Indonesian Journal of Elementary Teachers Education (IJETE)
p-ISSN: 2615-2606 & e-ISSN: 2615-7853
Volume 2, Number 1, May 2021
https://journal.uniku.ac.id/index.php/ijete

INVESTIGATING SCIENCE LEARNING IN ELEMENTARY SCHOOLS: CLASS ACTION RESEARCH ON SAVI LEARNING MODELS

Juhji[1*], Devi Anggraeni[1], Teguh Fachmi[1]
[1] Universitas Islam Negeri Sultan Maulana Hasanuddin Banten, Indonesia
*juhji@uinbanten.ac.id

Citation: Juhji, J., Anggareni, D., & Fachmi, T. (2020). Investigating Science Learning in Elementary Schools: Class Action Research on SAVI Learning Models. *Indonesian Journal of Elementary Teachers Education, 2*(1), page 13-19. DOI:10.25134/ijete.v2i1.4039

Received: 15-02-2021 **Accepted: 27-05-2021** **Published: 31-05-2021**

ABSTRACT

The inactivity of students in the classroom becomes a problem in science learning, thus impacting their learning outcomes. This investigation aims to analyze the results of students' science learning through the SAVI model. Class Action research from Kemmis and Mc. Taggart is used as a research method. Multiple choice test instruments on valid science learning and learning implementation observation sheets are used as research instruments. The results of the investigation showed an increase in the results of science learning in grade 4 elementary students, this can be seen in the percentage of changes in completion of their learning results from 55.2 percent to 89.7 percent. This study provides recommendations for teachers to apply the SAVI model in classroom learning to improve students' science learning outcomes.

Keywords*: Science learning, science learning outcomes, SAVI model.*

INTRODUCTION

The science learning outcomes are an acquisition obtained from student learning activities, which results in a person being able to change attitudes and behaviors. The learning outcomes reflect the authentic achievements of student competencies obtained from the learning process in the classroom, measured through tests and non-tests, and poured affective, cognitive, and psychomotor (Juhji, 2020). Students' learning outcomes are carried out through a series of learning processes. Their teacher then assesses in an integrated manner, and students are said to be successful if they can obtain learning outcomes above the minimum criteria set. However, based on the facts, there are still learning outcomes of students who have not achieved minimal standards.

According to Pane and Dasopang (2017), interpreting learning is a process of behavior change and science. Besides, Kiswoyowati (2011) defines learning as a process of behavior change thanks to experience and practice. Meanwhile, Simbolon (2014) defines learning as a change in behavior or appearance with a series of reading, observing, listening, and imitating. It means that learning is a mental and psychic activity in an active environment, resulting in changes in the management of understanding. Whereas according to Juhji (2018), learning is the process of seeing, observing, and understanding something learned. Thus, the learning process must produce maximum learning outcomes, affective, cognitive, and psychomotor,

because learning is an active process of all individual situations (students). But, there are still students who have not achieved the learning outcomes with the set learning objectives.

Science is one of the main lessons in the national curriculum in Indonesia, including at the elementary school level. In general, activities in natural science are related to experimentation. The natural science learning process emphasizes the direct experience of learners to understand the environment scientifically (Juhji, 2018). The process of natural science learning is emphasized not only on products but scientific processes and attitudes (Juhji & Nuangchalerm, 2020) because the nature of science consists of these three components. Therefore, the natural science learning process must be planned to make it easier for students to capture and understand the content delivered, this is because the students have different capture skills. Therefore, teachers should have a comprehensive understanding of science and how to teach natural science in order to achieve the goals that have been set.

Various efforts are made by researchers and teachers so that students' science learning outcomes achieve the goals that have been set. The application of learning models, methods, and media are introduced and practiced in schools. Such as the application of the Snowball Throwing model (Hujaemah *et al*., 2019), the use of Concept Maps (Juhji, 2017), the use of PowerPoint media (Akhlaghi & Zareian, 2015; Syaepudin & Juhji, 2020), the use of Card Sort media (Nugralia *et al*., 2019), the application of Children Learning in Science (Febriati *et al*., 2019), the use of Pop-up Book media (Lestari & Farhurohman, 2020), experimental methods (Herawati *et al*., 2019) and so on. Recent research has found that the Google Meet app affects students' learning interests (Septantiningtyas *et al.,* 2021). This is all done to help students to make their learning outcomes optimal. However, the application and use of learning models are not the only things that affect learning outcomes. There are many factors that influence student learning outcomes.

