Application of Cooperative Learning Model Assisted Individualization Teams To Improve Student Results In Human Digestive System Material In 11th Grade Science Public High School 14 Tebo Jambi

Muhammad Arjoni[1], Herman Seri[2], Saleh Hidayat[3]
[1,2,3] Postgraduate Program, Biology Education Study Program, Muhammadiyah University of Palembang, Indonesia

Coressponding Author. E-mail:
[1] muhammadarjoni273@gmail.com, [2] hermanseri34@gmail.com, [3] salehhidayat29@gmail.com

Received: December 17th, 2020 *Accepted:* January 28th, 2021 *Online Published:* January 30th, 2021

Abstract

The problem in this study is whether the cooperative learning model type Teams Assisted Individualization (TAI) can improve student learning outcomes in Biology subjects in 11th Grade Science Public High School 14 Tebo Jambi? This study aims to improve student learning outcomes from the domains of student knowledge, attitudes and skills through the Application of Teams Assisted Individualization (TAI) Cooperative Learning Model in 11th Grade Science Public High School 14 Tebo Jambi. The research was conducted at Public High School 14 Tebo Jambi, involving 30 students consisting of 15 boys and 15 girls who were registered in the 2019/2020 school year. This study used a Classroom Action Research (CAR) design with a Kart Lewin research design consisting of two cycles. Each cycle held two meetings in the classroom and each cycle consists of four stages: planning, implementation, observation, and reflection. The results showed that the learning outcomes in the realm of knowledge obtained a class average score in the first cycle of 63.08 and in the second cycle the class average score was 78.93 with a classical percentage of 78.57%. In the realm of attitude, the class average score for the first cycle was 66.31. Cycle II, with a class average of 74.86. And in the realm of skills, the class average score in the first cycle is 51.73. While in cycle II the class average value was 77.88. So it can be concluded that there is an increase in student learning outcomes in the domains of knowledge, attitudes and skills after the application of the Teams Assisted Individualization (TAI) cooperative learning model in Biology subjects in 11th Grade Science at Public High School 14 Tebo Jambi.

Keywords: Teams Assisted Individualization (TAI); knowledge; attitudes; skills.

How to cite this article :

Arjoni, M., Seri, H., & Hidayat, S.(2021). Application of Cooperative Learning Model Assisted Individualization Teams To Improve Student Results In Human Digestive System Material In 11th Grade Science Public High School 14 Tebo Jambi. *IJIS Edu : Indonesian Journal of Integrated Science Education, 3*(1), 60-68. doi:http://dx.doi.org/10.29300/ijisedu.v3i1.4201

.

INTRODUCTION

The learning process is the interaction relationship between students and teachers who have different but related roles that occur during learning activities (Hamalik, 2013, p.124). As a system, of course, the learning process activities contain a number of components that have an important role in learning activities including objectives, teaching materials, learning activities, methods, tools and resources, and evaluation. The learning process can run effectively if all of these components can support the achievement of clear learning objectives, such as students are motivated, the teaching material is interesting, the objectives are clear and the results can be felt by the benefits for students. In addition, in a learning process, one component that has an important role in the learning process is the role of a teacher in effective classroom management.

Isjoni (2013, p.91) good learning activity is a learning process that is able to make students feel comfortable, and not boring, so it can make it easier for students to understand teaching material so that learning outcomes and student learning activities in the classroom can increase according to the demands of the curriculum which teaches students.

Based on the phenomenon that occurred in Public High School 14 Tebo Jambi, the difficulty of students in studying the material of the human digestive system was because the material was felt to be abstract, so it was difficult for students to understand. When in the learning process, in this case, researchers as field teachers often apply teacher center learning, where the teacher only delivers learning material through conventional methods, and students only listen and take notes.

In addition, the lack of availability of learning resources, such as teaching materials and learning media. This can be seen when the student learning process only learns using student books, and teachers also rarely use student worksheet, as teaching material in the learning process. Based on this, of course, it will affect students' understanding of the material to be low. Finally, when a daily test was carried out, the learning outcomes did not reach the KKM. This can be seen from the results of daily tests in the even semester of the 2018/2019 academic year, that only 37.35% completed or 9 students out of 30 students, and 62.65% who did not complete or 21 students out of 30 students who achieved the Criteria Minimum completeness/KKM (TU: Public High School 14 Tebo Jambi Academic Year 2018/2019).

