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APPLICATION OF THE TIME TOKEN ARENDS LEARNING MODEL IN SCIENCE LEARNING TO IMPROVE STUDENTS' LEARNING OUTCOMES IN ELEMENTARY SCHOOL/MI

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Abstract

The implementation of appropriate learning is indicated by the readiness of teachers in implementing learning, in accordance with the field of study that is their responsibility. Teacher readiness is shown pedagogically, namely in choosing and determining the right learning model, in accordance with the subject matter and characteristics of students. Initial data on science learning in class V MIN 26 Aceh Besar, showed that most of the students' learning outcomes had not been able to achieve the KKM (Minimum Completion Criteria), which was 70. The purpose of this study is to analyze teacher and student activities, as well as student learning outcomes using the Arends time token learning model in IPAS learning in elementary schools. The research method used was classroom action research. Data collection was carried out in accordance with the stages of classroom action research, namely planning, implementation, observation, and reflection of learning, as well as assessment of student learning outcomes. The results of the study found

that teacher activity in cycle I was categorized as good (79.00%), while in cycle II teacher activity increased very well (91.40%). Student activity in cycle I was categorized as good (78.10%), while in cycle II student activity experienced a very good increase (92.40%). Student learning outcomes in cycle I were completed (53.33%). In cycle II student learning outcomes increased by achieving a complete score (86.70%). The results of the cycle I and cycle II tests showed that the application of the Time Token Arends learning model could improve student learning outcomes at MIN 26 Aceh Besar. Analysis of the results of this study showed that active participation in student learning through the application of the time token Arends learning model correlated with the improvement and strengthening of student understanding of the material taught by the teacher, which was indicated by an increase in student learning outcomes.

Keywords: Time token arends, learning outcomes

Abstrak

Pelaksanaan pembelajaran yang tepat ditunjukkan oleh kesiapan guru dalam melaksanakan pembelajaran, sesuai dengan bidang studi yang menjadi tanggung jawabnya. Kesiapan guru ditunjukkan secara pedagogis, yaitu dalam memilih dan menentukan model pembelajaran yang tepat, sesuai dengan materi pelajaran dan karakteristik peserta didik. Data awal pembelajaran IPA di kelas V MIN 26 Aceh Besar, menunjukkan sebagian besar hasil belajar peserta didik belum mampu mencapai KKM (Kriteria Ketuntasan Minimal), yaitu 70. Tujuan penelitian ini adalah untuk menganalisis aktivitas guru dan peserta didik, serta hasil belajar peserta didik dengan menggunakan model pembelajaran Arends time token pada pembelajaran IPAS di sekolah dasar. Metode penelitian yang digunakan adalah penelitian tindakan kelas. Pengumpulan data dilakukan sesuai dengan tahapan penelitian tindakan kelas, yaitu perencanaan, pelaksanaan, observasi, dan refleksi pembelajaran, serta penilaian hasil belajar peserta didik. Hasil penelitian menemukan bahwa aktivitas guru pada siklus I dikategorikan baik (79,00%), sedangkan pada siklus II aktivitas guru meningkat sangat baik (91,40%). Aktivitas siswa pada siklus I dikategorikan baik (78,10%), sedangkan pada siklus II aktivitas siswa mengalami peningkatan sangat baik (92,40%). Hasil belajar siswa pada siklus I tuntas (53,33%). Pada siklus II hasil belajar siswa meningkat dengan meraih nilai tuntas (86,70%). Hasil tes siklus I dan siklus II menunjukkan bahwa penerapan model pembelajaran Time Token Arends dapat meningkatkan hasil belajar siswa di MIN 26 Aceh Besar. Analisis hasil penelitian ini menunjukkan bahwa partisipasi aktif siswa dalam pembelajaran melalui penerapan

model pembelajaran Time Token Arends berkorelasi dengan peningkatan dan penguatan pemahaman siswa terhadap materi yang diajarkan guru, yang ditunjukkan dengan adanya peningkatan hasil belajar siswa.

