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IMPROVING NATURAL SCIENCE LEARNING ACTIVITIES AND OUTCOMES THROUGH AN "INTERNAL" LEARNING MODEL

Fathul Jannah[1], Raihanah Sari[2], Yogi Prihandoko[3], Yogo Dwi Prasetyo[4], Sonia Indriati[5]

[1, 2, 3, 4, 5] **Universitas Lambung Mangkurat, Banjarmasin, Indonesia**
[1]*fathul.jannah@ulm.ac.id*, [2]*raihanah.sari@ulm.ac.id*, [3]*yogi.prihandoko@ulm.ac.id*, [4]*yogo.prasetyo@ulm.ac.id*, [5]*1710125320213@mhs.ulm.ac.id*

ABSTRACT

Students' low learning activity and outcomes in natural sciences learning are the problem discussed in this paper. The INTERNAL model integrates Inquiry, Number Head Together, and snowball throwing. This paper uses a qualitative approach and classroom action research (CAR), which was held for four meetings. Data analysis were teacher activity sheets, students' learning activity sheets, and students' learning outcomes sheets. Data collection techniques were observation and writing tests. The research subjects were 32 fifth-grade students of SDN Swato 2 Tapin for the academic year 2021/2022. The indicator of the success of students' learning activity score was 58-72, and students' learning outcomes, which has minimum standards under 70 with a classical percentage above 80%. The research results indicate that the teacher's teaching activity at the first meeting, which achieved 54 in the good category, increased to 74 in the very good category at the fourth meeting. Students' learning activity classically at the first meeting that achieved 25% in a highly active category increased to 83,3% with a highly active category at the fourth meeting. Students' learning outcomes at the first meeting with 50% classical completeness increased to 100% classical completeness at the fourth meeting. It can be concluded that applying the internal learning model can improve students' learning activities and outcomes.

Keywords*: *students' learning activity and outcomes, natural sciences learning, inquiry, number head together, snowball throwing

MENINGKATKAN AKTIVITAS DAN HASIL BELAJAR IPA MENGGUNAKAN MODEL PEMBELAJARAN "INTERNAL"

ABSTRAK

Rendahnya aktivitas, dan hasil belajar siswa pada pembelajaran Ilmu Pengetahuan Alam merupakan permasalahan yang dibahas dalam tulisan ini. Model INTERNAL adalah integrasi dari Inkuiri, *Number Head Together*, dan *snowball throwing*. Tulisan ini menggunakan pendekatan kualitatif dan jenis penelitian tindakan kelas yang diadakan selama 4 kali pertemuan. Analisis data berupa lembar aktivitas guru, lembar aktivitas siswa, dan lembar hasil belajar siswa. Teknik pengumpulan data berupa observasi dan tes tertulis. Subjek penelitian adalah 32 siswa kelas V SDN Swato 2 Tapin tahun ajaran 2021/2022. Indikator kerberhasilan aktivitas berada pada skor 58-72 dan hasil belajar siswa dengan KKM >70 dengan klasikal >80%. Hasil penelitian menunjukkan bahwa aktivitas mengajar guru pada pertemuan I memperoleh skor 54 dengan kriteria "Baik", meningkat pada pertemuan IV dengan skor 74 dengan kriteria "Sangat Baik". Aktivitas belajar siswa secara klasikal pada pertemuan I mencapai 25% pada kriteria "SangatAktif", meningkat pada pertemuan IV menjadi 83,3% dengan kriteria "Sangat Aktif". Untuk hasil belajar siswa pada pertemuan I dengan ketuntasan klasikal 50%, meningkat pada pertemuan IV dengan ketuntasan klasikal 100%. Dapat disimpulkan bahwa penerapan model pembelajaran Internal dapat meningkatkan aktivitas dan hasil belajar siswa.

Kata Kunci: hasil dan aktifitas belajar siswa, pembelajaran IPA, inkuiri, number head together, snowball throwing

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INTRODUCTION

Education is an effort, a plan, and a major provision of knowledge to develop quality human resources (HR) to create human beings with talents, interests, and skills. Quality human resources through education will positively impact the existence and progress of a nation and state. In the globalization era, future generations must be qualified and have a character so that the nation and state can maintain their existence of the nation and state (Suriansyah & Aslamiah, 2015). Therefore, education must be held and defined in humans early to improve life skills so that they have quality human resources.