Based on the observations at one of the elementary schools in Cisoka Subdistrict, Tangerang, during the science learning process in the classroom, some students can respond to teachers' questions, while others are just silent. When teachers explain style material, students only listen to their Teacher's explanations, and they don't do hands-on learning like experiments. The use of props is only done in the classroom, although it is limited. Their learning outcomes also did not show encouraging learning outcomes. Observed science learning outcomes of students of style materials showed 21 percent achieved completion of learning, and 79 percent of students have not reached the criteria of completion of learning. The interviews with students stated that science is one of the lessons considered difficult by them.

Sutarna experimental research (2018) reported improved student learning outcomes after applying the SAVI learning model. Several other studies have also noted that the SAVI model influences student learning outcomes (Yudiari *et al.*, 2015; Anas & Syafitri, 2019). The SAVI model has the advantage of being able to train students to express their opinions on the subject matter. Students are more active in completing the teacher's exercises to grow their confidence to be higher and effectively applied to all subjects (Rosalina & Pertiwi, 2018). Based on the above problems, researchers use the SAVI model in the classroom's science learning process. SAVI model is characteristic: learning by doing and moving (Somatic), learning by speaking and hearing (Auditory), learning by observing and describing (Visualization), and learning by solving problems and thinking (Intellectually). Simply put, the SAVI model emphasizes that learning should make use of all the senses students have (moving, hearing, observing, and thinking). This action research investigates how to improve the results of students' science learning style material through the application of the SAVI model.

RESEARCH METHOD

This study uses class action research. Planing, action, observation, and reflection as research stages have been conducted and researched fourth-graders in Cisoka elementary schools in Tangerang. A total of 29 students who had varied learning and comprehension styles were selected as research subjects. The research instrument uses a multiple-choice test of 23 items and a SAVI learning model implementation sheet. Multiple-choice tests are given to students after they have learned, while SAVI learning model implementation sheets are provided to observers and observed when researchers conduct learning in the classroom. This class action research's success is seen from the average grade score, which is more than 70, and the minimum completion score achieved by 80 students. In contrast, the indicators of the implementation of the SAVI learning model are seen from the percentage of learning syntax.

RESULTS AND DISCUSSION

The results of class action research on 29 grade 4 students of Cisoka State Elementary School 2 Tangerang Regency of Banten Province can be seen in the Table 1.

Table 1. Results of Class Action Research on Science Learning at Cisoka State Elementary School 2

Score	Pre Cycle		Cycle 1		Cycle 2	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
90-100	0	0.0	0	0.0	3	10.3
80-89	0	0.0	0	0.0	15	51.7
70-79	6	20.7	16	55.2	8	27.6
<70	23	79.3	13	44.8	3	10.3
Number of students	29	100.0	29	100.0	29	100.0
A complete number of students	6	20.7	16	55.2	26	89.7
Number of incomplete students	23	79.3	13	44.8	3	10.3

Based on Table 1 above, in the pre-cycle, six students get grades between 70 and 79. It means that 21 percent of students have degrees above the graduation criteria, while another 79 percent have not reached the graduation criteria. There was also an average student score of 56 and a percentage of the incompleteness of 79 percent. The results of this pre-cycle study illustrate that most students have not achieved learning completeness, so research needs to be continued in cycle one by reflecting on the pre-cycle. Pre-cycle problems observed that the use of dominant lecture methods and incomplete learning media inhibited learning activities. Students' curiosity was not visible and caused low test results.

Cycle 1 consists of four stages: planning, action, evaluation, and reflection. Several things need to be prepared, such as preparing a learning implementation plan, creating grids and indicators of learning outcome tests, and preparing props tailored to essential competencies. At this stage of action, researchers act as Classroom Teachers who teach using SAVI learning models with props' help. It is done so that the students do not feel that they are being researched, accompanied by the Class Teacher as an observer. Observation activities are carried out during the learning process. All observed activities are recorded and collected based on the prepared observation sheet. At the evaluation stage, students are given multiple-choice tests related to the materials they have been taught. The provision of this test aims to analyze their abilities after following the learning process. Student learning results in the

learning process in the first cycle observed had completed as many as 16 students or 55 percent. Meanwhile, there are 13 students, or as many as 45 percent of students have not met. That is, in this cycle one, there are still students who are not complete.

