

## SCIENCE LEARNING BY UTILIZING NATURAL RESOURCES AT KAK SETO'S HOMESCHOOLING

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Submitted: 24/01/2023

Revised: 25/03/2023

Accepted: 15/05/2023

Published: 21/07/2023

### Abstract

The purpose of this study is to describe the planning, implementation, and evaluation of the use of natural resources in learning science at Kak Seto's homeschool. This study used a descriptive qualitative research method with data collection techniques in the form of observation, interviews, and documentation related to natural resources and natural science learning at Kak Seto's homeschooling. The data analysis technique used is the triangulation technique, namely by reducing data, presenting data, and verifying or concluding. The results of the study found that in the planning aspect, the teacher checks and recapitulates the lesson plans once a month, and in the implementation aspect, the teacher conducts learning using contextual learning methods by utilizing natural resources in the form of wind in the windmill material. In the evaluation aspect, the teacher evaluates using LKS and communication books.

### Keywords

Home Schooling, Natural Resources, Science Learning



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## INTRODUCTION

The educational process facilitates the realization of the full potential of individuals, enabling them to achieve goals related to self-control, self-confidence, and valuable self-skills. These results are beneficial not only for individuals but also for society, the nation, and the state. According to (Didik et al., 2016), the core part of education is to describe a directed and organized effort aimed at fostering a desire for the acquisition of knowledge and a methodical approach to teaching among students. The ultimate goal is to encourage the development of spiritual toughness, religious piety, self-discipline, individuality, cognitive intelligence, noble character, and skills that are beneficial not only for oneself but also for society, the state, and the nation. The inclusion of learning materials that facilitate the learning process can be said to be a supporting factor for the potential success of the learning process.

Learning is a series of activities that contain information and an environment that is arranged in a coherent manner to make it easier for students to learn. According to (Rahmawati, 2020), the environment in question is not only in the form of a place but rather the models, methods, and equipment used as supports in learning. In addition to imparting knowledge, it is the educator's job to create an environment that encourages student involvement in asking, observing, experimenting, communicating, and uncovering facts and concepts independently. The presence of engaged students has been observed to be positively correlated with academic achievement, leading to an increase in overall performance. Therefore, it is very important to include a fun educational experience.

The contribution made by the teacher is the most important for the continuous achievement of students during the learning process. Therefore, a teacher must have the ability to pay attention to the various aspects involved in it. The instructor must be able to evaluate class performance to ensure that each topic is sufficiently covered. Because of the way students usually assimilate different meanings from one another. Therefore, a teacher is required to be able to design a method of conveying information to students that is different from the methods used by other teachers in order to attract students' attention to the learning process.

Homeschooling has now become a phenomenal form of alternative education, with an emphasis on accommodating the maximum potential of a child's intelligence. Besides that, it is also seen as an alternative to avoid the negative environmental influences that will be faced by children in public schools when studying. Homeschooling (homeschooling) is organized within the National

Education System under the Division of Non-Formal Education (Purnamasari et al., 2017).

Homeschooling is used as an alternative school in the community; in essence, homeschooling is a school where parents and children choose to determine goals, methods, and approaches that are adapted to the conditions and needs of children (Reichenbach et al., 2019). Based on the understanding that a person learns by utilizing various types of intelligence, This means that individual learning varies across all parts of human potential, where individual differences stem from bio-psychological and cultural factors influencing skills and even abilities. (Studi et al., 2022).

In the world of education, there are formal (school) and non-formal (community or outside school) educational pathways. Schools that use formal channels in the educational structure have a very strategic distribution to contribute to achieving formal education goals because the curriculum used is designed in such a way with various studies or special analyses to formulate it. According to (Haerullah, H., & Elihami, 2020), the educational process that is applied outside of school (non-formal) also has a very important effect on the intellectual life of the nation, where the design that is launched is inseparable from expanding the talents and attractiveness of each individual.