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According to the Law on the National Education System Number 20, the curriculum used today is the 2013 curriculum which combines several subjects under a theme, the 2013 curriculum has several different themes and sub-themes, and within the sub-themes, there is learning. In the 2013 curriculum, learning requires students to be active and achieve key competencies, namely attitudes, knowledge, and skills (affective, cognitive, and psychomotor). Education in Elementary Schools plays an essential role in determining the quality of education. At the Elementary School level, students are taught all things to stock up on knowledge at the next level of education (Susanto, 2016). Learning outcomes are categorized into three domains, namely: cognitive (thinking processes), affective (related to appreciation, values, feelings, enthusiasm, interests, and attitudes), and psychomotor (action skills). The three cannot stand alone but are inseparable units. (Sudjana, 2004).

In organizing education in the context of achieving national education goals and education in elementary schools and creating quality human beings, all of this cannot be separated from the context of the teacher. The teacher is one of the main factors that influence the success of educational goals because the teacher plays a role in the learning process, where the learning process is the core of the whole educational process (Rusman, 2014). The teacher also guides and directs students to understand the material. Learning that only relies on lectures and giving assignments and lacks creativity and innovation can make learning less memorable and boring. It also has an impact on student learning outcomes which will decrease (Ismail et al., 2018)

One of the subjects taught in elementary schools is Natural Sciences. According to Suminto (2010), there are three main focuses of learning science in schools, which can take the form of 1) products from science, namely learning various scientific knowledge that is considered important for students (hard skills); 2) Science as a process, which concentrates on science as a problem-solving method to develop students' expertise in solving problems (hard skills and soft skills); 3) approach to scientific attitudes and values as well as human skills (soft skills).

Science learning should be carried out in an inquiry and active manner to gain a deep understanding of nature and foster the ability to think, work and act scientifically (Mulyasa, 2006). So science learning in elementary schools places more emphasis on providing a direct experience of the realities of the environment through inquiry activities to develop process skills and scientific attitudes. Science learning tends to be one-way, in which students only listen, record, and memorize material which is sometimes too much material and does not provide concrete experience. Hence, students get bored because they are not involved in giving material, which affects low learning outcomes (Hasriati, 2020). It also applies to the theme of heat and the transfer of heat transfer material in science learning materials at SDN Swato 2. This problem occurs because students have not been actively involved in the science learning process regarding heat transfer material. The learning results obtained through observation and interviews by researchers in the 2021/2022 school year with a total of 21 students only 47.62%, or nine students who were declared complete, who succeeded in achieving minimum standards > 70 and 52.38% or 12 other students did not or still incomplete. Based on the results of observations and interviews conducted by the author and seen from the learning outcomes of grade 5 students in science subjects, it turns out that there are still many whose learning outcomes are below the set minimum standards, which is> 70.

Researchers can use internal learning models to solve these problems, which combine inquiry learning models, number heads together (NHT), and snowball throwing. This model was chosen by paying attention to students' characteristics and the learning application's efficiency. Characteristics of students in elementary students are happily playing, having direct experience such as conducting research (practice), being physically and psychologically active, cooperating, and respecting each other in groups. With a combination of inquiry learning models, number head together, and snowball

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throwing, there is expected to be an increase in student learning activities and outcomes in learning at each meeting.

The inquiry learning model has its advantages because, in this model, students are more likely to find information in the surrounding environment and from others. Students are also asked to be able to solve problems by conducting research in response. The general purpose of this model is to help students develop intellectual disciplines and skills needed by giving questions and getting answers based on their desires (Duda, 2019). Students may be curious about why the event occurred, obtain and process data logically, and so students develop intellectual strategies in general that can be used to get answers.

