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MODEL FOR THE DEVELOPMENT OF BASIC VALUES OF SCIENCE AND ENVIRONMENTAL AWARENESS THROUGH THE POTENTIAL OF TEACHERS' TEACHING STYLES, LEARNING STYLES AND STUDENTS' THINKING STYLES AT THE FIRST MIDDLE SCHOOL IN CIREBON CITY

Wahidin[1)], Sulfikar Sallu[2)]

[1)] *Universitas Siliwangi Tasikmalaya, West Java, Indonesia*
E-mail: wahidin@unsil.ac.id
Universitas Sembilanbelas November, Southeast Sulawesi, Indonesia
E-mail: vsulfikar.sallu@gmail.com

Abstract. Until now, teachers have not focused on developing basic science values, scientific thinking styles and environmental awareness of students in schools. Teachers in schools are preoccupied with pursuing curriculum targets for cognitive academic achievement. So, the indicator of student success is measured only by academic achievement. Meanwhile, critical thinking skills, creative, innovative and students' awareness of the environment are rarely measured as learning outcomes. In the science education curriculum at Indonesian Educational Personnel Education Institute (*LPTK*), this learning achievement has not been clearly defined. The purpose of this study is to examine the model of developing basic science values and environmental awareness through the teaching style of teachers, learning styles and thinking styles of junior high school students in Cirebon City. The research method used is the mix method. Samples were taken purposively and simple random from junior high school students who were the research targets. Data collection techniques were carried out by observation, in-depth interviews with teachers and tests on eighth class students using thinking skills test instruments and questionnaires. The results showed that the teacher's teaching style became a mental model for students in building thinking patterns, developing basic science values, and students' awareness of the surrounding environment. The science education curriculum in the *LPTK* environment needs to be reviewed, especially regarding the learning outcomes for the competence of prospective science teachers related to the competence to teach thinking skills and students' awareness.

Keywords**:** Teaching Style; Learning Style; Thinking Style; Environmental Awareness; Science Education Curriculum

I. INTRODUCTION

Many variables determine the success of education. So that educational success is not only determined by academic achievement, but other variables should be measured by the teacher. One of the important things that teachers often forget is the indicator of the success of education in the aspect of values and awareness. Values and awareness are difficult to measure, but these variables are very important in life. The basic values that must accompany academic abilities are values (science, religion, social, culture and human values). This matter is often forgotten by teachers, or indeed difficult to teach and measure by teachers in schools. As a result of this negligence, the impact is felt by the community. The "decline" of religious, socio-cultural, scientific and human values in society continues to occur. Many facts and information were witnessed by the public directly or through social media. Consciously or not, the flow of information in society continues to run very fast and massively. Even the irregularities made by teachers and even the State Apparatus are sometimes shown.

On the one hand, there seems to be an intellectual increase in society by increasing economic, cultural, political, and technological functions in society, but in terms of the function of meaning and value as part of educational outcomes, many events are beyond reason and common sense and show the failure of the education system in Indonesia. Indonesia at a macro level. All of these phenomena undermine social and human values which can lead to the disintegration of the nation. Education must be present in the context of functioning of the meaning and values of education for the Indonesian people in general. Research objectives, to map the skills of science teachers in teaching basic science values and environmental awareness to junior high school students in Cirebon City, to examine the factors that hinder classroom management and teach

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basic science values and environmental awareness to junior high school students in the city. Cirebon.

Science teachers, especially those who teach in junior high schools, have the values of science, scientific attitude, basic science knowledge and awareness of the environment been taught correctly? Does the teacher's teaching style become a medium and is able to transform these values in the life of the community where students are? This issue is quite meaningful for people's lives, because it is directly correlated with the science education curriculum in *LPTK*s. When the science teacher's ability map is low, the science education curriculum at the *LPTK* needs to be reviewed.

Literature Review

The teacher's teaching style is the overall activity of the teacher in front of his students when teaching. Of course, when the teacher presents himself, in delivering teaching materials, communication occurs, both social communication, academic communication, and communication of feelings that are human values. The appearance of the teacher (style) in communicating will affect learning outcomes (of course).