In general, the current development of homeschooling in Indonesia is categorized into three contexts. One of them is the supporting factor for homeschooling, namely the diversity of intelligence (Mahdini & Sari, 2020).

Several factors support homeschooling, one of which is the diversity of intelligence, which is one of the educational theories that have an influence on the development of homeschooling and is commonly referred to as the theory of multiple intelligences. Humans have types of intelligence, including linguistic wisdom, logical-mathematical intelligence, visual-spatial intelligence, body-kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence, and environmental intelligence (Faizul et al., 2022).

Several studies are relevant to this research; Research conducted by the previous research conducted (Rahmawati, 2020) entitled "Utilization of the Environment as a Learning Resource at Mim Pundungrejo in the 2019/2020 Academic Year on the Utilization of the natural environment as a Source of learning in science for fourth-grade shows that the use of the environment as a source of learning can give students the widest possible opportunity to explore information through discovery and direct experience, and learning becomes more interesting and fun. Research conducted (Bahij et al., 2018) entitled "Utilization of the surrounding natural environment as a teaching medium at Sirah Pulo Padang 2 Public Elementary School". From this research, they made a picture guidebook for

the use of the surrounding natural environment (PLAS) and an RPP for the use of the surrounding natural environment (PLAS). The similarities between previous researchers and those I researched were that they both used media to learn science. The difference is that previous research made picture books using the surrounding natural environment and made lesson plans, while my research made use of the surrounding natural resources in science lessons.

Research conducted (Widya, 2017) entitled "Efforts to Utilize the Environment as a Learning Resource to Improve the Quality of Integrated Science Learning Outcomes with a Scientific Approach for third-grade Students of SD Negeri 11 Padangsembian in the 2014/2015 Academic Year. This research aims to find out whether there is an increase in student achievement regarding science lessons through the use of the environment as a learning resource. Research conducted (Didik et al., 2016) entitled "Effectiveness of Utilizing the School Environment as a Learning Resource for Science Learning Outcomes of fourth-grade Students at SD Inpress Btn Ikip I Makassar. This research aims to find out whether the use of the school environment is an effective learning resource for science learning outcomes. Research conducted (Anindita & Sidabutar, 2020) entitled "Utilization of the Nature-Based Environment as a Learning Resource for fifth-grade at SD 1 Tirenggo Bantul. From this research, we identify the types of nature-based environments that are used as learning resources, describe the steps for utilizing the natural environment as a learning resource, and find out the obstacles and solutions used.

At the elementary school level as well as at the non-formal school level, there are a number of subjects, one of which is natural science, which is often referred to as science learning, which is then shortened to IPA. Learning Natural Sciences (IPA), namely innovative learning that has a close relationship with the natural surroundings directs teachers to use the environment as a learning resource. According to (Dessty et al., 2018), science learning is an active process and is strongly influenced by students' curiosity about what will be learned. According to (Rosita, 2018), "learning resources are sources that support learning, including components supporting material and the learning environment. According to (Niswati, 2020), the material supporting components include learning modules. The use of modules can provide broad and varied knowledge by using modules in addition to the books used by students in school. Support from aspects of the environment around the school is one of the learning resources that can be optimized for the attainment of quality educational methods and outcomes for students. Learning resources available at school include, for example, various plants, such as ornamental plants, that can be used as targets for observations

related to science material. The purpose of this study was to describe the planning, implementation, and evaluation of the use of natural resources in learning science at Kak Seto's homeschool.