Learning Model Number Head Together is a learning model that prioritizes student activities to find, process, and report, information from various sources that are finally presented in front of the class (Rahayu, 2006). The NHT model is part of the structural cooperative learning model, which emphasizes the special structure designed to influence the pattern of student interaction (Alkhateeb and Milheem, 2020). The structure of the model wants students to be interdependent with small groups in a cooperative manner. The structure was developed as an alternative chart of the traditional class structure, such as raising his hands first and then being appointed by the teacher to answer the questions asked. The atmosphere like causing noise in the classroom because students scramble to get the opportunity to answer research questions (Triyasa, 2008).

Snowball Throwing Learning Model is a learning model with an active type (active learning) where in its implementation, students must be involved proactively (Asrori in Agustina 2013). Snowball Throwing Learning Model is a cooperative learning model. Cooperative learning is intended to be learning arranged through small groups of students who work together to maximize learning conditions to achieve learning goals. In group learning, the level of success depends on the abilities and activities of group members, both individually and in groups. Science learning models suitable for elementary school children are learning models that adjust student learning situations to real-life situations in the community. Students can use learning tools and media in the environment and apply them in the daily shelter (Samatowa, 2006).

Research on implementing the number head together, snowball throwing, and inquiry learning models has been carried out several times in science learning. The following are some relevant studies that researchers are studying. First, Kelana, et al. (2022) prove that the inquiry model can influence the ability of science and the nature of students in elementary schools. Furthermore, Wiyoko and Munfaati (2022) researched the implementation of the number head together model in learning natural sciences in elementary schools. The results showed that the Number Head Together (NHT) learning model had a significant effect on science learning outcomes in class V elementary school, as evidenced by the value of rs count (0.545) > r table (0.375). As for research on the implementation of the snowball-throwing model in elementary science learning, Purdianto, et al. (2022) proved that the snowball-throwing learning model was effective in improving student learning outcomes compared to the conventional model. This is evidenced by the results of the significance test, which is less than 0.05. Based on the previous studies, some of the differences that emerged or the novelty of this study can be described as follows. First, no research has combined the three Inquiry learning models, Number Head Together (NHT) and snowball Throwing in science learning in elementary schools. Second, all the research that has been done focuses on student learning outcomes, while this research seeks to increase teacher and student activity and learning outcomes. Third, no similar research has focused on heat materials and their transfer. So it can be concluded that this research has a novelty compared to previous similar studies.

Based on the background of the problems above, the researcher is interested in conducting science learning research using a combination of 3 learning models, namely Inquiry, Number Head Together (NHT), and Snowball Throwing, entitled "Improving Science Learning Activities

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and Outcomes Using Internal Learning Models in Grade V Students at SDN Swato 2. This study aims to increase student and teacher activity as well as science learning outcomes for fifth-grade students at SDN Swato 2.

REASERCH METHOD

The research approach used in this study is qualitative. Qualitative research intends to understand the phenomena that occur in the subject under study, for example, behavior, perception, motivation, and action (Moleong, 2017). Qualitative research is analytical. Data can be obtained from observations, interviews, photographs, analysis of documents, and field notes (Putra, 2013). Qualitative research emphasizes the search for meaning in a phenomenon, prioritizes quality, and is presented narratively (Yusuf, 2017). Thus qualitative research leads to research to seek meaning, understanding, and understanding about a phenomenon or event.

The type of research used in this research is Classroom Action Research (CAR). The setting in this Classroom Action Research was conducted at SDN Swato 2 for the second semester of the 2021/2022 academic year. This research was conducted for three months and through 4 learning cycles. Implemented in science learning in class V on Theme 6, Heat and its Transfer. Its subjects were 32 grade IV students, consisting of 12 male students and 20 female students. In its implementation, the researcher acted as an observer, and the class teacher continued to teach. The type of data taken in this research is qualitative and quantitative data. Qualitative data consisting of student and teacher activity data with the implementation of inquiry learning models, Number Head Together (NHT), and Snowball Throwing was obtained through direct observation techniques. The instrument used to collect qualitative data was a teacher and student observation sheet, each consisting of 20 statement items that three experts in elementary school education had validated. Qualitative data analysis was carried out using the interactive analysis model of Miles, Huberman, and Saldana (2014) through three steps: data condensation, data display, and conclusion drawing and verification. Data condensation refers to the process of selecting, focusing, simplifying, abstracting, and transforming data. Data is presented in the form of percentage tables and written descriptions.