After the action and evaluation, some obstacles become obstacles in the learning process of the SAVI model, such as students' understanding of style materials is still low, explanations of researchers (Teachers) must be done so that students are motivated, the use of props in providing examples should be associated with the daily lives of students, and researchers (Teachers) do not utilize all the support related to style materials in science learners so that they have difficulty in understanding the subject matter. Therefore, based on these reflections' results, it is necessary to reflect on the improvement of the following action.

Cycle 2 also consists of four stages, namely: planning, action, evaluation, and reflection. Researchers prepare to learn tools consisting of learning implementation plans in cycle 2, test questions, and props used by the style material at the planning stage. At the action stage, the implementation of learning activities at the scene of cycle two is carried out in grade IV with 29 students. In this implementation, researchers act as teachers to conduct learning activities by the plan that has been made before. Learning activities are carried out under the learning plan made to improve the learning process in cycle two so that errors or shortcomings in cycle one do not repeat themselves in cycle 2. Teachers carry out observation activities during the teaching and learning process and students' and teachers' activeness in the teaching and learning process activities. In the evaluation phase of cycle 2, students are given a test to know their success rate during the teaching and learning process that has been done. At the stage of cycle two, 89.7 percent of students achieved the Minimum Completion Criteria. It shows that SAVI's learning model for improving students' learning outcomes has fulfilled completeness criteria. After the learning process in cycle 2 is done, it can be concluded that the SAVI learning model can improve the learning outcomes of Grade IV ID students at Cisoka 2 State Elementary School.

In the pre-cycle stage, it was observed through the test results that the Teacher gave the students, that there was 79 percent of students getting test scores below 70, and only 21 percent of students got a test score above 70. This means that the students still do not understand the material that has been taught. The lack of students in understanding science subjects in style materials is due to them getting conventional information, such as lectures. This causes them to get bored in studying style material in science subjects. In addition, their lack of involvement in the learning process makes the second reason. Nugralia *et al* (2019) state that the lecture method causes the learning process to be passive. Herawati *et al* (2019) and Febriati *et al* (2019) also stated the same thing. Student involvement in the science learning process becomes important because it is empirically proven to affect student learning outcomes.

In cycle 1, student learning outcomes increased significantly, observed as many as 16 students or 55 percent were completed. Meanwhile, 13 students (45 percent) have yet to complete. Nevertheless, the learning process continued in cycle 2 because the achievement of the completion percentage is still below 80 percent. In this cycle, researchers have successfully implemented the SAVI model in science learning in the classroom because it is proven to effectively improve student learning outcomes. This is in accordance with the research results of Amalia and Hastuti (2020) that the learning model of SAVI (Somatic, Auditory, Visual, and Intellectual) can influence the learning outcomes of science students. The SAVI model can empirically improve student learning outcomes because it has advantages such as it can awaken the full integrated intelligence of students (Tyas, 2014; Indrawan, 2018; Dewi & Negara, 2020), students do not forget easily because they build their own knowledge (Tyas, 2014; Alfiani, 2016; Dewi & Negara, 2020), and the atmosphere in the learning process becomes fun and fun.

In cycle 2, students' learning outcomes increased dramatically. As observed in Table 1, as many as 26 students or 89.7 percent were completed. This shows that the SAVI model is proven to improve students' learning outcomes. However, there are only 3 students, or 10.3 percent who are not yet complete. In theory, the SAVI model has advantages such as: combining physical motion with intellectual activity and learning conditions to be conducive to developing student learning motivation (Amini, 2015). In addition to the advantages, the SAVI model also has disadvantages such as Teachers must be able to integrate the four components of SAVI as a whole into the learning process carried out (Sihwinedar, 2015). In addition, the SAVI model also requires completeness of facilities and infrastructure that are able to provide support to the syntax of the SAVI model, although the needs can be adjusted to the existing situation and conditions. The successful application of the SAVI model in science learning of grade 4 students of Cisoka State Elementary School 2, Tangerang Regency of Banten Province reinforces previous findings that empirically the SAVI model can improve student learning outcomes, such as the findings of Yudiari *et al* (2015), Sutarna (2018), and Anas and Syafitri (2019). Students' learning outcomes are also influenced by factors such as the application of the snowball throwing model (Hujaemah *et al*., 2019; Setiyowati, 2019; Ningsih, 2020), the use of concept maps (Ezeudu, 2013; Juhji, 2017), use of PowerPoint media (Akhlaghi & Zareian, 2015; Syaepudin & Juhji, 2020), the use of Card Sort media (Doebel & Zelazo, 2015; Nugralia *et al.*, 2019), application of children learning in science model (Osborne & Freyberg, 1985; Febriati *et al.*, 2019; Indriyani & Desyandri, 2019) and so on.