## METHOD

This study uses a qualitative approach to explore the use of natural resources in science learning for elementary-level students at Home Schooling Kak Seto Solo (HSKS). Sources of data in this study include the general manager of homeschooling as the person in charge of achieving an institution. The general manager was named Anna Widyati, S.Pd., M.M. The homeschooling principal is fully responsible and has authority over program implementation. The school principal is named Tantri Andani S.P.D. The data source for this research involved a grade 3 tutor named Apriliani Eva Saputri S.P.D. and a grade 6 tutor named Siti Hapsari S.P.D. Interviews are used as a method to collect data for the purpose of this investigation. The first interview was conducted by the general manager, principal, class 3 tutor, and grade 6 tutor. Observations were made to observe the environment around Kak Seto's homeschooling, the method used by the tutor at Kak Seto's homeschooling during learning, the infrastructure used in Kak Seto's homeschooling, and the condition of students who are formal or those with special needs. Documentation is used to obtain information about the conditions at Kak Seto's Home Schooling, tutors, curriculum, number of students, teaching and learning programs, and conditions around Kak Seto's Home Schooling that are used as student learning activities. Documentation related to the utilization of natural resources in natural science learning at Kak Seto's homeschooling includes administration data for lesson plans for science subjects and evaluation results that can be used by researchers to enrich the information needed.

The data is to use data triangulation techniques that include data reduction in this study regarding the use of natural resources in science learning for Kak Seto's homeschooling students. The data in this study was collected by utilizing natural resources around Kak Seto's homeschooling in science learning. In the utilization of natural resources, such as plants, water, and rocks around the school environment, and drawing conclusions about the use of natural resources in basic science learning.

## FINDINGS AND DISCUSSION

### Findings

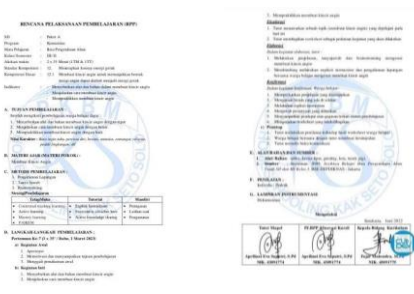

#### Tutor Planning for Utilizing Natural Resources in Science Learning

From the aspect of tutor planning in the utilization of natural resources in science lessons for homeschooling students from the planning aspect of tutor utilization of natural resources in natural science learning for homeschooling students, Kak Seto is carried out. Preparation or planning, which includes: coordination with the head of the curriculum sector; meetings to discuss lesson plans for all tutors from elementary to high school levels; tutors can make lesson plans directly and collect them; the collection is usually done every month to be precise, every Wednesday; and the date is flexible.

Based on the results of observations, which show that at Home Schooling Kak Seto every fourth week of the month and usually held on Wednesday, Home Schooling Kak Seto always holds a meeting to check and recap lesson plans. In meetings, tutors are usually able to complete lesson plans for just a few meetings; some can finish up until the middle of the semester or even one semester.

This is reinforced by the results of the documentation of lesson plans for tutors in utilizing natural resources in science lessons, as presented in Table 1.

**Table 1.** Planning

No	Information	Figure
1.	Learning Implementation Plan with Natural Science Subjects for the Third Grade Even Semester and Time Allocation of 2x35 Minutes	
2.	Checks and recaps of the learning implementation plan are carried out once a month and in the 4th week.	

From some of the descriptions above, it can be concluded that planning or preparation is carried out at Kak Seto's Home Schooling prior to the implementation of learning by means of the

organizer checking and recapping the lesson plan, which is carried out once a month in coordination with the head of the curriculum sector to determine goals in applying the concept of motion energy. Students are expected to be able to name the tools and materials for making windmills correctly, explain how to make windmills correctly and practice making windmills properly. The media to be used are folding paper or origami scissors, glue, toothpicks, and mobile phones. The learning resources used are integrated, thematic learning modules. The material to be delivered is the "energy of motion" to make windmills. The learning method used is contextual learning. Allocation of time used: 2 x 35 minutes. Evaluation using worksheets and communication books

### **Implementation of Science Learning Applied to Utilizing Natural Resources**

From the aspect of implementing learning, results were obtained. In the implementation of learning, there are initial, core, and closing activities. In the implementation of science learning by utilizing natural resources around the tutor, the tutor must look at what the material will be like, and if it requires the surrounding environment, then the solution is to use other visual media. It can be pictures or something that is difficult for us to reach, for example, Komodo dragons. It's impossible for the tutor to bring them to the room, so the tutor can use pictures or videos.