Quantitative data in the form of student learning outcomes during four meetings with the inquiry learning model, Number Head Together (NHT), and snowball Throwing was obtained through test techniques. The instrument used is 25 multiple-choice questions tested for validity with a test result limit of 0.3 (Sugiyono, 2014). The data analysis used was descriptive statistical analysis and then grouped by complete and incomplete categories with completeness criteria being > 70; if less than 70, it was categorized as incomplete. Furthermore, the results of data analysis are presented in the form of a percentage table which is then described through descriptive paragraphs.

RESULTS AND DISCUSSION

The results of research on student learning activities and outcomes during four meetings using the INTERNAL learning model. The increase in teacher activity also increases every meeting for four meetings, and the teacher reflects and implements it at the next meeting to improve learning. You can see the comparison of teacher activity at each meeting as follows.

Table 1. Comparison of Teacher Activities

Meeting	Score	Criteria
I	54	Good
II	64	Very Good
III	72	Very Good
IV	74	Very Good

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From the presentation of table 1 above, from meeting I to IV, there was an increase in teacher activity. At the first meeting, the teacher's activity was at a score of 54 with a percentage with good criteria. At meeting II, there was an increase in teacher activity at a score of 64, with very good criteria. At meeting III, there was also an increase in teacher activity at a score of 72, with very good criteria. At meeting IV, there was another increase in teacher activity at a score of 74, with very good criteria. If the teacher's activity increases, it will also affect student activity and student learning outcomes, while the comparison of student activity can be seen in the following table.

Table 2. Comparison of Student Activity

Meeting	Less Active	Modertely	Active	Very Active
I	0%	16,7%	58,3%	25%
II	0%	8,3%	58,4%	33,3%
III	0%	0%	41,7%	58,3%
IV	0%	0%	16,7%	83,3%

From the presentation of table 2 above, there is always an increase in student activity at every meeting. At the first meeting, learning activities were in the very active category, only reaching a percentage of 25%. Then, at the second meeting, the learning activities were very active. There was an increase even though they still did not meet the target, reaching 33.3%. At meeting III, the learning activities were in the very active category, and there was an increase in the percentage of 58.3%. At the fourth meeting, learning activities were in the very active category, increasing to a percentage of 83.3%. At meeting IV, the student learning activities met the researcher's target. Student learning activities also affect student learning outcomes in the following table:

Table 3. Comparison of Student Learning Outcomes

Meeting	Complete	Not Complete
I	50%	50%
II	83%	17%
III	83%	17%
IV	100%	0%

From the table above, student learning outcomes always increase at each meeting. At the first meeting, the learning outcomes were in a complete category, reaching a percentage of 50%. Then at the second meeting, the learning outcomes were in a complete category, namely 83%. At meeting III, the learning outcomes were in a complete category, namely 83%. At meeting IV, learning activities were in a complete category, reaching a percentage of 100%. It proves that if there is an increase in teacher activity, it will affect student activity and student learning outcomes.

To be able to see the trend of these three factors can be seen in the following graph:

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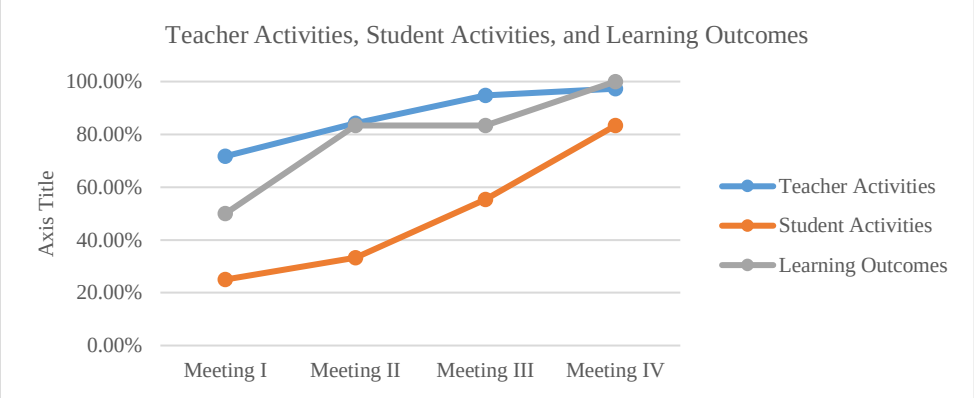