Based on the problems described above, the researcher assumes that these problems can be solved through the application of an appropriate learning model. One of them is the Teams Assisted Individualization (TAI) type of cooperative learning model. The TAI type learning model is designed to solve student learning difficulties individually in groups and can increase student activity and learning outcomes in the classroom. Not only that, by using this type of TAI the spirit of togetherness and social students can be fostered.

The results of research conducted by Syahriani (2017.p.1) state that the TAI type cooperative learning model can increase student motivation, activity and learning outcomes of biology. This is because in the learning process, there is a lot of time for students to think and interact with the group and students' understanding of the material increases so that student learning outcomes also increase. The results of research conducted by Rahmat Hidayat, et al (2015, p.1) state that the application of the TAI type learning model is able to have a positive effect on the learning outcomes obtained by students, it can be seen that the learning outcomes have increased. The same research results were also expressed by Rahmawati (2019, p.1). The learning process uses the TAI type cooperative learning model to increase learning outcomes and the activeness of class students.

This type of TAI cooperative learning model was developed by Robert E. Slavin in his Cooperatine Learning: Theory, Research and Practice Slavin (2014, p.39) states that the TAI type cooperative learning model is a teaching model that uses heterogeneous groups of 4-5 people who work together in their groups to solve problems. According to Wahyunin (2013, p.8) cooperative learning type Team Assisted Individualization (TAI) can be combined with peer tutoring techniques/methods, where through peer tutoring methods students who are not active become more active, because students no longer hesitate to ask questions and provide ideas or input freely. Therefore, the peer tutor teaching system can provide assistance to students who are slow to receive lessons from their teachers.

Slavin (2014, p.40-41) states the steps of the TAI learning model include: a) The teacher prepares the teaching material that will be studied by each group; b) The teacher gives a placement

test to students; c) Students are divided into several small teams heterogeneously based on the results of the placement tests that have been carried out, each team consists of 4–5 members; d) Students will study the material that has been given by the teacher; e) The teacher provides a brief teaching on the material to each group; f) Each group works on assignments from the teacher in the form of Student Worksheets and modules and presents the results of group work. At this stage, if there are students who have difficulty understanding the material, they can ask a group of friends. If needed the teacher will provide assistance individually; g) Students complete the post-test individually; h) The teacher draws the best team / group and will give prizes for the results achieved by the best team / group; and i) The teacher describes the material and together the students conclude the material.

The TAI type cooperative learning model has advantages, including: 1) improving learning outcomes, 2) it can increase learning motivation in students, 3) reduce disruptive behavior, 4) help students who are weak in understanding the material (Muhammad, et al., 2017, p.164). Relevant research conducted by Rahmawati (2019, p.14) explains that teaching with the TAI type cooperative learning model shows excellent results in efforts to improve learning outcomes and the activeness of class students.

Based on the explanation above, the TAI type cooperative learning model is learning that is designed for students in a form of shared responsibility in completing group assignments, helping each other solve problems and helping each other to achieve. The involvement of each student in the teaching and learning process will raise awareness in each student's personality, so that each student will feel they have the same role and responsibility in obtaining group scores which of course will have an impact on increasing interest, motivation and learning outcomes of each student for follow the learning process.

Based on the background stated above, the researchers assume that one of the right ways to do this is by applying the TAI type cooperative learning model to the material of the human digestive system. The characteristics of the human digestive system material include many concepts that must be understood and are abstract so that team and individual work is needed so that each student will feel that they have the same role and responsibility to understand the material given. Therefore, the authors are interested in researching the application of the team assisted individualization cooperative learning model to improve learning outcomes for 11th Grade Science Public High School 14 tebo Jambi for the 2019/2020 school year.

METHOD

This research was conducted at Public High School 14 Tebo Jambi in class XI students, totaling 30 students, consisting of 15 female students and 15 male students. This research was conducted on January 4 - February 15 2020. This research is a Classroom Action Research (PTK). CAR is a systematic and planned research process through learning improvement actions carried out by teachers in their own classes. Arikunto (2015, p.42) Classroom Action Research (CAR) has four important stages consisting of: planning; implementation of actions; observation; and reflection.