Based on the results of the observations, it was shown that the implementation of learning was carried out on Wednesday, February 22, 2023, in class 3. The implementation of learning at Kak Seto's homeschooling in utilizing natural resources was carried out in class 3 with the material topic "Applying the Concept of Motion Energy" by using the contextual teaching and learning method.

From the several opinions and explanations above, it can be concluded or known that the implementation of learning will take place on Wednesday, February 22, 2023, in class 3. The tutor takes the learning material, namely "Energy of Motion." During the process of implementing learning using the contextual teaching method, the tutor opened the lesson with preliminary activities, core activities, and closing activities. In the implementation of learning, there are several components determined, namely as follows:

#### **a. Learning objectives**

Based observations show that the tutor conveys the learning objectives so that students can name the tools and materials for making windmills correctly, explain how to make windmills, and practice making windmills well from the aspect of learning objectives obtained by the results of analyzing and formulating competencies and material contained in learning outcomes.



From some of the opinions and explanations above, it can be concluded or known that the learning objectives have an important role in achieving three aspects of competence, namely knowledge, skills, and attitudes, acquired by students in one or more learning activities.

### b. Instructional Media

From the aspect of learning media, the results show that learning media is a supporting tool for the success of learning. Learning media can be used after the tutor knows the material. If the learning medium is not available in the surrounding environment, the tutor will look for other alternatives, such as looking for pictures on the internet or videos that have a lot of content on the internet.

Based on the results of observations, it was shown that the learning media used in grade 3 were in the form of folding paper, origami scissors, glue, toothpicks, and cellphones. This is reinforced by the results of the documentation presented in Figures 3 and 4 contained in Table 2.

**Table 2.** Implementation

No	Information	Figure
1.	The media used during the implementation of learning are folding paper (origami), scissors, glue, toothpicks, and cell phones.	
2.	The media used during the implementation of learning are cell phones.	

Based on the description above, it can be concluded that the media has a very important role as a tutor's tool in the learning process. The learning media in this study were folding paper, origami scissors, glue, toothpicks, and cell phones.

### c. Learning Methods



From the aspect of learning methods, the results show that at homeschooling, Kak Seto uses learning methods such as Contextual teaching, Active Learning, PAIKEM, brainstorming, and so on.

Based on the results of class 3 observations, it shows that the tutor uses the contextual



teaching and learning method. Includes the first syntax (modeling), the second syntax (questioning), the third syntax (learning community), the fourth syntax (inquiry), the fifth syntax (constructivism), the sixth syntax (reflection), and the seventh syntax (authentic assessment). This is reinforced by the results of the documentation during the learning implementation process, as presented in Table 3, Figures 5 and 6.

**Table 3. Learning Methods**

No	Information	Figure
1.	Implementation of learning using contextual teaching and learning methods with syntax modeling	
3.	Implementation of learning using contextual teaching and learning methods with syntax questioning	

From some of the descriptions above, it can be concluded that the method used by tutors during the learning process for the utilization of natural resources in learning science is contextual teaching.



#### **d. Learning Sources**

From the aspect of learning resources, the results show that at homeschooling, Kak Seto uses learning resources in the form of integrated thematic modules and learning modules for the 2013 curriculum. Integrated thematic learning modules are specially designed modules from the central homeschooling system used for low grades, namely first, second, and third classes while learning modules The 2013 curriculum is used for the upper grades, namely the fourth, fifth, and sixth classes.

Based on the results of observations in the implementation of science learning at Kak Seto's Homeschooling in the utilization of natural resources, tutors at Kak Seto's Homeschooling used learning resources, namely integrated thematic learning modules. In utilizing natural resources, the tutor chooses to utilize the surrounding air as the material of motion energy by using windmill media made of origami paper or folded paper. The outcomes of the documentation, as shown in

Table 4, figure 7 and 8:

**Table 4.** Learning Sources

No	Information	Figure
1.	The learning resources used for first until third grades use integrated thematic modules.	
2.	While for fourth until sixth grades, they use the 2013 curriculum.	