But apparently not necessarily in the context of meaningful values as learning outcomes. The concept of meaningful learning in addition to building scientific concepts constructively is also a follow-up effect (nurturant effect) obtained by students as valuable intake for students in life. Significant intake as a co-effect that accompanies the concept of science are; values of honesty, sympathy, empathy, objectivity, acceptance, self-confidence, responsibility, self-awareness, courage, openness, tolerance, humility, not being arrogant and arrogant, and so on which become valuable character building traits that are accumulated in the form of good movements. verbal and nonverbal.

The results of the study indicate that "children who grow up in a green park and tree environment, accompanied by a teacher's appearance that gives space for "feel", movement and freedom of thought to students show better results physically, psychologically and cognitively. In addition, negative features on children's social environment, including physical decay, environmental disturbances, crime and lack of cohesive communication lead to poor learning outcomes. (Aaron Reuben *et al.*., 2019).

Therefore, a teacher who is good at carrying out the learning process with the style he has in front of the class, being able to detect the learning styles of his students is an important part of educational success. The indicators of student learning styles which are characterized by both verbal and nonverbal movements of students are captured and responded to by the teacher as a form of academic and non-academic communication in front of their students. Learning communication like this is full of meaning. This is what will build student character which is a necessary effect trait in the learning process. As an example; "blinks", smiles, gestures including hands, raising the hands of students, students holding their heads and so on are then responded by the teacher with the same gestures but educative and affectionate are forms of effective communication of feelings in building character. The results of the study indicate that "the importance of detecting Learning Style Detection (LSD) learning styles by teachers based on students' abilities, assessment based on process skills and increasing student knowledge has not been addressed. The teacher creates a strengthening method for an adaptive learning environment based on students' cognitive skills (memory, concentration, perception, and logical thinking). The problem approach model in detecting student learning styles is based on cognitive skills and mapping of cognitive skills and learning objectives.

Teacher Skills in Teaching Science

Learning is a series of events or activities that are delivered in a structured and planned manner using one or several types of media to achieve certain goals, namely student competence (from cognitive, affective, psychomotor and creative aspects). Learning is a system that aims to help the student learning process which contains a series of events that are designed and structured in such a way as to influence and support the internal student learning process. The principles of learning "attract attention with something new, strange, contradictory, convey a purpose. The learning model has syntactic elements, social systems, reaction principles, support systems, and instructional and accompaniment impacts. The learning model is said to be successful if it is both in the process and in the product.

Learning Style

Learning style is a pattern of beliefs, knowledge, achievements and behavior of teachers in the classroom (Grasha 1996). learning model Grasa (1996) Seeing the teacher's role is divided into five parts, namely expertise, personal model authority, facilitator or delegator. The advantages of this model are due to a solid theoretical basis and the results of more than 20 years of study at the Higher Education level. Grasha has divided the teacher's rules into experts, individuals with authority, personal models, facilitators and delegates. The teacher as an expert means that he has in-depth knowledge, high proficiency and is very focused on transmitting information. Here is a table of Grasha Learning styles.

TABLE I

GRASHA 1966 LEARNING STYLE

Trend	**Feature shown**
Formal authority	Very structured and often provide feedback or responses
Personal model	Highlighting the characteristics of the teacher as a model showing the rules and procedures
Facilitator	Emphasize interaction. Guide students through problems, suggestions and give examples or activate students
Delegator	Seeing students as someone who has the ability to do work or assignments, and act as a personal response

Source: translated from Drasha. 1996. Teaching with style (p.154)

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Analysis of the literature shows that this construct originated in the cognitive style of the 1940s and turned into a learning style as researchers introduced new elements such as learning approaches and materials to suit a diverse range of students (Kirby, 1979). Some people think that cognitive styles are commonly used by psychologists in studies, while learning styles are used more in the form of applications in the field of education.

Grasha (1996) has introduced a learning style construct based on the characteristics shown by students when learning. The results of the study show that in a group of students there are individuals who learn competitively, collaboratively, avoid, actively participate, depend on others, and are individualistic or autonomous. Look at the table below;

TABLE 2

LEARNING STYLE GRASHA, 1996

Learning Style	Features shown
Competitive	Learn to cope with other students, get a good grade or attention from the teacher
Colaboratif	Feel they can learn with others through the collaboration of ideas and abilities
Dodge	Lack of interest in learning materials or avoid not participating in class when the teacher teaches
Actively participate	A good student, likes to attend the learning process in class and actively takes part and is obedient and obedient to the teacher's rules for each subject
Depend on others	Learn only what is needed, requires colleagues and teachers for materials and guidance
independent	Likes to be independent/independent, learns independently, is confident and learns to follow what he thinks is important

