students to build their knowledge.

So in this study, a reflective learning model based on transcript-based lesson analysis is a learning model that provides opportunities for students to be actively involved in the learning process by involving their own experiences as learning materials to help form knowledge and stimulate students to think creatively based on knowledge and skills. the experience they have through the recording transcript analysis step carried out by the teacher.

3. METHOD

This type of research is experimental research with a post-test control group design. The population in this study were elementary school students in Cluster IV, Buleleng District, which consisted of State Elementary Schools 1, 3, 4 Banyuasri, Karya Elementary School, Undiksha Laboratory Elementary School, and Muhammadiyah Elementary School. Determination of the research sample was determined by data reduction through the process of drawing two experimental groups and two control groups, which was carried out using a random sampling technique. The experimental group will apply a reflective learning model based on Transcript-Based Lesson Analysis (TBLA), while the control group is a group that does not apply a reflective learning model based on Transcript-Based Lesson Analysis (TBLA) or is given an innovative learning model that is adapted to the learning model applied by a teacher at school. The

sample used in this study amounted to 50 students who were divided into the experimental group consisting of 25 students and the control group consisting of 25 students.

The procedure for implementing this research is the first, the preparation stage. At this stage, the identification of needs and application design for the implementation of the reflective learning model based on Transcript-Based Lesson Analysis (TBLA) will be carried out. The identification of this need is seen from the indicators of the pattern of student learning which is then formed a reflective learning model based on Transcript-Based Lesson Analysis (TBLA). The second stage is the implementation stage. At this stage, the development of learning designs is carried out in collaboration with colleagues or colleagues. Sharing learning design development. Sharing is done in the form of collaboration with colleagues or colleagues. The things that were developed were 1) the topic of the curriculum guide study which was considered difficult for students to understand. This collaboration will create learning innovations through sharing experiences between colleagues. 2) Reviewing the literature on the material that will be delivered through several sources, is aimed at anticipating if there are deep and broad student questions. 3) Reviewing the applicable curriculum, in addition to hard skills, students are also equipped with soft skills, namely 21st-century skills which include critical thinking, creativity, collaboration, communication. Furthermore, research lesson observations were carried out, after the learning design had been designed in collaboration with colleagues and then implemented in the online learning process. In this section, the model teacher carries out learning as it should. Observations are made by looking at the interactions that occur between teachers and students and students with students, although learning is carried out online and remotely, these interactions can be monitored virtually.

The third stage is the stage of reflection and evaluation. Post-learning reflection, not to judge teachers as "good" or "bad" but to get feedback for teachers and inspiration for observers. Next, make short transcripts and full transcripts from the data obtained during learning observations in the form of video or sound. Observers need to change the form of video/sound data into the text to facilitate qualitative and quantitative data analysis, to obtain answers about effective TBLA based reflective learning models as a technique for strengthening students' pattern of learning, inferential statistical analysis is used with the t-test formula. To find out the significant difference between the experimental group given the TBLA based reflective learning model and the control group who were not given the TBLA based learning model as a technique for strengthening the students' pattern of learning.

4. RESULTS AND DISCUSSION

The purpose of this study was to analyze the effective transcript-based lesson analysis (TBLA) based reflective learning model as a technique for strengthening the pattern of learning for elementary school students in Cluster IV Buleleng District. In addition to this, the purpose of this study is also to identify the dominant aspects of the pattern of learning behavior in students with self-regulation in the field of learning.

The procedure for implementing the research that has been carried out is the first, the preparation stage. At this stage, the identification of needs and application design for the implementation of the reflective learning model based on Transcript-Based Lesson Analysis (TBLA) will be carried out. The identification of this need is seen from the indicators of the pattern of student learning which is then formed a reflective learning model based on Transcript-Based Lesson Analysis (TBLA). The pattern of learning consists of aspects, namely: 1) cognitive regulation strategy, has indicators of rehearsal, elaboration, organization, and metacognition regulation; 2) motivational regulation strategy, having indicators of self-cons equating, environmental structuring, mastery self-talk, extrinsic self-talk, relative ability self-talk, situational interest enhancement, and relevance enhancement; 3) academic behavioral regulation strategy, has indicators of effort regulation, regulating time, study environment, and help-seeking.