Each component in each cycle in this study contains:

1. Plan: compiling a lesson plan (RPP), student worksheets (LKPD) and power points, preparing learning outcome test questions, preparing observation sheets to observe attitudes and skills, and preparing student activity observation sheets.
2. Action: motivating students by applying the teams assisted individualization type of cooperative learning model
3. Observation: observation is carried out simultaneously with the implementation of the action. The observation is carried out by the teacher and the observer who carries out the action using the observation or observation sheet.
4. Reflection: The data obtained from observation and test learning outcomes are analyzed and the results are used as study material for reflection activities. In the reflection activity, there will be several questions that are used as a benchmark for success, for example, student learning outcomes have shown student learning completeness, how students respond to the learning that is taking place.

RESULTS AND DISCUSSION

1. Aspects of Knowledge

Achievement of students' written test results in the realm of knowledge that occurred in cycle I and cycle II, it can be seen from Figure 1 as follows:

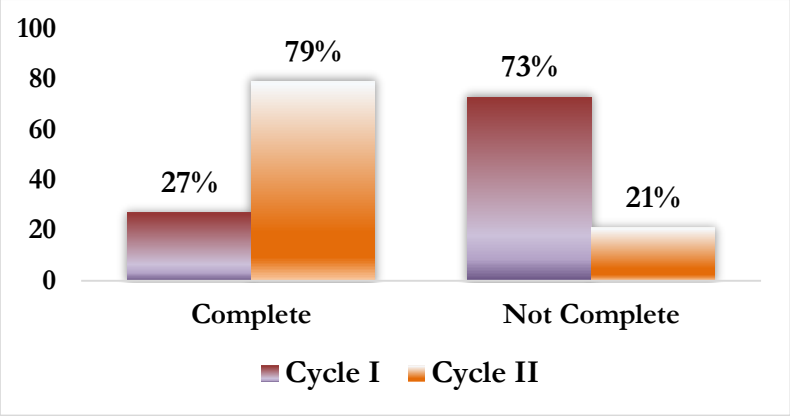

Figure 1. Percentage of Written Test Results for 11th Grade Science Students at Public High School 14 Tebo Jambi in cycles I and II

Based on Figure 1 above, it can be seen that in cycle I the students who completed the KKM were 27%. Meanwhile, in the second cycle, there was an increase of 79%. Students who did not complete the first cycle were 73%, and the second cycle decreased by 21%. The results showed that the class average value in the first cycle was 63.08 and the classical preservation was 26.08. Whereas in cycle II there was an increase, namely the class average value was 78.93 and the classical percentage was 78.57%. This means that the level of student success in the written test is in the excellent category. These results have reached the predetermined success indicators of more than 75%. That is, the level of student success after the written test is in the excellent category. These results have reached the predetermined success indicators of more than 75%. In line with the cited results of research conducted by Muhamad et al. (2017, p.10) concluded that, the application of the TAI type cooperative learning model is able to have a positive effect on student learning outcomes, so that it can improve student learning outcomes. The results of the research conducted by Ramlan (2013, p.10) concluded that student learning outcomes could increase after the TAI type cooperative model was applied. This research is in line with the findings made by Ariani (2017, p. 8) using the Team Asissted Individualization (TAI) type learning model has an effect on improving student learning outcomes, because through the TAI type cooperative learning model students will have challenges to learn more actively, will strive to be more confident both individually and interact with each other in groups. The same thing was expressed by (Maria, 2014, p.11) from the results of her research on the application of the cooperative learning model of the TAI type to improve students' science learning outcomes, because learning activities with the TAI type can play many roles in teaching so that cooperative learning takes advantage of the tendency integrated students, besides providing motivation to students with low learning outcomes, so as to improve student learning outcomes.

In line with the results of research conducted by (Manalu & Silitonga, 2018, p.10) that the learning outcomes of students taught with the TAI type cooperative model are better than students taught with conventional models. These results indicate that the effect of using the cooperative learning model type TAI provides better learning outcomes compared to conventional learning models. Quoted from the research results (Muhamad, 2017, p. 9) that the application of the TAI type cooperative learning model can improve student learning outcomes. The same research was conducted by (Isa, Khaldun, & Halim, 2017, p.12) which proved that cooperative learning type TAI is more efficient in improving students' critical thinking skills.