Kata Kunci: Time Token Arends, Hasil Belajar

INTRODUCTION

Education according to Law No. 20 of 2003 clause 1 subsection 1 is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have spiritual religious strength, self-control, personality, intelligence, noble morals and skills needed by themselves, society, nation and state. Law No. 20 of 2003 explains that education, especially learning in schools/madrasahs must be implemented properly, in order to create student learning activity, so that it is expected to have a significant effect on student learning outcomes, both cognitive, affective and psychomotor, according to the potential and competence of each student.

The implementation of proper learning is indicated by the readiness of teachers in implementing learning, in accordance with the field of science that is their responsibility. Teacher readiness is shown pedagogically, namely in choosing and determining the right learning model, in accordance with the subject matter in the subjects they teach and the characteristics of the students. For Elementary School/Islamic Elementary School (SD/MI), in accordance with the independent curriculum, including the subjects of Natural and Social Sciences (IPAS).

Based on the results of interviews with the subject teachers of social sciences in class V MIN 26 Aceh Besar, data was obtained that the learning outcomes according to the formative assessment, some students of class V MIN 26 Aceh Besar have not been able to achieve the KKM (Minimum Completion Criteria) in social science learning. The scores obtained by students are still below the KKM set by the madrasah, which is 70. Of the 30 students who achieved the KKM, only 9 students or 30%, while those who did not achieve the KKM were 21 students or 70%. Of course, this is a further question that needs to be identified clearly and in depth, why the achievement of the KKM is still low. With the permission of the teacher who teaches the subject of social sciences, the researcher also conducted learning observations. The results of the observation showed that the teacher had used the cooperative learning model of the picture and picture type when teaching. It's just that the role of the teacher is still dominant, when the learning process takes place. Students are less creative of learning, students follow the learning according to the teacher's materials

and instructions. Active student participation is still low. Of course, this requires further research on the relationship between the application of learning models and student learning outcomes. Based on the problems that occurred in class V MIN 26 Aceh Besar, in an effort to improve student learning outcomes, the researcher applied the Arends Time Token learning model in science learning in elementary schools/Islamic elementary schools.

Several previous studies have shown that the Arends time token learning model is one model that can be used to improve student active participation and learning outcomes. Syofi Syofiyah Dewi, et al., (2020) found that there are still problems with students' social skills, so it is necessary to implement an appropriate learning model, and the Arends time token model has been able to improve students' social skills. Elyvia Rodesta Widi Yanti, (2017), found that there are still classroom conditions where students' enthusiasm for learning is low and affects student learning outcomes as well. Through the implementation of the Arends time token model, it is possible to further increase student enthusiasm for learning, while improving student learning outcomes.

The Time Token Arends learning model is a cooperative model whose focus is on student activities. This means that students are actively involved during the learning process. The teacher's role is to invite students to find solutions together to the problems encountered (Sayama Malabar, 2021). With the Time Token Arends learning model, students are directly involved during the learning process and can train students to interact with each other and exchange opinions, so that students can explore the knowledge they have gained, so that students who do not understand become understand and those who do not know become know.

Based on the background that has been explained above, the author examines in more depth through research, the application of the Arends time token learning model in increasing active student participation in learning as an effort to improve student learning outcomes.

METHODS

This research was conducted using the classroom action research (CAR) method. CAR is conducted in class by teachers/researchers to determine the impact of actions applied to a research subject on classroom learning. According to David A. Hopkins (2010), CAR is a research that combines research procedures with substantive actions, an action carried out in the discipline of inquiry to understand what is happening, while engaging in a process of improvement and change. The selection of classroom action research, in accordance with the purpose of this study,

namely analyzing the application of the Arends time token learning model as an effort to improve and enhance the learning process which is expected to be significant to student learning outcomes.

This research was conducted at MIN 26 Aceh Besar. The subjects of the research were 30 students of class V-A. Data collection was carried out in accordance with the stages of classroom action research, namely planning, implementation/action, observation, and reflection of learning, as well as assessment of learning outcomes. The research instruments used were teacher activity observation sheets, student activity observation sheets, and student learning outcome assessment sheets. Data analysis was in accordance with data collection techniques, namely analysis of teacher activity observation results, student activities, and student learning assessments.