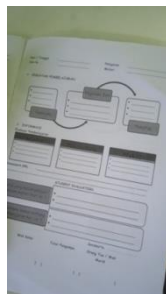
From the statement above, it can be concluded that the learning resources used in Kak Seto's homeschooling at the elementary level, specifically for low grades, use integrated thematic learning modules, while the natural resources used in science learning are wind (air), which is one of the renewable natural resources.

### Evaluation

From the aspect of evaluating the use of natural resources in science learning for homeschooling students of Kak Seto, the results show that the evaluation is in the form of a worksheet containing practice questions or can be in the form of oral or written question and answer, and the final evaluation is usually the tutor writing a communication book.

Based on observations, it shows that during the evaluation, the teacher evaluates the results of student worksheets, then the tutor and students draw conclusions together, and the last stage is the tutor writing a communication book. The results of the documentation of the evaluation are presented in Table 5, Figures 9 and 10:

**Table 5.** Evaluation

No	Information	Figure
1.	A worksheet is used to determine student learning outcomes.	
2.	Communication books are used to determine the cognitive, affective, and psychomotor development of students.	

From some of the descriptions above, it can be concluded that the evaluation of the use of natural resources in science learning for Kak Seto's homeschooling students is carried out through worksheets and communication books. Communication or liaison books are used as a liaison between tutors, parents, and students. With the existence of a communication book, students' parents can find out their child's development at school in terms of cognitive, affective, and psychomotor aspects, while worksheets are used as an assessment of student learning outcomes for tutors. Evaluation is carried out after studying one subject matter in oral or written form.


### Constraints Experienced in Utilizing Natural Resources in Learning Science

From the aspect of the constraints experienced in the use of natural resources in science learning, the result is that the difficulty is when the tutor needs natural resources that are not available around Kak Seto's Home Schooling, for example, Arnoldi's flower, which is impossible for the tutor to bring, or other examples related to animal mimicry or autotomy; there are no chameleon-like animals here, so the solution for tutors is to provide other media using YouTube videos or pictures.

Based on the results of observations in the utilization of natural resources in science learning at the elementary level of grade 3, which consisted of 3 students, it was found that the tutor had difficulties, namely difficulties in presenting types of natural resources, for example, rare plants such as the Rafflesia Arnoldi flower or rare animals such as chameleons. This is because these natural

resources are difficult to carry in the classroom, so the teacher only presents videos or pictures visually. This is reinforced by the results of the documentation presented in Table 6:

**Table 6.** Visual Present on Cell Phone

No.	Information	Figure
1.	Cell phone use in class	

From some of the descriptions above, it can be concluded that there are obstacles experienced by tutors, namely difficulties in presenting natural resources that are difficult to obtain, for example, plants or animals that are classified as rare and protected species. The solution is that the tutor can present it by visually displaying a video or image.

## **Discussion**

### **Teacher Planning in the Utilization of Natural Resources in Science Learning**

The research results from the planning aspect show that before starting the actual learning process, a tutor must first complete the lesson preparation, as shown by the findings of research conducted under the planning component. The goal is to make the learning environment more enjoyable, harmonious, and balanced while making it easier and more efficient to do so. Preparation of lesson plans is a type of learning that tutors do in a learning activity utilizing natural resources in science lessons.

Planning for the utilization of natural resources in natural science learning at home is to determine goals in applying the concept of motion energy. Students are expected to be able to name the tools and materials for making windmills correctly, explain how to make windmills properly and practice making windmills well. The media to be used are folding paper or origami scissors, glue, toothpicks, and mobile phones.

