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The use of visual, auditory, kinesthetic (VAK) learning to increase student learning outcomes

Muspratiwi Pertiwi Muslimin Rosdiana[1,*], M. Muslimin[1], F. Firmansyah[2]
[1]Universitas Negeri Makassar, Indonesia
[2]Universitas Papua, Indonesia

*Corresponding author, email: muspratiwibill10@gmail.com

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Abstract: This study uses classroom action research. The research objective is to apply the visual, auditory, kinesthetic (VAK) learning model to improve student learning outcomes. The subjects in this study were teachers and students of grade IV primary school totaling 24 students. Data collection techniques used are observation, tests, and documentation. Actions have been done as much as 2 cycles. Data is calculated using percentages. The findings reveal that the learning outcomes of cycle I are in the sufficient category, and there is an increase in cycle II which is in the good category. The conclusion in this study is that the application of VAK learning can improve the learning process and student science learning outcomes.

Keywords: Auditory, kinesthetic, learning, science learning, visual

Abstrak: Penelitian ini menggunakan penelitian tindakan kelas. Tujuan penelitian adalah menerapkan model pembelajaran visual, auditory, kinesthetic (VAK) untuk Meningkatkan hasil belajar siswa. Subjek dalam penelitian ini adalah guru dan siswa kelas IV sekolah dasar berjumlah 24 siswa. Teknik pengumpulan data yang digunakan yaitu observasi, tes, dan dokumentasi. Tindakan telah dilakukan sebanyak 2 siklus. Data dikalkulasi dengan menggunakan persentase. Temuan menungkapkan bahwa hasil belajar siklus I berada pada kategori cukup, dan terjadi peningkatan pada siklus II yang berada pada kategori baik. Kesimpulan pada penelitian ini adalah penerapan pembelajaran VAK dapat meningkatkan proses belajar dan hasil belajar sains siswa.

Kata kunci: Auditori, kinestetik, pembelajaran, pembelajaran sains, visual

INTRODUCTION

Weak learning process is a problem that exists in the world of education. One way to measure the level of success of students in the learning process is learning outcomes. Learning outcomes are results that have been obtained by students after certain efforts, both observable and measurable changes in behavior, knowledge, attitudes, and skills. The learning outcomes are everything or results that students get in the form of grades after participating in the learning process of all subjects that have been taught, the form of assessment is in the form of an assessment of attitudes, skills, and changes in behavior (Huang et al., 2019; Larson et al., 2018; Matorevhu & Madzamba, 2022; Nwafor et al., 2022; Pambudi et al., 2022; Zannah et al., 2018).

The learning process that occurs in the classroom, there are problems that are commonly encountered in achieving a learning goal. One of the problems that are often encountered in the learning process is that the learning outcomes obtained by students are

still not optimal (Beluan et al., 2018; Samara et al., 2018). the factors that influence student learning outcomes are from within the student and the surrounding environment. According to Taiyeb and Mukhlisa (2015), the factors that impact learning outcomes may be separated into two categories: internal and external. Knowledge, abilities, interests, physical well-being, motivation, and enthusiasm for learning are examples of internal elements. External influences are those that are external to the person, such as the home environment, the school, and the community.

Pingge and Wangid (2016) stated that the causes of student learning difficulties originate from internal factors (from within the learner) including intellectual, self-confidence, study habits, ability to remember, hear, and feel. While those originating from the quality of learning, and the instruments used in the learning process. In an effort to achieve educational goals, various teaching materials are needed. One of the materials taught in elementary school is force and motion. Style and motion are material given and taught in schools, this material is not only explained verbally but requires activities that involve students actively moving in demonstrating it. According to Tuken and Pasinggi (2018) suggests that the learning process will be more effective if students are assigned directly to work and experience it for themselves, think critically, make observations and draw conclusions.

The learning process will run effectively and optimally if students are directly involved and experience it for themselves, not just listening to the teacher's explanation, with this it is hoped that it can provide a direct and more meaningful learning experience for students (Lelasari et al., 2021; Vargas-Hernández & Vargas-González, 2022; Wege et al., 2022). Successful teachers are teachers who are able to have the ability to foster, encourage, and provide motivation as well as being role models for their students who are ultimately able to improve the quality, potential and learning outcomes to be achieved by students. Arsana (2011) suggests that the learning style possessed by each student can influence the learning outcomes they obtain, because each individual's learning style is a combination of physical, emotional, psychological and environmental factors.