RESULTS AND DISCUSSION

This research was conducted in Class V-A MIN 26 Aceh Besar in the odd semester of 2024/2025 which was conducted from November 1 to November 11, 2024. The research subjects were 30 students. This research was conducted in 2 (two) cycles. The researcher also provided an assessment at the end of learning in each cycle to students to see the students' learning outcomes and the extent of students' understanding in learning IPAS material on forms of human interaction with their environment and their influence on social, cultural and economic development of Indonesian society, using the Arends time token learning model. The researcher was assisted by two learning observers, namely Mrs. Sulastri, S.Pd (social studies teacher of class V-A) MIN 26 Aceh Besar to observe teacher activities, and Khaliza Ulfa (co-researcher) to observe student activities.

In principle, learning takes place in three stages, namely preliminary, core and closing activities. In the preliminary activities, the teacher opens the learning by greeting and inviting students to pray. Next, the teacher checks attendance and conditions students to be ready to start learning. After that, the teacher provides motivation and ice breaking so that students are enthusiastic in participating in learning. Continued with apperception to explore students' initial abilities contextually, in order to further motivate students' curiosity about the teaching material to be studied. The teacher also conveys the learning objectives, as well as the learning and assessment systems.

The next stage is the core activity. At this stage, the teacher conditions the class to carry out discussions by forming groups consisting of 4-5 students. Students listen to the teacher's explanation regarding the material to be studied. The teacher

and students conduct a question and answer session related to the material presented. The teacher distributes Student Worksheets (LKPD) to each group, then students listen to the teacher's explanation regarding how to work on the LKPD correctly. Next, students work on the LKPD with the teacher's guidance. After completing the LKPD, each student receives a speaking coupon. After being read and understood for ±30 seconds per coupon, hand it back to the teacher, then speak or give comments for 1 minute.

In the final stage, students conclude the material that has been learned. Then students listen to the reinforcement of the material given by the teacher, answer assessment questions given by the teacher, reflect on the learning that has been achieved, and listen to advice given by the teacher. Then the teacher conveys the learning plan for the next meeting and closes the learning by praying together and ending with greetings.

Learning observation data in cycle I showed that teacher activity in the learning process obtained a score of 79.00% with a good category, and student activity obtained a score of 78.10% with a good category. Student learning outcomes based on the assessment results at the end of learning showed that for 30 students, obtaining a passing grade (KKM 70) was an average of 53.30%). Thus, student learning outcomes in cycle I showed that the average student learning outcomes were not yet complete.

The results of teacher and student activity data and student learning outcomes in cycle I become reflection materials to further optimize the implementation of the Arends time token model, by compiling and establishing learning steps that further enhance teacher creativity in learning to increase student active participation, in order to further strengthen student understanding during learning which has an impact on student learning outcomes. The results of cycle I reflection become the basis for improvement and refinement for the implementation of cycle II.

The results of observations of teacher activities in learning in cycle II showed a very good increase by reaching a value of 91.40%. Student activities in cycle II also showed a very good increase with a value of 92.40%. Student learning outcomes in cycle II obtained an average value of 86.70%. In accordance with the KKM IPAS which is 70, the learning outcomes in cycle II experienced a very good increase. Therefore, it is concluded that good learning, including using the time token Arends learning model, has an impact on achieving better student learning outcomes.

1. **Teacher Activity Analysis**

The learning process carried out in cycle I, the teacher obtained a percentage score of 79.00%. Then in cycle II, teacher activity experienced a very good increase with a score of 91.40%, as seen in Figure 1 below:

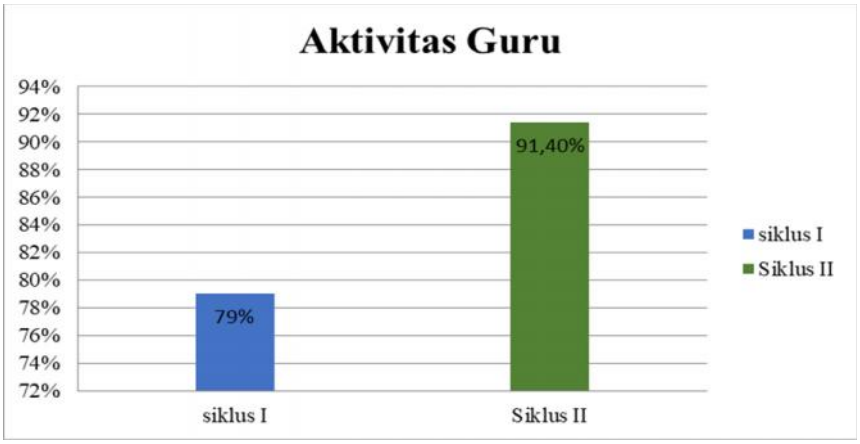

Figure 1 Teacher Activity Diagram Cycle I and Cycle II

Based on Figure 1, it can be concluded that teacher activity in managing learning by implementing the Arends time token learning model has increased from cycle I to cycle II. This is because in cycle II there are improvements made by teachers based on the results of learning reflections from the previous cycle, so that teacher activity in implementing the learning process runs very well as expected.

During the learning process, the teacher provides an apperception that attracts students' attention by linking the learning material to the students' real life. This is in accordance with the opinion of Wina Sanjaya (2008) who said that opening a lesson is an effort made by the teacher during learning activities to create preconditions for students so that their mentality and attention are focused on the learning experience presented, so that it will be easy to achieve the expected competencies.

Students' mental readiness and attention in learning are related to the learning efforts made by the teacher, because the teacher is the subject of learning who is required to actively develop the cognitive, affective and psychomotor domains of students (Era Siska Amyani, 2018). If the teacher's activities in conducting learning in the classroom are good, then the students' activities will also be good. Conversely, if the teacher's activities in learning are not good, then the students' activities will also be not good.

In the implementation of this Arends time token model, the teacher gives a number of timed coupons to each student. The timed coupons are used by students to

submit opinions, ask questions, respond to friends' answers and provide suggestions and criticisms (Nurul Madaniya Putri, 2018). The teacher plays a role in this process, to find problems and invite students to find solutions together. The teacher's activities in carrying out learning in the initial activities, core activities and closing activities have been carried out according to the plan that has been prepared in the cycle I teaching module and cycle II teaching module.

2. Students Activity Analysis

Student activities in learning in cycle I still have some shortcomings so that reflection is held for improvement in cycle II. In cycle I student activities obtained a score of 78.10%, in cycle II student activities experienced a very good increase with a score of 92.40%, as seen in Figure 2 below:

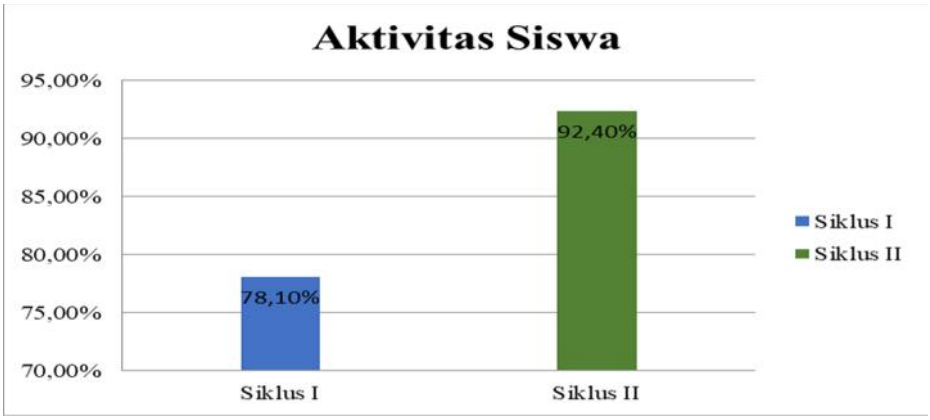

Figure 2 Student Activity Diagram Cycle I and Cycle II

Based on Figure 2, it can be concluded that student activity in learning with the Arends time token learning model experienced a very good increase in cycle II. This correlates with the increase in teacher activity in teaching (figure 1), which affects the increase in student activity in learning, so that the learning process can run very well.