The learning resources used are integrated, thematic learning modules. The material presented is the energy of motion. The learning method used is contextual learning. Allocation of time used: 2 x 35 minutes. Evaluation using worksheets and communication books By checking and recapping the RPP once a month.

This is in line with the opinion (Rahmawati, 2020) that in the stages of preparing learning through the use of the environment, namely: the teaching preparation stage, the learning

implementation stage, and the evaluation stage,

The preparation for the learning process is first carried out by the instructor before the actual learning process begins. The aim is to create a fun, harmonious, and balanced learning environment while making it easier and more efficient to do so. Planning for the utilization of natural resources in science learning at Kak Seto's Home Schooling involves determining material, media, methods, learning resources, objectives to be achieved, time allocation, and evaluation.

It is also known that in Kak Seto's homeschooling, a tutor also needs to make the same preparations as teachers who carry out learning in formal schools. Even though the learning activities at Kak Seto's Home Schooling are non-formal, Kak Seto's Home Schooling also has similarities to formal schools in general. At Kak Seto's Home Schooling, learning must still be planned as optimally as possible so that the targets that the tutor wants can be achieved, such as administrative completeness.

### **Implementation of Science Learning Applied to Utilizing Natural Resources**

The results of the research are from the aspect of implementing science learning that is applied in utilizing natural resources with the topic "Applying the Concept of Motion Energy." By using the contextual teaching-learning method with the first syntax (modeling), the tutor in the initial activities does apperception, motivates and conveys learning objectives, explores initial understanding, and brings an object in the form of a windmill from folded paper through a video. This aims to provide an overview for students. About the "energy of motion" material

This is in line with (Bujuri, 2018), which states that the thinking abilities of elementary-age children (7–11 years) are at the level of concrete (real) thinking, not imaginary or something abstract. This shows that in learning at Kak Seto's homeschooling, students have been conditioned to start thinking concretely, or they learn concrete media that are deliberately presented by tutors. This is because it can facilitate the process of understanding for elementary students.

In the second syntax (questioning), the tutor gives a trigger question related to making windmills, and by allocating time for students to ask, this can condition students to think critically because they will start to have curiosity about the material tools brought by the tutor, which will become the motivation or enthusiasm of students to study at Kak Seto's Home Schooling. This is in line with (Hariyadi, 2014), who says that when the teacher asks questions or students ask this, it will open opportunities for them to study together so that there is interaction between tutors and students so that what will be learned can be understood when they collaborate. This shows that in

learning at Kak Seto's homeschooling, students have shown skills in asking questions related to projects in making windmills with the material "energy of motion."

The third syntax (learning community), In a collaborative learning environment, students with various levels of ability can engage in reciprocal teaching to facilitate shared learning. This approach involves more capable students providing assistance to their less able peers while also benefiting from the insights and perspectives of their peers. This is in line with (Mustadi, 2018) observation that learning communities lead to strengthening student character values because they create a caring community. This shows that in Kak Seto's homeschooling, students have developed the ability to help each other with other friends who have difficulty understanding the material "energy of motion."

In the fourth syntax (inquiry), the tutor invites students to experiment independently in making windmills in the material "energy of motion." This is in line with (Tiurlan, 2018) observation that students are able to identify and solve their own problems, thereby fostering a more dynamic and innovative learning environment. This shows that at Home Schooling Kak Seto, the tutor has shown a video showing how to make windmills so that students can experiment with making windmills.

In the fifth syntax (constructivism), the tutor prepares some materials for making windmills. Students can imitate the tutor when making windmills until they are the same as what the tutor made, and repeat the activity until they can make them. After this activity, students are able to build concepts about motion energy. This is in line with (Sugrah, 2020) observation that children go through stages where they accept ideas that they can later change or not accept; therefore, understanding is built step by step through the active participation and involvement of students. This shows that Kak Seto's homeschooling expects students to be able to understand knowledge and form an experience that they have made in the material "energy of motion."