Chart 1. Trends in Teacher Activities, Activities, and Student Learning Outcomes

Chart 1 shows that there has been an increase in aspects of teacher activity, student activity, and learning outcomes. The graph of the trend that every meeting on aspects of teacher activity, student activity, and learning outcomes is increasing. It proves that there is a relationship between these three aspects as we can see that if there is an increase in the teacher's activity in carrying out the learning process, the student's activity in participating in learning will also be better or experience a significant increase. Then with the increase in teacher activity and student activity in learning, student learning outcomes will also experience a significant increase. Based on the description above, the research that has been carried out is in accordance with the opinions of experts and previous researchers so that it is in accordance with the research hypothesis, which reads, "by using the combination model of Inquiry learning, Number Head Together (NHT), and Snowball Throwing, learning activities and student learning outcomes the theme "Heat and Its Movement" The content of Natural Science Education (IPA) in grade 5 at SDN Swato 2 will increase". Thus the hypothesis can be accepted.

Based on the findings of the data described above, it can be seen that the teacher's activities in carrying out learning using the INTERNAL learning model in the science content of Heat and Transfers experience an increase in each meeting. In meeting I, the teacher got a score of 54, increasing at meeting II with a score of 64 and increasing again at meeting III, the score was 72. Also, it increased at meeting IV with a score of 74. It increased teacher activity because by using the INTERNAL learning model, the teacher could facilitate students, provide material and motivate students to study better. Besides that, with reflections made by the teacher, the teacher can improve the deficiencies or weaknesses that are owned so that the teacher's activities always increase and the quality of the teacher also becomes better in carrying out learning. INTERNAL learning applies group learning which makes students think more critically and actively ask questions and answers from teachers and peers. It also encourages them to interact and work with their group mates, discusses, and trains in testing the abilities of groups and peers through making questions and answering questions from other groups and peers. It makes students more actively involved in learning.

Discussion

This study's results align with Hamalik (2015), who says that a good teacher will always try to carry out good learning to achieve success in learning. Then it is supported by the opinion of Suriansyah, et al. (2014), who said that success in learning depends on the teacher's quality when carrying out the learning process. It is in line with Jupriyanto & Nuridin (2019) opinion, who said that the relationship between teachers and students in the learning process is very important. Teachers must be able to manage their students and be able to control them in better and optimal conditions. Then the learning that has been

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planned before will be achieved. It is in line with Kompri's opinion (2017), which says that the teacher's most important role in the learning process is to create conditions that lead children to carry out activities. Teachers need to pay attention to attitudes that can encourage students to actively learn seriously (Pahriadi, et al., 2020). Therefore, there is a great need for teacher-student interaction. It is in line with several studies where teacher activity increases the activity and student learning outcomes. There will also be an increase in each meeting.

The results of the study are also in line with the opinion of Suriansyah, et al. (2014)., Azzahra, Pratomo, & Sumiati (2019), who say that in group learning, students can share information, be active in asking questions, work together in solving problems through discussion. The results of this study are in line with the opinion of Malik (2019)., Birgili, Kiziltepe, & Seggie, (2016), who says that the learning process that emphasizes group learning will make students learn together through discussion, exchanging ideas, and helping each other in a meaningful way. An interactive way to achieve the formulated learning objectives. Furthermore, in line with Suhardi (2016), participation can be interpreted as participating, participating, and joining oneself as a participant. Student participation in the learning process can take the form of, among other things: asking, answering, discussing, arguing, completing assignments, solving problems, or concluding (Wulandari et al., 2021 and Maimanah et al., 2020). To make students more active in asking questions and expressing their opinions, by working together, students emphasize the contribution of each group member to the achievement of group goals. Thus it is clear that applying the Inquiry, Number Head Together, and Snowball Throwing learning models based on group learning with critical thinking can increase student activity in learning.