The active role of students in learning is a must. This shows that ideally the learning designed by the teacher must be oriented towards student activities, where students actively participate in learning. In learning, students are the subjects or actors of learning activities (Astrini Rahayu, 2019). Student involvement in the learning process can make it easier for students to understand learning materials and students can interpret learning well. The involvement of all students will be able to provide an active and democratic atmosphere, where each student has a role and shares their learning experiences with other students, thus having a positive impact on all students (Stefen Deni Besare, 2020). Therefore, teachers should be able to design

and implement learning that is oriented towards active participation in student learning, by opening democratic spaces in learning, so that all students feel actively involved in learning.

3. Learning Outcomes Activity

The average student learning outcomes in cycle I were 53.33%, not yet reaching the KKM that had been set, namely 70. In cycle II, student learning outcomes experienced a very good increase, namely 86.70%, as seen in Figure 3 below:

Figure 3 Student Learning Outcomes Diagram for Cycle I and Cycle II

Figure 3 shows a very good increase in learning outcomes through the application of the time token Arends learning model at MIN 26 Aceh Besar. This increase in learning outcomes correlates with the learning process that has been running very well, through teacher activity (figure 2) and student activity (figure 3) in learning.

Based on the analysis of the research results above, it shows that, active participation of students in learning can improve and strengthen students' understanding of the material taught by the teacher. To improve and strengthen active participation of students, it is necessary to be supported by teacher competence in managing learning, including by selecting and determining and implementing the right learning model. One of the learning models according to this research is the time token Arends learning model.

The Arends time token learning model is one type of cooperative learning. Its implementation is by means of group learning, which allows students to avoid dominating the conversation or avoiding students being completely silent in discussions (Arie Ambarwati, 2018). The Arends time token learning model is an

example of one of the learning methods that implements democratic learning in schools. The main focus in this model is student activity, so that students are always actively involved in every learning process (Khabibatus Sholikha, 2017).

The Arends time token learning model makes student activities the main focus. Students are actively involved in the learning process. All students have the same opportunity to ask and answer questions, making it easier for students to understand the material, because they can exchange opinions with their friends (Sri Utami, 2022). That way, students experience changes in a more positive direction from not being able to being able, from not understanding to understanding and from not knowing to knowing. This situation makes it easier for students to answer assessment questions related to the material they are studying, so that learning outcomes are better. For this reason, a teacher must be able to manage learning that challenges the development of student competencies, which among other things will support students' ability to answer learning outcome assessment questions given by the teacher. Teni Nurrita (2018), states that learning outcomes are a competency or skill that can be achieved by students after going through learning activities designed and implemented by the teacher. So, continuous reflection on the entire learning process is a must, so that student learning outcomes which are indicated micro by the ability to answer assessment questions given by the teacher, can achieve the expected results.

Learning outcomes are essentially the development of students' competencies that they acquire through the learning process. Learning outcomes can be used as a benchmark to identify and evaluate learning objectives (Rike Andriani, 2019). Learning outcomes are a number of experiences that students need that include the cognitive, affective, and psychomotor domains. Learning is not only mastering the theoretical concepts of subjects, but also mastering habits, perceptions, pleasures, interests-talents, social adjustments, types of skills, ideals, desires and hopes (Rusman, 2017). For this reason, teachers must be able to design and manage learning that fosters students' curiosity in a fun way, so that competencies continue to be embedded and developed in students sustainably, so that student learning outcomes can be achieved as expected.

CONCLUSION

Based on the results of the study on the application of the Time Token Arends learning model to improve student learning outcomes at MIN 26 Aceh Besar, it can be concluded that teacher activity in learning in cycle I is categorized as good with a score of 79.00%, while in cycle II teacher activity experienced a very good increase

with a score of 91.40%. Student activity during the learning process in cycle I is categorized as good with a score of 78.10%, while in cycle II student activity experienced a very good increase with a score of 92.40%. Student learning outcomes in cycle I achieved a complete score of 53.33%, while in cycle II student learning outcomes experienced a very good increase by achieving a complete score of 86.70%. The results of the cycle I and cycle II tests show that the application of the time token Arends learning model can improve student learning outcomes at MIN 26 Aceh Besar.