Every teacher needs to apply the three learning modalities in the learning process at school. Each individual has a different learning style and the ability to understand the lesson is different. There are students who understand information by just looking at a picture, there are students who understand the lesson if they only listen to the teacher's explanation and there are also those who understand the lesson when they are directly involved either in terms of practicing or conducting experiments. The selection of various learning models is very important and becomes a major thing, but it does not rule out the possibility that many teachers experience difficulties in applying an appropriate model to achieve learning objectives.

Based on the results of observations, it was found that many students whose learning outcomes had not reached the minimum learning mastery standards. The reason is that in a

learning process it is influenced by two aspects, namely the teacher aspect and the student aspect. On the teacher aspect, namely the teacher has not involved students in the learning process, especially in conducting experiments, the teacher has not applied many different learning models and the teacher has not applied the three modalities of learning styles. This indicates that when the instructor controls the learning process using the lecture technique, question and answer sessions, and exercises, students with an auditory learning style gain immediately.

On the student aspect, namely students listen more to the teacher explaining the material, students do not pay attention to the material being taught by the teacher and students are less active in learning. This was proven by researchers by obtaining data from the class teacher about the daily scores of 24 students consisting of 11 boys and 13 girls, only 10 students reached the minimum standard with an average score of 70 and above, so there are still 14 students. students who have not reached the minimum standard. The details are 6 male students who have not achieved a score of ≥ 70 and 5 male students who have achieved a score of ≥70 while 8 female students who have not achieved a score of ≥70 and 5 female students who have achieved a score of ≥70 .

Based on the problems faced in the class, the solution that can solve these problems is to apply the visual, auditory, kinesthetic learning model (VAK) which is expected to be used by teachers in helping students to accommodate the three learning styles possessed by students so that students can also provide direct learning experience to students so as to improve the process and learning outcomes. Several studies have revealed that VAK learning has an impact on learning outcomes (Chairad et al., 2019; Khoirunnisa & Iba, 2022; Sary et al., 2020). The VAK learning model is a learning model that involves students' learning styles and makes use of all the sensory devices that students have which is carried out with activities that involve students directly to practice or are directly involved in conducting experiments (Ikawati & Kowiyah, 2021). Opinions are in line with those expressed by Sari (2019) based on Edgar Dale's cone of experience, it is concluded that if we are directly involved in doing it, the more senses we use, the greater our ability to understand and remember something from the learning experience.

Tuken and Pasinggi (2018) suggests that there are three types or types of student learning styles, namely visual, auditory, and kinesthetic types. The visual type is a learning style using the sense of sight, meaning that students learn faster by seeing using their sense of sight. Auditory type is the type of learning by using the sense of hearing. And the kinesthetic type is the type of learning by working directly, moving and touching.

The characteristics of learning styles according to Zagoto et al. (2019) suggest that the visual type learning style has a specific characteristic, namely; meticulous, remembers what is seen rather than what is heard, frequently responds to questions with short yes or no answers, prefers to make presentations rather than just listening to lectures, understands things more quickly through visual animations such as picture books and videos, and prefers

art. The auditory learning style is characterized by being an intelligent or fluent speaker who enjoys giving ideas and describing things in depth, who finds it difficult to write but is adept at conveying/presenting tales, and who enjoys music. The kinesthetic learning style is characterized by constantly being physically oriented and moving a great deal, learning by manipulating and practicing, memorizing/remembering by walking/seeing, employing a great deal of bodily signals, and having difficulty sitting still due to a strong urge to explore.

According to Labu (2021) suggests teachers should do the following things in the learning process, as it is known that if the characteristics of the learning style are visual, the teacher invites students to try to illustrate their ideas in pictures so that students make it easier when they remember something. The characteristics of the auditory learning style can do things such as the teacher providing information repeatedly, the teacher uses the question and answer method, role playing, group work. The characteristics of the kinesthetic student learning style can do things such as the teacher giving tasks to kinesthetic students in the form of applied projects demonstrating concepts while providing opportunities for students to learn them step by step, and using learning media or aids, or visual aids when teaching

The steps in the VAK learning process according to Awalina et al. 2016) consist of the visual stage which is implemented using the observing method, hold Auditory which is implemented using the listening while observing method, the Kinesthetic stage demonstrates or is directly involved in carry out experiments or experiments. Meanwhile, according to Shoimin (2014) it consists of four stages, namely the preparation stage, the delivery stage, the training stage and the results display stage. This study has the goal of knowing the improvement of students' learning processes about style and motion by using the Visual, Auditory, Kinesthetic (VAK) learning model.