CONCLUSIONS AND RECOMMENDATION

Based on the research results, it can be concluded that the INTERNAL model is proven effective in increasing student and teacher activity and student learning outcomes. The increase in teacher activity increased in each cycle, namely 54, 64, 72, and 73. Furthermore, student activity, compared to the first and fourth cycles, experienced a significant increase, namely the category was, quite active 16.7%, active 58.3%, and very active 25% increased to only the two highest categories, namely active 16.7% and very active 83.3%. As for student learning outcomes, originally only 50% of students who completed, after learning for four cycles, became 100% of students who completed the minimum standards.

Some recommendations of this research are as follows. First, for school principals, this research can be used to guide teachers to try various kinds of varied learning models. Second, for research teachers, it can be used as a reference to carry out learning using varied learning models and can increase student activity and learning outcomes at each meeting. Third, research researchers can make the best use of the results of this research and can apply the results of the findings obtained for the benefit of education to improve the quality of education.

REFERENCES

Al-Tabany (2017). *Konsep, Landasan, dan Implementasinya Pada kurikulum 2013 (Kurikulum tematik Integeraatif).* Jakarta: Kencana.

Alkhateeb, M. A., & Milhem, O. A. Q. B (2020). Student's concepts of and approaches to learning and the relationships between them. Cakrawala Pendidikan, 39(3), 620–632. https://doi.org/10.21831/cp.v39i3.33277.

Amberansyah, M. (2017). Meningkatkan Hasil Belajar PKn Menggunakan Kombinasi Model Pembelajaran Group Investigation (GI), Means-Ends Analysis (MEA) dan Word Square Pada Siswa Kelas IV SDN Teluk Dalam 11 Banjarmasin.. Prosiding. *Seminar Nasional PS2MP ULM,* 3(1), 110-121.

Amberansyah, S. N. (2018). Upaya Peningkatan Proses Pembelajaran PKN Pada Materi Keputusan Bersama Melalui Model Student Team Achievement Division (STAD) Dikombinasikan Dengan Numbered Head Together (NHT) Dengan

Scramble Pada Kelas VB SDN Pelambuan 7 Banjarmasin Barat. *Jurnal Penelitian Tindakan dan Pendidikan*, *4*(1).

Amelia, R., & Qausar, M. L. (2019). Meningkatkan Aktivitas dan Hasil Belajar Siswa pada Muatan IPA dengan Kombinasi Model Inkuiri Terbimbing (IT), Mind Mapping (MM), dan Course Review Horay (CRH) pada Siswa Kelas IV Sdn Kelayan Selatan 9 Banjarmasin. *Seminar Nasional PS2MP ULM*, *5*(1), 107-116.

Amrullah, M. F. (2020). *Pengunaan Kombinasi Model Pembelajaran ExPlint Instruction, Mind Mapping, dan Make A match Dalam Meningkatkan Aktivtas Pembelajaran IPA Materi Siklus Air Tema 8 Lingkungan Sahabat Pada Siswa Kelas V SDN Sungai Jinggah 6 Banjarmasin.* Skripsi. Banjarmasin: Universitas Lambung Mangkurat.

Duda, H., Herawati, S., & Newcombe, P. (2019). Enhancing different ethnicity science process skills: Problem-based learning through practicum and authentic assessment. International Journal of Instruction, 12. 1207-1222. http://doi.org/10.29333/iji.2019.12177a

Erliza, D. (2018). *Penerapan Model Pembelajaran Inkuiri Terbimbing Untuk Meningkatkan Hasil Belajar Siswa Pada Mata Pelajaran Ipa Di Kelas V Min 11 Banda Aceh.* Skripsi. Banda Aceh: Universitas Islam Negeri Ar-Raniry.

Fahrisa, N. (2019). Implementasi Model Student Facilitator And Explaining Kombinasi Snowball Throwing dan Team Games Tournament Materi Jaring-jaring Kubus dan Balok Pada Siswa Kelas V SDN Sungai Jingah 7 Banjarmasin. *Seminar Nasional PS2MP ULM*, *5*(1), 63-72.