The same thing was also stated by (Ariani, 2017, p.10), that the average score of student physics learning outcomes using the Team Asissted Individualization (TAI) type of cooperative learning model was higher than the average value of the control class seen from the average value. -average of pre-test and post-test results. So, it can be concluded that there is an influence on the student's physics learning outcomes who are taught using the Team Assisted Individualization (TAI) learning model. The results of research conducted by (Hurriyah, 2017, p. 8) state that the application of the TAI

(Team Assisted Individualization) model can improve students' understanding in understanding physics concepts related to everyday life.

Based on the results of research that has been conducted by (Cahyaningsih, 2019, p.10) after going through the application of the Cooperative Learning Model Type TAI (Team Assisted Individualization) can improve student learning outcomes. In line with the results of research (Riyanti, 2018, p.13) which concludes that through the application of the Cooperative Type TAI learning model, deep learning becomes fun, making students not bored, and not saturated so that students' learning activities increase. This affects the learning outcomes achieved by students.

2. Attitude aspects

The results of observing student attitudes that occur in cycle I and cycle II can be seen from Figure 2 as follows:

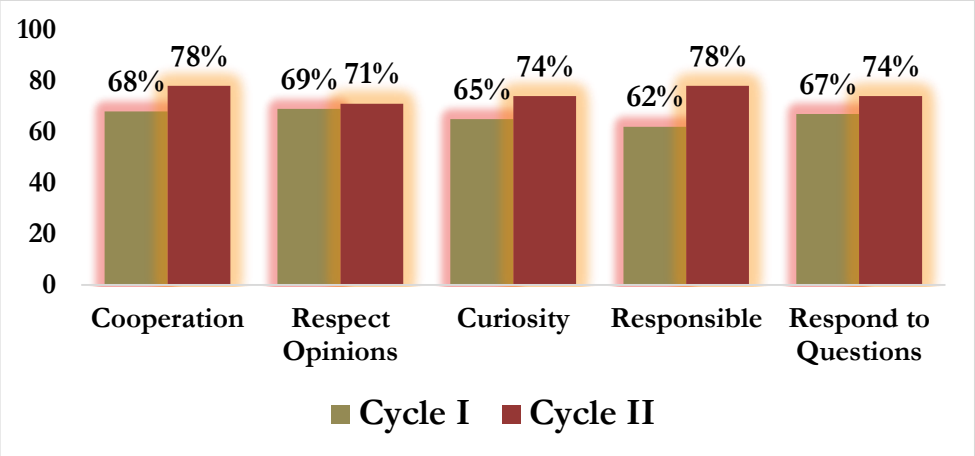

Figure 2. Percentage of 11th Grade Science Student Attitudes at Public High School 14 Tebo Jambi in Cycle I and II

Based on Figure 2 above, the indicators of cooperation in solving problems have increased in cycle I and cycle II from 68% to 78%. The attitude of students who respect others also increases in cycle I by 69%, to 71% in cycle II. Meanwhile, the attitude of having a great curiosity did not increase in the first cycle to get 65%, and 74% in the second cycle. The attitude of student responsibility for the assignment that has been given by the teacher has increased in cycle I getting 62%, to 78% in cycle II. and attitudes in responding to questions asked by teachers or friends also increased in cycle I gained 67% and cycle II increased to 74%. In addition, students who get grades and are converted into predefined categories have the following graph:

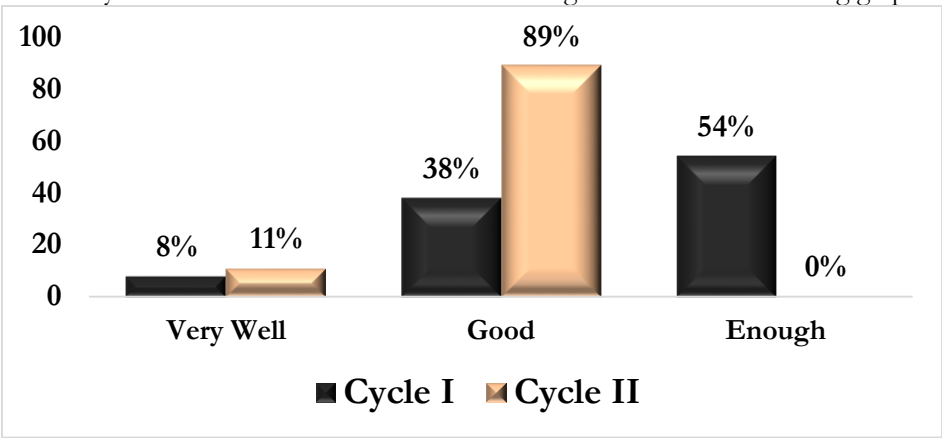

Figure 3. Percentage of Attitudes of 11th Grade Science Students of Public High School 14 Tebo Jambi in Cycle I and II

Based on Figure 3 above, from cycle I to cycle II there is an increase in the percentage. Cycle I, students who get very good category is 8%, but in cycle II students who get very good category experience an increase of 11%. Likewise, students who obtained the good category in the first cycle, namely 38%, then in the second cycle who obtained the good category increased to 89%. The first cycle of students who obtained the sufficient category was 54%, and decreased in the second cycle to 0%. This shows that the provision of improvements in cycle II can improve student attitudes to be excellent. The total value obtained by students in the first cycle got an average grade score of 66.31. Cycle II, the results of observations of student attitudes changed for the better, namely with a class average of 74.86. This has shown that the results of observations in the realm of attitudes have been able to achieve the predetermined success indicators. From this description, it can be concluded that the cooperative learning model type TAI is able to provide positive things towards student attitudes in learning for the better. In line with what was done by Firda (2015, p.6), the cooperative learning model type TAI can improve students' spiritual attitudes. Because through the TAI model students carry out group discussions that present phenomena in the material of the respiratory and excretory systems contained in student worksheets. Individual students as well as groups can be moved and realize that as servants they must always be grateful for His creation. The presentation of problems related to everyday life that shows the greatness of God's creation can inspire students to admire and be grateful for God's creation.

In line with the results of his research (Astuti & Abadi, 2015, p.8) that the results of his research show that the cooperative learning model of the TAI type is effective in terms of the reasoning abilities and mathematics learning attitudes of students. In addition, the results of research conducted (Sutiari, 2019, p. 7) also state that through the application of the cooperative learning model type TAI (Team Assisted Individualization), student learning activities and outcomes can increase this is because students get used to interacting, working in groups, develop individual potential, creative, responsible and able to optimize themselves against the changes that occur.

3. Aspects of Skills

To see the comparison of skill levels that occur in cycles I and II, it can be seen in Figure 4 below:

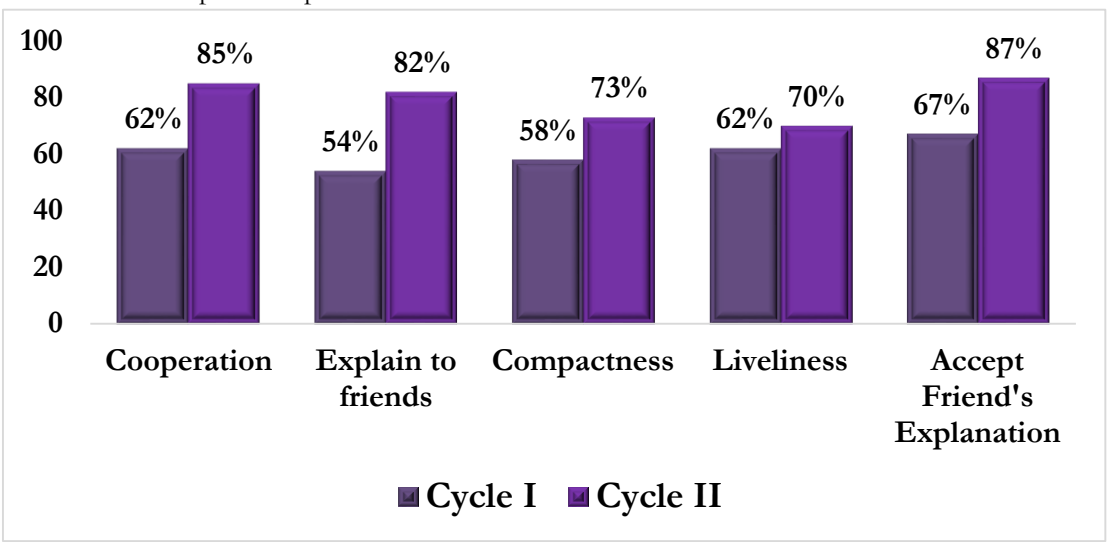

Figure 4. The percentage of students' skills in 11th Grade Science at Public High School 14 Tebo Jambi in Cycle I and II