CONCLUSION AND RECOMMENDATION

This research reinforces previous researches that the SAVI model can improve students' science learning outcomes. It is evident that there is an increase in the percentage of their learning completion in science learning in each cycle. A drastic increase was observed in cycle 2. This research recommends teachers be able to apply the SAVI model in the science learning process conducted in their classrooms so that the students' learning outcomes can increase dramatically.

ACKNOWLEDGMENTS

Thank you to the Principal and Teacher at Cibugel State Elementary School 2 District Cisoka Tangerang Regency Banten Province who has provided a place for this research.

REFERENCES

Akhlaghi, M., & Zareian, G. (2015). The Effect of Powerpoint Presentation on Grammar and Vocabulary Learning of Iranian Pre-University Efl Learners. *Academic Research International*, *6*(1), 160.

Alfiani, D. A. (2016). Penerapan Model Pembelajaran SAVI (Somatis, Auditori, Visual, Intelektual) Terhadap Hasil Belajar Anak Usia Dini. *Awlady: Jurnal Pendidikan Anak*, *2*(1).

Amalia, M., & Hastuti, S. (2020). Pengaruh Model Pembelajaran SAVI Terhadap Hasil Belajar IPA Siswa Kelas V. *Jurnal Pendidikan Fisika Dan Sains (JPFS)*, *3*(1), 1–5.

Amini, R. (2015). Pengembangan Model Pembelajaran Konsep Dasar IPA SD Menggunakan Pendekatan SAVI. *Pedagogi: Jurnal Ilmu Pendidikan*, *15*(1), 34–39.

Anas, N., & Syafitri, K. (2019). Pengaruh Model Savi (Somatic, Auditory, Visual Intellectual) Terhadap Hasil Belajar. *Nizhamiyah*, *9*(1), 37–47.

Dewi, A. T. Y. R., & Negara, I. G. A. O. (2020). Pengaruh Model Pembelajaran (SAVI) Berbantuan Multimedia Terhadap Kompetensi Pengetahuan IPA. *Mimbar PGSD Undiksha*, *8*(1), 40–49.

Doebel, S., & Zelazo, P. D. (2015). A Meta-Analysis of the Dimensional Change Card Sort: Implications for Developmental Theories and the Measurement of Executive Function in Children. *Developmental Review*, *38*, 241–268.

Ezeudu, F. O. (2013). Influence of Concept Maps on Achievement Retention of Senior Secondary School Students in Organic Chemistry. *Journal of Education and Practice*, *4*(19), 35–43.

Febriati, Y., Saefurohman, A., & Juhji, J. (2019). Efektivitas Penerapan Model Children Learning in Science terhadap Pemahaman Konsep IPA. *Ibtida'i: Jurnal Kependidikan Dasar*, *6*(1), 29–40.

Herawati, L., Saefurohman, A., & Juhji, J. (2019). Pengaruh Metode Eksperimen Terhadap Pemahaman Konsep Siswa MI Pada Materi Sifat dan Perubahan Wujud Benda. *Primary : Jurnal Keilmuan Dan Kependidikan Dasar*, *11*(01), 69–76.

Hujaemah, E., Saefurrohman, A., & Juhji, J. (2019). Pengaruh penerapan model snowball throwing terhadap hasil belajar ipa di sekolah dasar. *Muallimuna : Jurnal Madrasah Ibtidaiyah*, *5*(1), 23–32.

Indrawan, K. A. (2018). Pengaruh Model Pembelajaran Somatic Auditory Visualization Intellectualy Berbantuan Lingkungan Hidup Terhadap Hasil Belajar IPA Siswa. *Jurnal Ilmiah Sekolah Dasar*, *2*(1), 60–68.

Indriyani, D., & Desyandri, D. (2019). The Influence of Children's Learning on Science (CLIS) Model on Student Learning Outcomes Integrated Thematics on Class IV SD. *International Journal of Educational Dynamics*, *1*(2), 25–32.

Juhji, J. (2017). Upaya mengatasi miskonsepsi siswa pada materi sistem saraf melalui penggunaan peta konsep. *Jurnal Formatif*, *7*(1), 33–39.

Juhji, J. (2018). *Model pembelajaran IPA untuk calon guru SD/MI*. Serang: CV. Media Madani.