Hardianti, T., & Kuswanto, H. (2017). Differences between levels of inquiry: improvement of process skills in senior secondary schools in Indonesia. International Journal of Instruction, 10(2), 119-130. ttps://doi.org/10.1088/10.12973/iji.2017.1028a

Hasriati. (2020). *Model Pembelajaran berbasis Permainan Tradisional Bugis Makasar "Ma Boy"*. Bandung: CV Media Sains Indonesia.

Herliana. (2018). *Meningkatkan AktivitasBelajar Siswa Materi Energi Panas dan Bunti Menggunakan Kombinasi Model Contextual Teaching and Learning (CTL), Number Head Together (NHT), dan Snowball Throwing di SDN Basirih 8 Banjarmasin.* Banjarmasin: Universitas Lambung Mangkurat.

Hidayahtullah. (2019). *Meningkatkan Aktivitas belajar Siswa Tema daerah Tempat Tinggallku muatan PPKN materi keberagaman karakteristik Individu menggunnakan model pembelajaran Group Investigation dikombinasikan dengan Number Head Together, dan make A Match pada siswa kelas IVB.* Banjarmasin: Unversitas Lambung mangkurat.

Ismail, M. E., Samsudin, M. A., Mohd Amin, N. F., Kamarudin, N., Mat Daud, K. A., & Halim, L. (2018). Contributing factors to science achievement in TIMSS Malaysia: Direct model and indirect model. International Journal of Engineering & Technology, 7(4.30), 423–428. https://doi.org/10.14419/ijet.v7i4.30.22354.

Jannah, F. (2017). Penerapan Model Pembelajaran Kooperatif Tipe Student Team Achievement Division (STAD) dipadu Inkuiri untuk Meningkatkan Aktivitas dan Hasil Belajar IPA Siswa Kelas V SDN 2 Telang Kabupaten Hulu Sungai Tengah. *Paradigma*, *10*(1).

Juita. (2019). *Meningkatkan Hasil Belajar IPA melalui Metode Eksperimen pada Isswa Kelas IV SDN 02 Kota Mukomuko.* . Mukomuko: Indonesian J Interger Sct Education.

Juliartini, & Arini. (2017). *Penerapan Model Pembelajaran NHT untuk Meningkatkan Hasil belajar IPA Siswa keals III, Journal*

of Education action Research, 7 (1) 242-243.

Kelana, J.B., Robandi, B., Jajang B.J. (2022). Inquiry Model: How to Improve the Ability of the Nature of Science and Its Aspects in Elementary School?. *International Journal of Elementary Education, 6 (2), 325-332.*

Khuzaimah. (2019). *Meningkatkan hasil Belajar tema Ekosistem Komponen Ekosistem dengan Muatan IPA menggunakan Model pembelajaran Group Investigation dikombinasikan dengan NHT dan talking Stick pada Siswa kelas Vc SDN karang Mekar 5 Kota banjarmasin.* Skripsi. Banjarmasin: Universitas Lambung Mangkurat.

Intan Ika Ashhabul Maimanah, Suryanti, & Nadi Suprapto. (2020). Development of an Inquiry-Based Science Learning Material Using Flash Card to Reduce Misconception of Elementary School Students. *IJORER : International Journal of Recent Educational Research*, *1*(2), 178-190. https://doi.org/10.46245/ijorer.v1i2.35

Nurwahid, F. (2017). *Strategi Pembelajaran Inkuiri Dalam meningkatkan Pemahaman Orang Tua Tentang Pola Asuh Program Parenting PAUD Strawbery Kota Salatiga.* Semarang: Universitas Negeri Semarang.