Sixth syntax (reflection): the student, together with the tutor, makes a conclusion. In the seventh syntax (authentic assessment), the tutor evaluates the results of the student's worksheet and writes a communication book.

The implementation of learning at Kak Seto's Home Schooling is in accordance with the implementation of learning in the 2013 curriculum using the selected contextual teaching-learning method, which is also appropriate because it involves students finding out the benefits of wind as a natural resource that can be renewed in life, besides that in making windmills. The wind will also

increase the creativity of students. The method of implementing learning is a system, and like other systems, it consists of parts that are interconnected and depend on one another to achieve the goals outlined. The following is a list of components of the application of learning to use the environment:

**a. Learning objectives**

From the aspect of learning objectives in the use of natural resources, it is hoped that students can mention the tools and materials for making windmills correctly, explain how to make windmills, and practice making windmills properly.

This is in line with the opinion (Rozie, 2018), which states that learning objectives are said to be successful if they meet several of the following criteria: they are clear to all parties who use them; they are observable, measurable, demonstrated, and proven in a real and objective manner; they can be felt as something valuable for all parties; and they are realistic for all parties to achieve job satisfaction and motivation.

The tutor at Kak Seto's Home Schooling is good at making learning objectives; the tutor involves knowledge, skills, and attitudes in learning objectives, such as students' knowledge in mentioning and explaining making windmills, and skills and attitudes such as students can practice or make windmills directly.

**b. Instructional Media**

From the aspect of learning media, media is a concrete object that is used during the learning process. It is very important that the media used is in accordance with the material being taught so that students can understand the information provided. In the use of natural resources in learning science, the media used by tutors are folding paper or origami, scissors, glue, toothpicks, and mobile phones.

This is in accordance with the opinion (Kharismawati & Desstya, 2021), which states that the function played by learning media is very significant; topics can be communicated with the help of media that can be used as tools.

In this study, tutors have used learning media. The media used is in accordance with the material being taught. In utilizing natural resources in science lessons, the media used by tutors are folding paper (origami paper), scissors, glue, toothpicks, and mobile phones.

**c. Learning Methods**

The aspect of the learning method used by the tutor is the application of learning strategies. The contextual teaching and learning method in Kak Seto's homeschooling is used as a strategy in

learning that emphasizes the process of full student involvement in finding the material being studied and being able to plot ideas in a frame of mind.

This statement is in accordance with the opinion (Hasibuan & Pd, 2014), which states that the proposed educational approach aims to foster students' ability to build relationships between their existing knowledge and its practical application in daily routines. Moreover, it assists educators in bridging the gap between the subject matter they teach and the experiences of students in both academic and non-academic settings. This method integrates the seven basic pillars of effective education, which are as follows: modeling, constructivism, questioning, inquiry, learning community, reflection, and authentic research (assessment).

The tutor at Kak Seto's Home Schooling is very good at choosing learning methods. Teachers at Home Schooling Kak Seto use a very effective and efficient method because students will learn while doing it, so they understand it easily.

#### **d. Learning Resources**

From the aspect of learning resources, it shows that the learning resources used in Kak Seto's homeschooling at the elementary level, specifically for low grades, use integrated thematic learning modules, while the natural resources used in science learning are wind (air), which is one of the renewable natural resources and there are also various kinds of plants that can be used in Kak Seto's homeschooling.

This is in accordance with the opinion (Maulinda, 2022), which states that teaching modules play a very significant role in the entire learning process, both for teachers and students. In fact, it will be challenging for teachers to improve their students' learning effectiveness if there isn't a comprehensive teaching module to support it. Because the instructor does not present the information in a systematic manner, this is important for students. Submission of this information is most likely not in line with the curriculum that should be implemented. Therefore, teaching modules are the main medium for improving the quality of learning, which plays a positive role for teachers, students, and the learning process as a whole.