Based on Figure 4 above, it can be seen that the percentage of students' skills in discussion in the first cycle has increased. This can be seen from the findings in the field, namely: the skills of students in working together in group discussions by 62%. On the ability of students' skills in explaining to their friends by 54%. The ability to cohesiveness in group discussions is 58%. While activeness in group discussions was 62%. And the skills of students in receiving explanations from friends were 67%. While the results of the skills in cycle II increased, namely:

Students' skills in working together in group discussions by 85%. On the ability of students' skills in explaining to their friends by 82%. The ability to cohesiveness in group discussions is 73%. While activeness in group discussions was 70%. And the skills of students in receiving explanations from friends were 87%.

In addition, students who obtained the grades and were converted into the categories defined in Figure 5 were as follows:

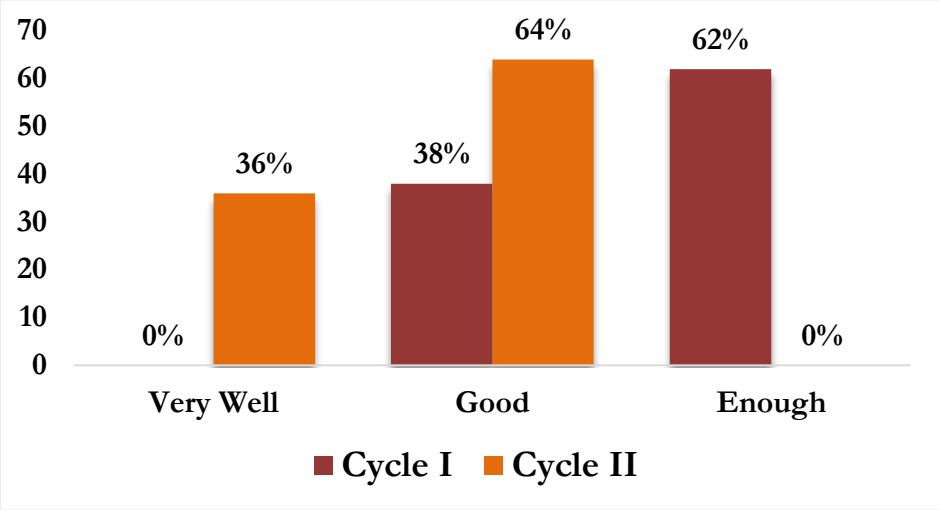

Figure 5. The percentage of student skills in 11th Grade Science at Public High School 14 Tebo Jambi in Cycle I and II

Based on Figure 5 above, the results of students' skills in conducting group discussions from cycle I to cycle II have increased. Cycle I obtained a very good category of 0%. Meanwhile, in the second cycle, getting a very good category increased to 36%. In the first cycle the students' skills in the good category obtained 38%, then in the second cycle it increased to 64%. In the first cycle, the students who got the enough category were 62%, while the results of the second cycle, there were no students who got the enough category. In addition, the class average value in the first cycle was 51.73. Whereas in the second cycle the students' skills improved to be good with a class average score of 77.88. This shows that students' skills have reached the indicators of success. Thus, it can be said that the application of the cooperative learning model type TAI can improve student skills. This is the same as research conducted by Firda (2015, p.6) which states that the TAI type cooperative learning model is able to improve student skills. The same thing was done by Syahriani (2017, p.16) which revealed that through the cooperative learning model the TAI type was able to improve student skills, because when in the learning process students would be more active in recording teacher explanations, students were also more enthusiastic in conducting group discussions, students will also be more active in reading and working on the worksheets given individually or in discussion with other group members. In addition, students also appear to be more active in answering the quizzes the teacher throws at them. In line with the results of research conducted by (Novitasari, Sutarno, & Masykuri, 2020) states that the D-TAI learning model is able to create student cognitive conflicts, students not only work in the realm of low-thinking, but have referred to analytical thinking. Students are able to empower the characteristics of science that produce products through scientific processes and methods based on scientific attitudes so that students are able to construct their own knowledge and are able to learn and teach through cooperative activities that are able to change the teacher centered paradigm to become student centered.