Source: translated from Grasha. 1996. Teaching with style. (p. 128)

There are studies that show that it is important for teachers, lecturers and students and students to have an appropriate thinking style for a conducive learning process in schools and universities. According to Trigwell and Prosser (1996) changes in teaching styles and learning styles in higher education institutions will be possible if teachers or lecturers and students change their vision of teaching and learning. Changes in vision can be made if both parties are aware of the impact of each other's styles on the quality of teaching and learning. This suggestion is supported by (Sternberg, 1997) who argues that in an organization a person's ability is not a determining factor for the individual's success, but the alignment between the individual's thinking style and the role played is more important and more important.

The results of the study on thinking styles also provide opportunities for teachers or lecturers to understand the types and styles of learning that are practiced and their effects on the learning process of students or students. Education is the core business of teachers and university lecturers and this task is complicated because of its very complex nature and especially intellectually challenging (Brown and Atkins, 1991).

Detecting Learning Style and Student Achievement

Student and graduate achievement and graduate skills are often linked to the teaching quality of teachers and lecturers. This is in accordance with the view that in order to produce quality students and students, teaching staff (teachers and lecturers) also need to control the learning process in class and lectures as well as teaching activities in an impressive manner. In this context Chickering and Gamson (1987) have explained that one of the factors that influence the quality of learning in higher education is active learning among students. In active learning there are seven principles that need to be carried out by teachers and lecturers, namely;

1) Fostering and establishing relationships with students
2) Promote collaboration between students
3) Promote active participation when studying
4) Respond quickly to students
5) Emphasize students to do assignments
6) Notification of high targets/ranges by teachers or lecturers
7) Respect the diversity of abilities and ways of learning.

Both figures have explained that education personnel play an important role in determining the quality of higher education institutions. Seven learning principles Chickering and Gamson (1987) argue that this is in line with Vygotsky's (1938) socio-cultural perspective on cognitive theory and constructivism principles (Woolfolk, 1999). For Vigotsky, the interaction between students and teachers and students and students provides scaffolding or temporary assistance in learning when the individual is in the zone of proximal development stage. According to the principle of constructivism, the formation of meaning (concept) and understanding (cognitive) by students can be accelerated through interaction between students and students (Woolfolk, 1999). An interactive and conducive learning atmosphere can be realized if teachers and lecturers are aware of the diversity of individuals in the classroom or in the lecture forum (Woods, et. all. 1999). Therefore, teachers and lecturers need to consider aspects of the diversity of thinking styles and learning styles in designing and implementing learning activities (Zalizan, 2000; Woolfolk, 1999; Tyson, 1998 and Sternberg, 1997).

According to Woods et al (1999) the teacher determines the tone or frequency of harmony in the classroom. In this case the teacher determines the learning atmosphere and the level of student motivation to learn. The same things also happen in Universities. The lecturers who teach come from different family and educational backgrounds. Therefore, they have their own learning style. The learning style of the teacher or lecturer is a pattern of beliefs, knowledge, achievements and behavior in the classroom (Grasha, 1996). Gregorc (1985) in Tyson (1998) asserts that the learning style carried out by teachers and lecturers has a very large (overhelming effect) influence and is the most important

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factor in determining the learning atmosphere. Style (stayle) not only gives an impression on the behavior of the lecturer but is also shown in learning as expressed by Tyson (1998; 2).

"When style is associated with teaching, it is called teaching style. It is believe that teachers make decisions based on their style in the areas of managing classroom, choosing methods and materials, emphasizing particular content areas, creating a classroom climate, and assessing students".

Students differ from various aspects such as physical characteristics, level of intelligence, emotional stability, interests and motivation. According to Tyson (1998), the aspect of student diversity that is getting the attention of educators and researchers is related to style. Style is an abstract and complex construct because style is a bridge that connects two aspects, namely the expression of personality in acting and the expression of ability tendencies (Snow et.al 1996). Haya is also a strategy that is used strongly in the face of a task. The results of previous studies show that style symbolizes the driving force, identity, goals and personal qualities of a person. According to Stenberg (1997) says that the style factor is more important than intelligence in determining the success of a student.