The second stage is the implementation stage. At this stage, the development of learning designs is carried out in collaboration with colleagues or colleagues. Sharing the development of learning designs carried out in collaboration with colleagues or colleagues. The things that were developed were 1) the topic of the curriculum guide study which was considered difficult for students to understand. This collaboration will create learning innovations through sharing experiences between colleagues. 2) reviewing the literature on the material to be delivered through several sources, this is intended as anticipation if there are deep and broad student questions. 3) reviewing the applicable curriculum, in addition to hard skills, students are also equipped with soft skills, namely 21st-century skills which include critical thinking, creativity, collaboration, communication. Followed by observation of the research lesson, namely after the learning design was designed in collaboration with colleagues, implemented in real classes, and in this activity learning was carried out online due to the Covid-19 pandemic which did not allow direct (face-to-face) learning. So that learning is carried out online namely, when teachers carry out learning, researchers also join in the learning to observe the implementation of learning that is focused on students' patterns of learning. Then conducted online learning observations on the interactions between teachers and students and students with students. Observers must observe every interaction

that occurs by taking notes to be used as review material at the end of the implementation. Furthermore, research lesson observations were carried out, after the learning design had been designed in collaboration with colleagues and then implemented in the online learning process. In this section, the model teacher carries out learning as it should. Observations are made by looking at the interactions that occur between teachers and students and students with students, although learning is carried out online and remotely, these interactions can be monitored virtually. In addition, several things need to be considered by the observer, namely the recording of time (hours and minutes), speakers, speech, and some other information needed.

The third stage is the stage of reflection and evaluation. Post-learning reflection was also carried out. Not to judge teachers as "good" or "bad" but to get feedback for teachers and inspiration for observers. Post-learning reflection must be based on written findings data (instant transcript), the extent to which students are involved in learning, it can be seen from student talks and work. Then the observer was asked to make a short transcript and a full transcript based on the recording of the learning process. Researchers have provided a short transcript and full transcript form to the observer. The filling is not done directly when the observation is done in learning, the observer can make it after the lesson is over. Because through these learning recordings, observers can make detailed short and full transcripts and adjust the time of occurrence. The short and full transcripts made can be used as learning evaluation materials. So that learning objectives can be achieved according to the needs of each student.

Based on the results of observations starting from the preparation stage, the model teacher can design learning by sharing the learning design process with colleagues or colleagues. The design discussion is quite interactive, it can be seen that there are many inputs given by colleagues to design effective learning in achieving learning objectives. These inputs are used as complementary alternatives that are used by model teachers to carry out learning that is tailored to the needs of students. So that the teacher does not only try to achieve learning objectives but also adjusts to the fulfillment of students' needs for the acceptance of the learning process itself. The model teacher and colleagues were very enthusiastic in participating in the sharing of learning designs.

By the formulation of the first problem in this research, the reflective learning model based on Transcript-Based Lesson Analysis (TBLA) is effective as a technique for strengthening the pattern of learning for the students of Elementary School Cluster IV, Buleleng District. The results of testing the formulation of the problem are displayed descriptive statistics in the form of table 1.

Table 1. Descriptive statistics

Category	N	Mean	Std. Deviation	Std. Error Mean
Control	25	88.76	12.370	2.474
Experiment	25	96.64	10.657	2.131

Based on table 1 descriptive statistics above, it can be seen that the number of subjects in the control group are 25 people and the experimental group are 25 people. The mean value of the student's pattern of learning in the control group was 88.76 while the experimental group was 96.64. These results indicate that the experimental group has a higher mean pattern of learning. Furthermore, the independent simple t-test analysis is shown in table 2.

Table 2. Independent samples test

Results	t-test for Equality of Means			
	t	df	Sig. (2-tailed)	Mean Difference
Equal variances assumed	-2.413	48	.020	-7.880
Equal variances not assumed	-2.413	46.971	.020	-7.880

From the results of the analysis obtained the value of $t\text{-count} = 2.413 > t\text{-table} = 2.011$. So H_0 is rejected and H_a is accepted, this proves that the hypothesis in this study means that the reflective learning model based on Transcript-Based Lesson Analysis (TBLA) is effective as a technique for strengthening the pattern of learning for elementary school students in Cluster IV Buleleng District. The mean difference shows the difference between the mean of the control group and the experimental group. The result of the analysis of the mean difference is -7.880.

Based on the findings above, it is also supported by the strengthening of the pattern of learning for Elementary School Cluster IV students, Buleleng District, which is shown by the appearance of students' academic behavior in participating in learning such as active students asking and answering to gain additional knowledge, not being shy about asking the teacher and discussing together. friends, and slowly learn to be able to accept different opinions during discussions. Then in the aspect of cognitive regulation, students show their abilities by summarizing the material using their sentences, taking notes on the material presented by the teacher, and being on time to collect assignments. While the motivational aspect is shown by learning to make

targets in completing assignments, trying to find additional material from various sources, trying to do assignments with their abilities and if there are difficulties students ask the teacher or ask friends who understand better, and students have an effort to always be better than before with his great curiosity and efforts to find answers to his curiosity.