METHOD

This type of research is classroom action research at one of the fourth grade primary schools in Sidrap Regency. In this class action research process carried out using 2 cycles. Classroom action research (CAR) steps include planning, acting, observation, and reflection (Arikunto et al., 2016).

In the research process stage, researchers used several instruments including the observation sheet used to collect data through observation during the learning process. For taking student learning outcomes, 20 multiple choice questions were made (written tests) and carried out on students after the implementation of the learning process actions had ended. The test was given to all grade IV students. Documentation is used to find out the condition of the school as a place of research that contains student data. The test results will be used to reflect on students' understanding of the content of the material provided. From the results of observations and written tests given to students after being analyzed can be used as a basis for further action (cycle).

RESULTS AND DISCUSSION

The results achieved through CAR were carried out in two cycles. Each cycle consists of four stages: planning, implementing, observing, and reflecting. Each cycle takes place in one meeting and applies the VAK learning model to emphasize improving student learning outcomes.

The success of implementing VAK learning can be seen from the results of observations made by researchers in collaboration with observers in the learning process. The results show that there are still stages that have not been fully implemented optimally, namely at the preparatory stage the teacher needs to provide motivation as the beginning of the implementation of learning. At the stage of delivery (Exploration) the enthusiasm of students in participating in VAK learning activities is still lacking. Even though students pay attention or listen to the explanation conveyed by the teacher and are quite capable of demonstrating, there are still students who do not dare to answer questions posed by the teacher based on their opinions for fear that the answers given are wrong. Then at the training stage and the results performance stage the teacher still needs to guide students to be active in discussing with their groups. There are several groups who do not understand how to do the experiment. In addition, the cohesiveness of students in working in groups is not optimal because students prefer to chat with their peers.

The research results obtained after its implementation are quite satisfactory. The findings of this research can be seen after conducting individual evaluation tests. Based on the results of the final evaluation test in cycle I, there were 16 students who scored above the SKBM or ≥70 with an average score of 69.16%. 8 of them still haven't reached the SKBM. However, these results have not been able to meet the previous standard set by the researchers, namely ≥70. By looking at these data, the researcher tried to do research again by fixing the problems that existed in cycle I and continuing the research process to cycle II. The problems found from the teacher's aspect are that the teacher is still not good at presenting material, the teacher needs to explore student knowledge, as well as the lack of reinforcement provided by the teacher and not grouping students in an orderly manner. As for the student aspect, one of them is that students are less orderly in the division of groups. The questions submitted by the teacher are based on their opinion because they are afraid that the answers given are wrong. Then at the training stage and the results performance stage the teacher still needs to guide students to be active in discussing with their groups. There are several groups who do not understand how to do the experiment. In addition, the cohesiveness of students in working in groups is not optimal because students prefer to discussion with their peers.

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In the second cycle the teacher has made efforts to improve in overcoming the deficiencies that occurred in the first cycle, namely guiding students to participate actively and orderly in group division. The results obtained show rapid progress. Based on the results of the final evaluation test after the researchers re-implemented VAK learning in cycle II. An increase was found based on the results of the final evaluation of cycle II. There were 21 students who scored ≥ 70 so that they met the minimum criteria, while 3 students did not achieve. This shows that the increase in learning outcomes with an average value of reaching 77.08% and can be said to have met the minimum criterion value of ≥ 70. There are changes that occur in the learning process that has been carried out, becoming a trigger in increasing the average value student evaluation.

The VAK learning is focused on providing direct experience by seeing (visual), learning by hearing (auditory), and learning by movement and emotional (kinesthetic) (Ferreira & Rodríguez, 2022; Kusumawarti et al., 2020; Zulfadewina et al., 2020). In addition, VAK learning makes group learning and each student is required to play an active role so as to make learning more active and effective. The use of this learning also invites students to combine the three learning styles. Students have achieved the indicators previously set, namely student learning outcomes can be said to have increased if ≥ 76% of students in the class meet the minimum criteria of 70, therefore based on observations and reflections carried out, it shows that the predetermined success targets have been achieved because Therefore, the researcher is considered successful in carrying out the research and the research process being carried out is stopped.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that implementing VAK learning can improve the learning process and learning outcomes of class IV primary school students. The research results obtained suggest that teachers should apply VAK learning because it is very well applied to increase motivation, cooperation, student learning interest and student learning activeness so as to improve student learning processes and outcomes.

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