II. METHODS

The research method used is a mixed method (mix method). Qualitative methods of the learning process in the classroom to observe communication patterns and patterns of interaction between teachers and students, and students with students. Looking at student learning styles, teacher teaching styles are based on communication patterns and interaction patterns carried out in learning in the classroom. In addition, the qualitative method emphasizes more on observing and assessing students' non-academic learning outcomes, namely thinking styles, student learning styles and teacher teaching styles carried out in schools.

While the quantitative method is used to examine the academic learning outcomes (achievement) of students. The pattern of study from the qualitative-quantitative-qualitative method and returning to the beginning, namely the qualitative pattern, is an inseparable part. Qualitative data is used to design quantitative studies, and vice versa quantitative data is used to support and strengthen qualitative data. The techniques that will be carried out in this research are as follows;

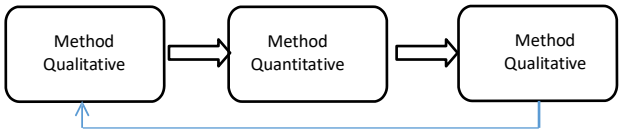

Figure 1. Research Techniques

The pattern (method) used above determines the steps in data mining, data analysis and discussion of the data used. While the final conclusion will still be used qualitative methods based on quantitative data conclusions.

The subjects of this research are 8th grade students of junior high school and science teachers who teach in the class concerned. The reason why junior high school is because students at this level of education are very decisive for the next character, students at this level are already able to receive information from various levels in society. junior high school students still allow for easy improvements to their mindsets, and students at the youth level are quite ready to receive information very easily.

The population of this research is junior high school in the city of Cirebon within 4 sub-districts around 12 schools/madrasas. The sample of this study will pay attention to the existing culture of the surrounding community, the background of parents and the lives of the surrounding community which are directly in contact with the lives of students in that location. Learning styles, teaching styles, students' thinking styles will be seen from the aspect of the location of the school, the condition of the teacher and the background of the teacher as well as the behavior of the lives of parents, teachers, and students in community life associated with the learning process in the classroom (school). The sample selection was done purposively and simple random. Purposive based on the location of the school, the background of teachers and parents as well as the pattern of their lives in society. Meanwhile, simple random selection was conducted to measure learning styles, teaching styles, thinking styles and student achievement at school.

Based on the method used, the research instruments used were interview guides, observation guides, cognitive tests and attitude scale tests. Each instrument will be compiled and validated according to the research objectives that have been designed. The instrument trial was conducted in schools that would not be the object of research.

The data collection technique that will be carried out is in accordance with the pattern (method) that has been built, namely qualitative-quantitative-qualitative. This sequence pattern determines the instrument. Qualitative Method. Quantitative Method.

Research data will be collected or excavated with the first interview, namely; 1) using an interview guide instrument, in-depth interviews were conducted with both individual science teachers. In addition to in-depth interviews, there was also an in-depth study of teaching styles, learning styles and focus group discussion (FGD) with science teachers to explore information about teachers' thinking styles when teaching. 2) In-depth interviews with some students in groups and individually with (parents) about the thinking styles and learning styles of students at school. Second, extracting data using an observation guide to the learning process in the classroom and in the school environment. Observations were made through video recordings to see the track records of students and teachers in communicating, social interaction, associated with thinking styles, learning styles and teaching styles. Third, through tests, extracting data for academic variables namely achievement (attitude, behavior and cognitive) is carried out by carrying out tests (both attitude scale tests and cognitive tests).

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III. Results and Discussion

A. *Analysis of the Teaching Style of Science Teachers in Schools*

The teaching style of teachers in schools shows communication patterns, behavior patterns and attitude patterns in front of their students. The pattern of communication is characterized by 1) curiosity, 2) critical thinking, 3) creativity, 4) open-mindedness and 5) cooperation. The results showed that based on the results of interviews and observations that were accumulated in the form of keywords found that were considered important in social communication between students and teachers and between students and students during the learning process. The following is a chart of the teacher's thinking style in learning:

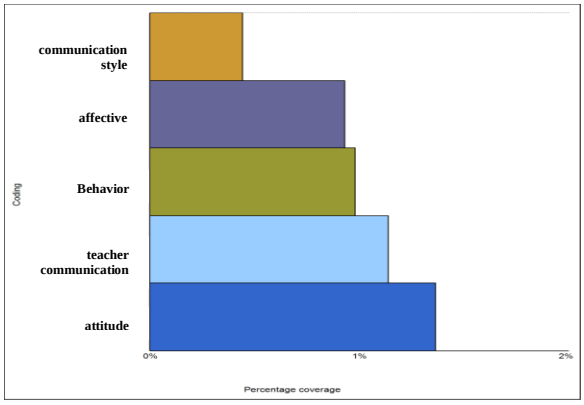

Figure 1: Teacher's Teaching Style

Figure 1 shows that the teacher's teaching style when performing in front of the class emphasizes the dimensions of attitudes, behavior, feelings, and communication styles (communication patterns). These dimensions appear when the teacher is in front of the class. The attitude dimension is a fairly dominant part of what the teacher does in front of the class. In addition, the dimensions of feeling and style.

Communication appears in the learning process. This is interesting because the teacher is a figure for students, so that transformation will occur during learning. In this context, attitudes are more dominant in the context of how to learn, in responding, in doing the tasks given by the teacher.

Communication patterns of teachers and students in learning when conversations are carried out either directly in class, or through social media. The following are the results of the analysis using Nvivo 12 about teacher-student conversations, and student-student conversations.

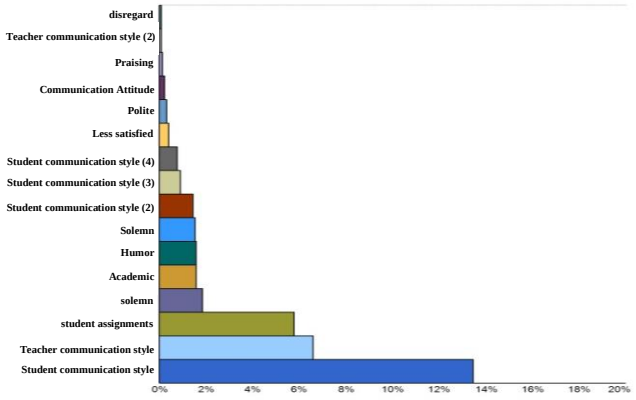

Figure 2: Communication Patterns of Teacher-Student Conversation, and Student-Student Conversation

Figure 2. shows the pattern of student-student communication, and teacher-student communication in one session of the learning process. The results of the Nvivo 12 analysis show that there are forms of communication that can build attitudes and basic science values. The dimensions that emerge from the smallest are indifference, teacher communication patterns, praise attitudes, behavior when communicating, polite behavior, dissatisfied attitude, student communication style, impolite, jokes, academic attitude, serious attitude, form of task, style teacher communication and student communication style. The data from observations and interviews show that the teacher is quite aggressive in setting an example in front of students. Even so, there are still a small number of students who are ignorant, want to be praised, and are not polite to their teachers.

The pattern of teacher-student communication when learning takes place in front of the class. The results of this study are quite interesting because in this session communication is dominated by student communication, not teacher communication. Communication style, humor appear as the dominant dimension in communication, this is important because it can build students' social attitudes. Serious attitude is also a dominant part that occurs when learning takes place. The results of this study provide information that teachers who are aggressive in providing information to their students will be responded positively by students in the form of the same activity and students will be serious if the teacher does the same thing.

Communication style with students' attitudes towards their teachers. The results of the study show that there is a mutually reinforcing relationship between teaching styles and student attitudes. The relationship between the student's communication style on the second day and the joking attitude is also determined by the student's communication style and the teacher's communication style. The student's communication style also determines the serious attitude among the students themselves. The results of the analysis show that the students' jokes and students' seriousness are inversely related to the teacher's communication style. When learning communication takes place, the highest serious attitude, academic attitude and humorous attitude appear.