This is also the result of the application of Transcript-Based Lesson Analysis (TBLA) in learning that seeks to understand well the interactions between teachers and students and students with students. So that each student's need for learning is identified and the problems found are resolved. Then Transcript-Based Lesson Analysis (TBLA) as evaluation material by the teacher to create better learning in each meeting. So that effective learning objectives are achieved by the needs of students in 21st-century learning. As well as bringing teachers and students to face the demands of the era of society 5.0.

As research by Savona et.al stated in educational research, audio-video recordings allow observing lessons repeatedly so that lesson observations can facilitate analysis of the learning process [20]. The data collected should also be transcribed for analysis. Then Suh et.al's research on improving teacher performance through video-based learning with peers also resulted in many opportunities to pay attention to learning developments [21]. So that sharing between colleagues can provide space to exchange ideas, support each other, and become more critical individuals in developing learning.

So that (so that,) learning based on Transcript-Based Lesson Analysis is not only useful for strengthening students' patterns of learning but also can develop the quality of teachers in providing learning. As a material for evaluation and increasing the professionalism of teachers in teaching. The results of this study also have implications for the development of student's character, especially in learning. Students will be able to fulfill tasks in each of their growth and development with their potential, and understand well their situation in the field of learning.

For further research, the results of this study can be used as a reference and comparison material to develop more innovative learning models to be adapted to the times that are tailored to the needs. Then the next researcher's task that is aligned is to analyze the effectiveness of this TBLA-based reflective learning model to develop the character of other students. This is useful to help students fulfill their growth and development according to their respective tasks. As well as helping experts in the field of education to develop effective learning models and equip students to face learning in the 21st century.

5. CONCLUSIONS

The analysis of the reflective learning model based on transcript-based lesson analysis (TBLA) was carried out through analysis of learning outcomes using transcripts of the results of conversations between students and students, students and teachers through in-depth observation, followed by an analysis of learning transcripts. From the results of the analysis obtained the value of $t\text{-count} = 2.413 > t\text{-table} = 2.011$. Then H_0 is rejected and H_a is accepted, this proves that the hypothesis in this study means that the reflective learning model based on Transcript-Based Lesson Analysis (*analyze*) (TBLA) is effective as a technique for strengthening the pattern of learning for elementary school students in Cluster IV Buleleng District. The mean difference shows the difference between the mean of the control group and the experimental group. The result of the analysis of the mean difference is -7.880. The results of this study are useful: 1) As a reference for the realization of research results based on scientific groups that are directly related to the Educational Psychology scientific group. This usefulness also supports the Undiksha research development map in 2021. 2) As an alternative reference in developing teacher reflective learning activities in strengthening student character according to the demands of society 5.0 era, through various behavior strengthening patterns of learning for elementary school students.

As for suggestions that can be given for future (further) research that is in line with this topic, it is hoped that there will be other learning innovations that can be used to help educators develop the character of students in schools. This is a provision for educators and education observers to help prepare students to face future challenges, especially the demands of the era of society 5.0 and 21st-century learning by not eliminating the development of students' self-character.