Juhji, J. (2020). *Pembelajaran IPA Berbasis Keterampilan Proses Sains (Konsep dan Aplikasi)*. Serang: CV. Media Madani.

Juhji, J., & Nuangchalerm, P. (2020). Interaction between Scientific Attitudes and Science Process Skills toward Technological Pedagogical Content Knowledge. *Journal for the Education of Gifted Young Scientists*, *8*(1), 1–16.

Kiswoyowati, A. (2011). Pengaruh Motivasi Belajar Dan Kegiatan Belajar Siswa Terhadap Kecakapan Hidup Siswa. *Portal Jurnal Universitas Pendidikan Indonesia*, *2*(1), 12–16.

Lestari, D. A., & Farhurohman, O. (2020). Pengaruh Media Pop-up Book Terhadap Motivasi Belajar dan Kemampuan Berpikir Kritis pada Siswa Kelas IV MIN 1 Serang. *Primary: Jurnal Keilmuan Dan Kependidikan Dasar*, *12*(2), 155–166.

Ningsih, R. I. (2020). The Influence of Snowball Throwing Cooperative Learning Model on Elementary School Students' Math Content Learning Outcomes Literature Studies. *International Journal of Technology Vocational Education and Training*, *1*(2), 194–199.

Nugralia, S., Habudin, H., & Juhji, J. (2019). Pengaruh Penggunaan Strategi Card Sort terhadap Hasil Belajar IPA Materi Sumber Energi (Pre Eksperimen Siswa Kelas IV SD Negeri Kemang Kota Serang). *Ibtida'i: Jurnal Kependidikan Dasar*, *6*(01), 79–94.

Osborne, R., & Freyberg, P. (1985). *Learning in Science. The Implications of Children's Science.* ERIC.

Pane, A., & Dasopang, M. D. (2017). Belajar Dan Pembelajaran. *Fitrah: Jurnal Kajian Ilmu-Ilmu Keislaman*, *3*(2), 333–352.

Rosalina, E., & Pertiwi, H. C. (2018). Pengaruh Model Pembelajaran SAVI (Somatis, Auditori, Visual, dan Intelektual) terhadap Kemampuan Komuniasi Matematika Siswa. *Jurnal Pendidikan Matematika: Judika Education*, *1*(2), 71–82.

Septantiningtyas, N., Juhji, J., Sutarman, A., Rahman, A., & Sa'adah, N. (2021). Implementation of Google Meet Application in the Learning of Basic Science in the Covid-19 Pandemic Period of Student Learning Interests. *Journal of Physics: Conference Series*, *1779*(1), 012068.

Setiyowati, E. (2019). The Effect of the Snowball Throwing Method on Changes in Brushing Behavior in 4th Grade Children at Surabaya. *Central African Journal of Public Health*, *5*(6), 287.

Sihwinedar, R. (2015). Meningkatkan Hasil Belajar Ipa Melalui Penerapan Model Pembelajaran Savi (Somatis, Auditori, Visual, dan Intelektual) Pada Siswa Kelas III SDN Rejoagung 01 Semboro Tahun Pelajaran 2013/2014. *Pancaran Pendidikan*, *4*(4), 137–148.

Simbolon, N. (2014). Faktor-Faktor Yang Mempengaruhi Minat Belajar Peserta Didik. *Elementary School Journal Pgsd Fip Unimed*, *1*(2), 14–19.

Sutarna, N. (2018). Pengaruh Model Pembelajaran SAVI (Somatic Auditory Visual Intellectualy) Terhadap Hasil Belajar Siswa Kelas IV Sekolah Dasar. *Profesi Pendidikan Dasar*, *5*(2), 119–126.

Syaepudin, S., & Juhji, J. (2020). The Effect of Using Powerpoint Media on Student Learning Outcomes in the Material Adaptation of Living Things. *Pedagogi: Jurnal Penelitian Pendidikan*, *7*(1).

Tyas, E. N. (2014). Peningkatan Keterampilan Proses dan Hasil Belajar Subtema Tugasku Sehari-hari di Rumah Menggunakan Model Pembelajaran SAVI Pada Siswa Kelas II SDN 1 Bolo. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, *4*(3), 68–82.

Yudiari, M. M., Parmiti, D. P., & Sudana, D. N. (2015). Pengaruh Model Pembelajaran SAVI Berbantuan Media Mind Mapping Terhadap Hasil Belajar IPA Siswa Kelas V. *Mimbar PGSD Undiksha*, *3*(1).