In this study, Kak Seto's Homeschooling has two different modules: the first is an integrated thematic learning module specially designed from the central Kak Seto's Homeschooling, which is used for students who are in grades 1, 2, and 3, while the 2013 curriculum learning module is used for students in grades 4, 5, and 6.



## **Evaluation**

The results of the research from the evaluation aspect show that the evaluation is carried out on science learning at Kak Seto's Home Schooling in each lesson so that it is easier for instructors to assess students' talent levels. Students may be motivated to engage in healthy competition with their peers through the use of evaluations. This is shown by the seriousness with which students answer questions; even though the answers may not be correct, they maintain confidence in their abilities while participating in learning. In most cases, tutors will fill out a communications book or contact book so they can track their students' progress. Based on the discussion and facts above, it can be concluded that this assessment is used to determine the amount of success achieved by students.

This is in line with the opinion (of Aulia et al., 2020), which states that when evaluating language learning in elementary schools, test and non-test techniques can be used.

Evaluation in Kak Seto's homeschooling is a step in the process of determining whether students have acquired the required skills or not. Evaluation has two objectives in the classroom: first, to determine the sequence of learning outcomes related to the learning objectives to be achieved, and second, to evaluate the relevant elements according to the order in which the planning, implementation, and design of the curriculum in a lesson occurred. Evaluation has a function in the classroom, including as a determinant of the sequence of student learning outcomes that are related to the goals to be achieved.

When students utilize natural resources in their educational activities, they experience growth in all aspects of their development, including cognitive, affective, and psychomotor. Based on the observations made, students do look active when given new assignments, such as making windmills that have never been made before, and are agile and confident when participating in the learning process. Students, overall, liked the time they spent studying science.

## **Constraints Experienced in Utilizing Natural Resources in Learning Science**

The research results from the aspect of the constraints experienced show that the obstacles encountered by tutors are the difficulty in presenting natural resources, which are still relatively scarce. This is in line with the opinion (Wahyu Hastufi, 2016) states that obstacles during learning can occur due to several factors, including constraints originating from students themselves related to misalignment of learning motivation, focus in learning, excellence in learning, and self-confidence that students have; constraints originating from the school environment, which includes the selection of learning methods and media that are in accordance with the abilities of students; and

constraints originating from the availability of learning supporting infrastructure.

In this study, the school environment was the main obstacle because tutors did not find natural resources related to the material "Living Things Around Us," namely, they found it difficult to present mimicry plants or animals such as chameleons and *Rafflesia Arnoldi* flowers, which are usually found in the Bengkulu region. This requires tutors to be creative and think outside the box by showing videos or visual images to make students' understanding relate to the material being taught.

## CONCLUSION

Based on the results of research at Kak Seto's Homeschooling, it can be concluded that: From the aspect of planning for the use of natural resources in basic science learning at Kak Seto's Homeschooling, it is carried out before the implementation of learning begins. The tutor determines a technical proof of learning, time allocation, scheduling, and assessment to be carried out, which can be seen by verifying and recapitulating the RPP every month. These methods include goals to be achieved, learning resources, content to be provided, learning media, and learning resources. From the aspect of implementing science learning that is applied to utilizing natural resources, it includes teaching materials used by tutors, namely the 2013 curriculum learning module for upper classes and integrated thematic learning modules for lower classes. The method used is contextual teaching and learning. Learning resources for utilizing natural resources tutors use natural resources that can be renewed in the form of air (wind) in the motion of an object and plants around. From the aspect of evaluating the utilization of natural resources in science learning at home, Kak Seto has been quite effectively implemented both in terms of the tutor aspect and the student aspect, which can monitor the presence and activity of both students and tutors. For evaluations carried out on the utilization of natural resources in science learning, tutors conduct evaluations through worksheets and contact books or communication books to determine student development from cognitive, affective, and psychomotor aspects. From the aspect of the constraints in utilizing natural resources in science learning, it includes the tutor's difficulties in bringing natural resources, which are rare and difficult to bring into the classroom.

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