Pahriadi., Supriyatman., & Mirnawati. (2020). The Influence Of The Snowball Throwing Cooperative Learning Model On Learning Outcomes Sdn 4 Banawa. Journal of Education, 8(2), 19-29. 10.1088/1742-6596/1742/1/012039

Purdiyanto, Johanes Sapri, Kristiawan, M., Badeni, Arifarahmi.(2022). Natural Science Learning Results Using the Conventional Method and the Snowball Throwing Method. *International Journal of Multicultural and Multireligious Understanding, 9 (1), 249-259.*

Purwanti, R., Suriansyah, A., Aslamiah, A., & Dalle, J. (2018). Introducing Language Aspect (English) to Early Childhood through The Combination of Picture and Picture Model, Talking Stick Model, Flashcard Media, and Movement and Song Method In B1 Group at Matahariku Bilingual Kindergarten Landasan Ulin Tengah Banjarbaru, Indonesia. *European Journal of Education Studies*.

Putri, A. (2019). Implementasi Kombinasi Model Team Assisted Individualization, Numbered Heads Together, Team Games Tournament untuk Meningkatkan Aktivitas Belajar Siswa PKn Pada Siswa Kelas V SDN Pengambangan 9 Banjarmasin. *Seminar Nasional PS2MP ULM*, *5*(1), 167-178.

Putra. (2013). *Desain Belajar mengajar Kreatif Berbasis Sains.* Yogyakarta: Diva Press.

Rachmadtullah , R., & Wardani. (2016). *Peningkatan Hasil Belajar Pendidikan kewarganegaraaan Melalui Metode Pembelajaran Contextual And Learning*, 1. *Jurnal Pendidikan Dasar 7 (1), 11-21*

Risda. (2020). *Meningkatkan Hasil Belajar Siswa Muatan IPA menggunakan Kombinasi Model Student Team Achievement Division, Contextual Teachingand Learning dan Snowball Throwing padaKelas IV SDN Alalak Tengah 1 Kota Banjarmasin.* Skripsi. Banjarmasin: Universitas Lambung Mangkurat.

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

Sugiyono, P. D. (2012). Metode Penelitian Pendidikan (Kuantitatif, Kualitatif, Kombinasi, R&d dan Penelitian Pendidikan). Metode Penelitian Pendidikan.

Suhaimi, S., & Nasidawati, N. (2020). Meningkatkan Aktivitas Belajar Siswa Materi Bangun Ruang Menggunakan Kombinasi Model Problem Based Learning, Numbered Head Together dan Course Review Horay dengan Media Bangun Ruang Kelas V/C SDN Handil Bakti. *Lentera: Jurnal Pendidikan*, *15*(2), 74-86.

Suriansyah, Aslamiah, Sulaiman, & Noorhafizah. (2014). Strategi Pembelajaran. Jakarta: PT Raja Grafindo Persada.

Susanto, A. (2013). *Teori belajar dan pembelajaran di Sekolah Dasar* . Jakarta: Prenadamedia Group.

Susianti, K., Santi, T. m., & Wulandari, D. (2020). *Metode Pembelaajaran dalam Pendidikan.* Tinta Merah Indoneia.

Widayanti, D. (2018). *penggunaan Model Pembelajaran TGT untuk meningkatkan Motivasi dan hasil belajar menyakini Adanya Hari Akhir Pada Siswa Kelas VI SDN 3 jaten kecamatan Sellogiri Kabupaten wonogiri Semester 1 tahun Pelajaran 2018/2019*, 5.

Wiyoko, T., & Munfa'ati, M. (2022). Analisis pelaksanaan model pembelajaran number head together (nht) dan pengaruhnya terhadap hasil belajar IPA. *Jurnal Muara Pendidikan*, *7*(2), 238-243. https://doi.org/10.52060/mp.v7i2.990

Wulandari, A., Alberida, H., Ardi., & Fitri, R. (2021). The Effect Of Applying Learning Model On Natural Science Competence: Literature Study About Snowball Throwing. Journal of Atrium Biology Education, 6(1), 35-43. https://doi.org/10.29103/ijevs.v1i6.1679

Zaim. (2016). The Implementation Of Scientific Approach In Teaching English At The Tenth Grade Of Senior High School 7 Padang. *Jurnal Pendidikan Bahasa, Sastra, dan seni, XVII* (1), 1-18. DOI: 10.24036/komposisi.v17i1.8113