Based on the analysis of the research results above, it shows that, active participation in student learning through the application of the Arends time token learning model correlates with the improvement and strengthening of student competence in the material taught by the teacher, which is indicated by the improvement of student learning outcomes. For this reason, teachers are expected to be more creative and innovative in managing learning by using varied and appropriate learning models, including the time token arends model to encourage student active participation and learning outcomes can be further improved, especially in IPAS learning in elementary schools/Islamic elementary schools.

REFERENCES

Ambarwati, Arie. (2018). *Prilaku dan Teori Organisas.* Malang: Media Nusa Creative.

Amyani, Era Siska. (2018). Penerapan Model Discovery Learning Untuk Meningkatkan Aktivitas dan Hasil Belajar Siswa. *Jurnal Pendidikan dan Pembelajaran Biologi*, Vol. 2, No. 1.

Andriani, Rike. (2019). Motivasi Belajar Sebagai Determinan Hasil Belajar Siswa. *Jurnal Pendidikan Manajemen Perkantoran*. Vol. 4, No. 1.

Besare, Stefen Deni. (2020). Hubungan Minat dengan Aktivitas Belajar Siswa. *Jurnal Inovasi Teknologi Pembelajaran*. Vol. 7, No. 1.

Dewi, Syofi Syofiyah, dkk. (2020) Pengaruh Model Pembelajaran Kooperatif Tipe Time Token Arends Terhadap Keterampilan Sosial Peserta Didik di Kelas. *Jurnal Penelitian Pendidikan*, Vol. 7, No. 1.

Hopkins, David A. (2010). *Teacher's Guide to Classroom Research.* Philadhelpia: Open University Press.

Maisarah, dkk. "Peningkatan Hasil Belajar Peserta Didik Melalui Media Pop-Up Book pada Pembelajaran Tematik Kelas V MIN 04 Aceh Besar". *Jurnal Pendidikan*, Vol. 10, No. 2 (2021) h. 151.

Malabar, Sayama. (2021). *Buku Ajar Pembelajaran Terpadu.* Gorontalo: Ideas Publishing.

Nurrita, Teni. (2018). Pengembangan Media Pembelajaran untuk Meningkatkan Hasil Belajar Siswa. *Jurnal Ilmu-Ilmu Al-quran, Hadist, Syariah dan Tarbiyah*, Vol. 3, No. 1.

Pristiwanti, Desi, dkk. "Pengertian Pendidikan". *Jurnal Pendidikan dan Konseling*, Vol. 4, No. 6 (2022) h. 7912.

Rahayu, Astrini. (2019). Penerapan Model Pembelajaran SAVI Untuk Meningkatkan Aktivitas Belajar Siswa. *Jurnal Pendidikan Guru Sekolah Dasar*, Vol. 4, No. 2.

Rismayani. (2020). Penanaman Sikap Sosial Melalui Pembelajaran IPS". *Jurnal Pendidikan IPS Indonesia*, Vol. 4, No. 1.

Rusman. (2017). Belajar dan Pembelajaran Berorientasi Standar Proses Pendidikan. Jakarta: Kencana.

Sanjaya, Wina. (2008). *Strategi Pembelajaran Berorientasi Standar Proses Pendidikan*. Jakarta: Kencana Prenada Media Grouf.

Setiawan, Raden Heri. (2020). Upaya Meningkatkan Prestasi Belajar Matematika Siswa Melalui Penerapan Model Time Token Arends. *Jurnal Akademik Pendidikan Matematika*, Vol. 6, No. 2.

Sholikha, Khabibatus. (2017). Penerapan Model Pembelajaran Time Token untuk Meningkatkan Hasil Belajar Siswa pada Pembelajaran IPS Kelas V MI Bahrul Ulum Surabaya". *Jurnal PGSD*, Vol. 5, No. 3.

Utami, Sri. (2022). *Metode Pembelajaran Time Token Arends*. Cirebon: Wiyatama Bestari Samasta.

Yanti, Elyvia Rodesta Widi. (2017). Penerapan Model Pembelajaran Time Token Arends untuk Meningkatkan Hasil Belajar Siswa Kelas IV SDN Lakarsantri I/472 Suabaya. *JPGSD*, Vol. 05, No. 3