REFERENCES

- [1] O. Hamalik, *Proses belajar mengajar*. Jakarta: Bumi Aksara, 2010.
- [2] W. Sanjaya, *Strategi Pembelajaran Berorientasi Standar Proses Pendidikan*. Jakarta: Kencana Prenada Media Group, 2008.
- [3] N. Septianti and R. Afiani, "Pentingnya Memahami Karakteristik Siswa Sekolah Dasar di SDN Cikokol 2," *As-Sabiqun*, vol. 2, no. 1, pp. 7–17, 2020, doi: 10.36088/assabiqun.v2i1.611.
- [4] U. K. Durrani and M. M. Kamal, "Application of ARCS Model for a Blended Teaching Methodologies: A Study of Students' Motivation amid the COVID-19," *EAI Endorsed Trans. e-Learning*, vol. 7, no. 21, p. 168721, 2018, doi: 10.4108/eai.17-2-2021.168721.
- [5] H. Hagra, V. Callaghan, and M. Colley, "Learning and Adaptation of an Intelligent Mobile Robot Navigator Operating in Unstructured Environment Based on a Novel Online Fuzzy-Genetic System," *Fuzzy Sets Syst.*, vol. 141, no. 1, pp. 107–160, 2004, doi: 10.1016/S0165-0114(03)00116-7.
- [6] H. Colley, D. James, M. Tedder, and K. Diment, "Learning as Becoming in Vocational Education and Training: Class, Gender and The Role of Vocational Habitus," *J. Vocat. Educ. Train.*, vol. 55, no. 4, pp. 471–498, 2003, doi: 10.1080/13636820300200240.
- [7] N. K. Roestiyah, *Masalah Pengajaran Sebagai Suatu System*. Jakarta: Rineka Cipta, 2000.
- [8] B. Alma, *Guru Profesional Menguasai Metode dan Terampil Mengajar*. Bandung: Alfabeta, 2008.
- [9] C. A. Wolters, P. R. Pintrich, and S. A. Karabenick, "Assessing Academic Self-Regulated Learning," *Child Trends, Natl. Institutes Heal.*, vol. 2003, no. March, pp. 251–270, 2006, doi: 10.1007/0-387-23823-9_16.
- [10] Istarani, *Model Pembelajaran Inovatif*. Medan: Media Persada, 2011.
- [11] N. Aprilia, "Implementasi Model Pembelajaran Reflektif untuk Meningkatkan Kemampuan Pemahaman Mahasiswa Pendidikan Biologi pada Mata Kuliah Strategi Pembelajaran di Program Studi FKIP Universitas Ahmad Dahlan," *J. Bioedukatika*, vol. 4, no. 1, p. 27, 2016, doi: 10.26555/bioedukatika.v4i1.4739.
- [12] M. Rais and F. Aryani, "The Model of Character Learning Anti Violence Based on Reflective Learning," vol. 96, no. 8, pp. 3293–3305, 2016, [Online]. Available: <http://journal.uad.ac.id/index.php/BIOEDUKATIK/A/article/view/4739/2681>.
- [13] M. Rais and F. Aryani, *Pembelajaran Reflektif*. Makassar: Badan Penerbit Universitas Negeri Makassar, 2019.
- [14] J. Bain, R. Ballantyne, C. Mills, and N. Lester, *Reflecting on Practice: Student Teachers' Perspectives*. Post Pressed, 2002.
- [15] S. J. Harrington, "The Effect of Codes of Ethics and Personal Denial of Responsibility on Computer Abuse Judgments and Intentions," *MIS Q.*, vol. 20, no. 3, pp. 257–278, 1996, [Online]. Available: 130.18.86.27/faculty/warkentin/SecurityPapers/Robert/Harrington1996_MISQ_20_1_computer_abuse_judgements.pdf.
- [16] A. Supriatna, "Kegiatan Lesson Study sebagai

Upaya Guru untuk Menemukan Pembelajaran yang Memenuhi Keperluan Anak Hidup pada Zamannya (Era Revolusi Industri 4.0)," *Edusainstek*, vol. 1, no. 1, pp. 1–5, 2018, [Online]. Available: <https://jurnal.unimus.ac.id/index.php/psn12012010/article/viewFile/4069/3781>.

- [17] Hariyanto, S. Utaminingsih, and Santoso, "Analysis of TBLA (Transcript Based Lesson Analysis) SainsMastery of Mathematical Concepts," *J. Phys. Conf. Ser.*, vol. 1823, no. 1, 2021, doi: 10.1088/1742-6596/1823/1/012099.
- [18] N. Janah, N. Nahadi, S. Hendayana, and N. Tresnasih, "Using transcript-based lesson analysis to determine teacher discourse move in science lesson," *J. Phys. Conf. Ser.*, vol. 1157, no. 2, 2019, doi: 10.1088/1742-6596/1157/2/022062.
- [19] D. S. Rahayu, S. Rahmawan, S. Hendayana, M. Muslim, and S. Sendi, "Pattern of Analysis Students' Knowledge Construction Using Transcript-Based Lesson Analysis," *4th Asian Educ. Symp. (AES 2019)*, vol. 438, no. Aes 2019, pp. 140–144, 2020, doi: 10.2991/assehr.k.200513.032.
- [20] A. Savona, S. S. Elmer, A. E. Hürlimann, F. Joliat, and G. Cavasino, "The Lesson Activities Map: A Domain-Specific Lesson Transcription Methodology," *Eur. J. Educ. Res.*, vol. 10, no. 2, pp. 705–717, 2021, doi: 10.12973/eu-jer.10.2.705.
- [21] J. Suh, M. A. Gallagher, L. Capen, and S. Birkhead, "Enhancing Teachers' Noticing Around Mathematics Teaching Practices Through Video-Based Lesson Study with Peer Coaching," *Int. J. Lesson Learn. Stud.*, 2021.