In line with the results of research conducted by (Fitriyah & Arief, 2017, p. 6) states that cooperative learning type TAI can increase student activity and learning outcomes, this is because if students do high activities during the learning process it will result in the formation of knowledge and skills. which leads to an increase in student learning outcomes. In addition to the

research results (Hayati & Dwikurnaningsih, 2019, p.10) that the Team Assisted Individually (TAI) learning model can improve the collaborative skills of students.

CONCLUSIONS

Conclusions

Based on the results of research and discussion that have been described previously from the results of data analysis obtained: 1) The aspect of knowledge obtained a class average value in cycle I, namely 63.08, cycle II obtained a class average value of 78.93 and a classical percentage of 78 , 57%. 2) In the domain of attitude, the class average score for the first cycle is 66.31, the second cycle, with a class average of 74.86. and 3) The class average value in the first cycle was 51.73, in the second cycle the class average score was 77.88. So, it can be concluded that through the application of the cooperative learning model type TAI can improve student learning outcomes.

Suggestion

Some of the things suggested based on this research are: 1) It is expected that in implementing the Team Assisted Individualization (TAI) learning model, the teacher needs to carefully prepare a learning plan including adjusting the learning media to the material, and it is better if the material and questions prepared can be resolved by means of group discussions; 2) Hopefully, it can manage the class optimally in order to create conducive and more meaningful learning; 3) It is expected to develop student learning outcomes, especially in the aspects of attitudes, skills and knowledge by using appropriate learning media and methods and developing other fields of science.

REFERENCE

Ariani, T. (2017). *Pembelajaran Kooperatif Tipe Team Assisted Individualization (TAI) Dampak Terhadap Hasil Belajar Fisika Siswa*. *06*(2), 169–177. https://doi.org/10.24042/jipfalbiruni.v6i2.1802

Astuti, R. D., & Abadi, A. M. (2015). Keefektifan Pembelajatan Jiksaw dan TAI Di Tinjau dari Kemampuan Penalaran Dan sikap Belajar Matematika Siswa. *Jurnal Riset Pendidikan Matematika*, *2*(2), 235–250.

Arikunto, S. Suharjono, & Supardi (2015). *Penelitian Tindakan Kelas*. Jakarta: Bumi Aksara.

Cahyaningsih, U. (2019). Penerapan Model Pembelajaran Kooperatif Tipe TAI (Team Assisted Individualization) Untuk Meningkatkan Hasil Belajar Siswa Pada Mata Pelajaran Matematika. *JURNAL CAKRAWALA PENDAS*, *5*(1), 45–52.

Fitriyah, A., & Arief, A. (2017). Penerapan Model Pembelajaran Kooperatif Tipe Tai (Team Assisted Individualization) Untuk Meningkatkan Aktivitas Dan Hasil Belajar Siswa Kelas X Pada Pokok Bahasan Momentum Dan Impuls Di MAN Mojosari Mojokert. *Jurnal Inovasi Pendidikan Fisika (JIPF)*, *06*(03), 153–156.

Firda, A. (2015). *Penerapan Model Team Assisted Individualization Dipadu Problem Based Learning Disertai Penyusunan Portofolio Untuk Meningkatkan Kemampuan Berpikir Kritis, Pemahaman Konsep, Sikap Spiritual, Dan Keterampilan Siswa Kelas Xi Mia 4 Sman 6 Malang*. 1–8.

Hamalik, O. (2003). *Perencanaan Pembelajaran Berdasarkan Pendekatan Sistem*. Jakarta: Bumi Aksara.

Hayati, I. R., & Dwikurnaningsih, Y. (2019). Penerapan Model Pembelajaran TAI Pada Pembelajaran Tematik Untuk Meningkatkan Keterampilan Kolaboratif Peserta Didik Kelas II SDN Kutowinangun 11. *Jurnal Basicedu*, *3*(1), 214–224.

Hurriyah. (2017). Penerapan Model Kooperatif Tipe TAI (Team Assisted Individualization) Untuk Meningkatkan Pemahaman Konsep Dalam Pembelajaran Fisika Kelas X MIA MAN 1 Padang.