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The pattern of written communication in social media. Communication is done through social media (Whats App) within 2 weeks, and more than 400 forms of communication have been collected, depicted in the following chart;

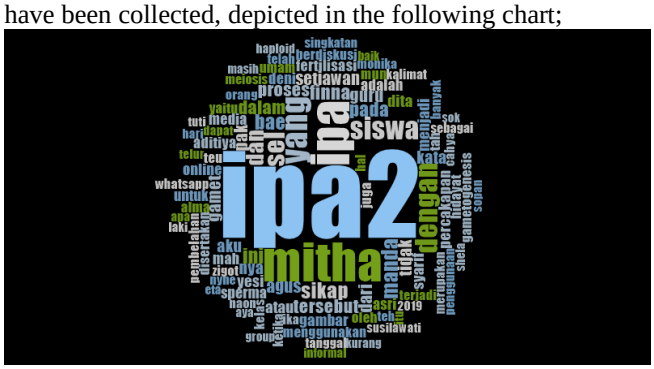

Figure 3. Conversations of students with teachers via social media

Figure 3 above, shows the pattern of student and teacher communication styles. The pattern of communication is very varied. The communication pattern shows the number of abbreviations, words in local languages, informal language, name calling, satire, subject matter, and languages that show students' attitudes in communication. This graph shows that most students admit feel proud of their class, so that the identity of class always appears when communication is carried out by students and students of class.

Discussion

The model for developing the basic values of science and environmental awareness can be taught in schools by teachers through the development of the learning process. The teacher's teaching style that encourages a lot of motivation, words that support students' thinking, physical action in the form of facial expressions, smiles that touch students' feelings because they are comfortable to respond to, appreciate all student actions are an important part that determines students' attitudes and behavior in communicating. The teacher's communication model through social media, which gives a little freedom in communication in WA, for example, builds students' freedom in expressing "unek-unek", desires, difficulties, and hopes so that patterns of thinking are built in students. The teacher's model in communication that increases student actions (abusive words, abbreviations, local language, informal language, smiles that are too free to laugh, satire, asking for words to be repeated, refusing teacher assignments, offending colleagues with satire, teasing with WA language, too short words, stickers, sending WA too often and sending WA outside the normal time limit) are part of the mental model that is built from teacher and student communication. The teaching style of this communication model is the current trend of millennial education. These findings need to be studied in the current science education curriculum in *LPTK*s. The frequency of communication between teachers and students, students and students through social media is part of the learning process (if you want to use it). The blended learning approach is a part that can be utilized.

Teachers in carrying out the current learning process are not just lectures, practices and assignments, but communication patterns using social media need to be developed over time. The teacher's acting in front of the class is part of the learning model, not just a learning model. Forms of communication between teachers and students in learning.

is part of the mental model that affects the attitudes, ways of thinking and communication skills of students.

Some of the findings of student research on teacher-student communication patterns in their thesis found many very important things. For example, social media can be used to support communication and communication exercises between students and teachers to instill basic science values. Agus (2019) said that "the features provided are very complete, making it easier for users to communicate by expressing feelings, thoughts and sending data in various forms. The form of teacher-student communication is quite varied, starting from a sense of humor, serious attitude to positive and negative attitudes. The conversations between students and teachers are in line with Agus (2019)'s findings, namely the attitude of using many abbreviations, the attitude of using informal terms, 3) the attitude of responding quickly to learning and respecting or liking the subject matter.

The attitude dimension of using many abbreviations is a measure of a student's politeness, in this case a child who discusses with older people using abbreviated words means that the child has poor manners in terms of socializing or communicating (Agus, 2019). There are sentences that are used by students when answering a teacher's conversation using regional languages such as "pa nlpn aya naon" the sentence if interpreted in Indonesian is "pak nelpon what's wrong" the sentence used by the student clearly uses informal words. All of these utterances show a negative attitude shown by a student as a speaker (student) and addressee (teacher) by using language that lacks manners (Agus, 2019). Online learning is very quickly responded to by students now, because their Android is a tool that must be carried everywhere so that when there are things like this students will be responsive or respond very quickly (Agus, 2019 and Fatih, 2019).

The style of speech, the style of body gestures, the style in responding to problems, the personification shown by the interlocutor (students) determine the atmosphere and students' thinking. The democratic teaching style of the teacher dominates its influence on students' creativity compared to the authoritarian and laize faire teaching style. Teachers need to pay attention to their teaching style according to the student's circumstances. In applying the teaching style, teachers need to pay attention to the characteristics of their students.

IV. Conclussion

The teacher's teaching style in the learning process in front of the class becomes a mental model for students. The mental model that is built in the brain of each student forms the learning styles and thinking styles of students that will be used in their lives. This academic transformation will form

the basic values of science and environmental awareness in students. Therefore, it is necessary to measure its success. Learning styles, thinking styles and students' awareness are characterized by the way they behave, how to communicate, how to behave and body gestures that include the values of science and awareness of the environment.

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