NATURAL SCIENCE JOURNAL, *3*(1), 328–335.

Isjoni. (2013). *Pembelajaran Kooperatif; Meningkatkan Kecerdasan Komunikasi antar Peserta Didik*. Yogyakarta: Pustaka Pelajar.

Isa, M., Khaldun, I., & Halim, A. (2017). *Penerapan Model Pembelajaran Kooperatif Tipe Tai Untuk Siswa Pada Materi Hidrokarbon*. *1*(2), 213–223.

Manalu, I. A., & Silitonga, M. (2018). Penerapan Model Pembelajaran Kooperatif Tipe Team Assisted Individualization (T.A.I) Dalam Pembelajaran Kompetensi Dasar Mendeskripsikan Rangkaian Logika Dasar. *Jurnal Pendidikan Teknologi Dan Kejuruan*, *20*(1).

Maria, V. (2014). *Penerapan Model Pembelajaran Kooperatif Tipe TAI (Team Assisted Individualization) Untuk Meningkatkan Hasil Belajar Mata Pelajaran Sains Pada Siswa Kelas IV SDN 3 Labuan Panimba*. *4*(8), 71–87.

Muhamad, S. (2017). Penerapan Model Pembelajaran Kooperatif Tipe Tai (Team Assisted Individualization) Untuk Meningkatkan Hasil Belajar Siswa Pada Materi Persamaan Kuadrat. *Jurnal Pendidikan Matematika*, *6*(2).

Novitasari, A., Sutarno, & Masykuri, M. (2020). Pengembangan Model Discovery With Team Assisted Individualization (D-TAI) Untuk Memberdayakan Kemampuan Berpikir Analisis Pada Materi Sistem Reproduksi Manusia. *Indonesian J. Integr. Sci. Education / IJIS Edu*, *X*(X), X.

Ramlan. (2013). *Matematika Melalui Model Kooperatif Tipe Team Assisted Individualization (Tai) Pada Siswa Kelas Viiasmp Negeri 27 Makasar*. *1*(1), 110–112.

Syahriani. (2017). *Peningkatan Aktivitas Dan Hasil Belajar Biologi Melalui Pembelajaran kooperatif tipe Team Asissted Individualization (TAI)*. *5*(1), 69–86.

Rahmawati Razak. (2019). Penerapan Model Pembelajaran Kooperatif Tipe *Team Assisted Individualization* (TAI) Untuk Meningkatkan Hasil Belajar Biologi Pada Kelas X Sma Negeri 9 Bulu kumba. *Journal of Education, Language Teaching and Science Volume 1 Issue*.

Rahmat Hidayat, dkk. (2015). Penerapan Model Pembelajaran Kooperatif Tipe TAI (*Team Assisted Individualization*) Dengan Teknik Tutor Sebaya Dalam Pembelajaran Biologi SMA. Pendidikan Sains Pascasarjana Universitas Negeri Surabaya. Vol. 5, No. 1, ISSN : 2089-1776**.**

Riyanti, D. (2018). Meningkatkan Hasil Belajar Peserta Didik Pada Mata Pelajaran Bahasa Indonesia Tentang Teks Ulasan Film/Drama Melalui Penerapan Model Pembelajaran Kooperatif Tipe TAI (Team Assisted Individualization). *Jurnal Educate*, *3*(1), 100–118.

Sutiari, N. L. (2019). Penerapan Model Pembelajaran Kooperatif Tipe TAI (Team Assisted Individualization) Untuk Meningkatkan Aktivitas Dan Prestasi Belajar Pada Mata Pelajaran Tata Graha. *JIPP*, *3*(1).

Slavin, R. E . (2010). *Cooperative Learning: Teori, Riset, and Praktik*. Nusa Media: Bandung.

Wahyunin, K. Arie, dkk. (2013). The Effect Of Cooperative Learning Model Type "TAI" With Peer Tutor Technique To Students Mathematic Achievement Using Formal Intellectual Control Eight Grade Bilingual Class Students Of SMP Rsbi Denpasar. *e-Journal Program Pascasarjana Universitas Pendidikan Ganesha Program Studi Pendidikan Dasar*. *V.3*.