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# Student's Responses to Pro-environmental Behavior-based Learning and Its Effect on Interest and Critical Thinking

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## *Abstrak*

*Lingkungan yang baik akan mempengaruhi siswa dalam belajar. Penelitian ini bertujuan untuk menganalisis bagaimana minat belajar dan kemampuan berpikir kritis siswa dapat dipengaruhi oleh perilaku pro lingkungan siswa. Penelitian ini menggunakan teknik survei. Dalam penelitian ini digunakan sampel sebanyak 50 siswa yang dibagi menjadi dua kelas. Analisis data yang digunakan adalah uji regresi sederhana. Setelah dilaksanakannya penelitian ini diketahui bahwa respon siswa terhadap pembelajaran berbasis PEB berpengaruh signifikan terhadap minat belajar dan kemampuan berpikir kritis siswa dalam pembelajaran materi lingkungan. Hal ini dibuktikan dengan nilai t-hitung yang lebih besar dari t-tabel, serta nilai signifikansi yang lebih rendah dibandingkan dengan nilai batas toleransi yang digunakan sebesar 0,05. Adapun keterbaruan dalam penelitian ini adalah pada materi yang diukur atau diuji dan banyaknya variabel yang digunakan. Dimana pada penelitian sebelumnya hanya menggunakan salah satu dari tiga variabel yang saya teliti, dan belum meneliti mengenai pro-lingkungan. Keterbatasan penelitian ini sebatas untuk mengetahui pengaruh respon siswa terhadap pembelajaran berbasis perilaku pro lingkungan (PEB) terhadap minat belajar dan hasil belajar siswa pada pembelajaran materi lingkungan, belum pada aspek keterampilan atau psikomotorik. Oleh karena itu, disarankan kepada peneliti selanjutnya untuk dapat menambahkan aspek-aspek yang belum diteliti dalam penelitian ini agar lebih sempurna.*

***Kata Kunci:*** *Minat, Keterampilan Berpikir Kritis, Peserta, PEB*

## Abstract

Good environment will affect students' learning outcomes. This study aims to analyze how students' interest in learning and critical thinking skills can be influenced by students' pro-environmental behavior, because a. This study uses a survey technique. In this study, a sample of 50 students was used which was divided into two classes. Analysis of the data used is a simple regression test. After the implementation of this research, it is known that students' responses to PEB-based learning have a significant effect on learning interest and students' critical thinking skills in learning environmental materials. This is evidenced by the t-count value which is greater than the t-table, as well as a lower significance value compared to the tolerance limit value used of 0.05. The novelty in this research is in the material being measured or tested and the number of variables used. Where in the previous study only used one of the three variables that I studied, and had not researched pro-environment. The limitations of this study are limited to knowing the effect of student responses to pro-environmental behavior-based learning (PEB) on interest in learning and student learning outcomes in environmental material learning, not yet on skills or psychomotor aspects. Therefore, it is recommended for further researchers to be able to add aspects that have not been studied in this study to make it more perfect.

**Keywords:** Critical thinking, Interest, Student's, PEB

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## 1. INTRODUCTION

E-learning is one of the learning media that is very helpful in today's world of education. E-learning is a learning that uses electronic media, without having to meet face to face, and can take place anytime and anytime (Marnita et al., 2021; Sati et al., 2022; Sugestiana & Soebagyo, 2022). E-learning can facilitate distance learning, provide opportunities for students to learn independently, and have a positive impact and have a major impact on the quality of learning (Haryadi & Safitri, 2021; M. S. Rahmawati & Soekarta, 2021; Ulyawati & Sugito., 2022). By using e-learning, students can not only listen to material descriptions from educators but can also observe, demonstrate, and apply the

material they learn (Cahyaningtyas, R. A., & Kusumastuti, 2022; Elizah et al., 2022; D. Rahmawati et al., 2022). One of the materials that need to be applied is the environment.

The environment is a unitary space that includes all objects, forces, conditions and living things, including humans and their behavior that affect nature itself, the survival and welfare of humans and other living creatures (Kayira et al., 2022; Sugiyarti et al., 2021). In fact, until now, the attitude and concern of humans, especially students for their environment, is still low. This can be seen from the behavior of teenagers who like to litter and do not understand the impact that will occur in the future (R. Setiati et al., 2022; Souza et al., 2022). To overcome environmental damage caused by people's behavior that is irresponsible, selfish, and negligent towards their environment, it is necessary to have environmental education so that they understand and understand the purpose of protecting, maintaining and preserving the environment (Schmidt, 2022; Widiawati et al., 2022). Besides the existence of environmental education, it is also necessary to cultivate pro-environmental behavior in students in overcoming environmental damage.

Pro-environmental behavior is one of the very important behaviors possessed by every human being, especially students in order to maintain environmental sustainability. Pro-environmental behavior is a conscious behavior in trying to minimize the negative impact of one's actions on nature, both natural and artificial (Nu'man & Noviati, 2021; Rahman et al., 2020; Sihabudin, 2021). With pro-environmental behavior, people can get used to taking actions that do not damage the environment, can contribute to environmental sustainability, and always support applicable environmental policies (Esfandiar et al., 2022; Kuslantasi et al., 2022; Linder et al., 2022). Therefore, through this pro-environmental behavior, students can create a good and comfortable environmental situation. In addition, the situation of an environment can affect the thinking activities of students, one of which is the critical thinking ability of students (Kwangmuang et al., 2021; Liu, Y., & Pasztor, 2022; Sudiarta et al., 2021).

The ability to think critically is one of the abilities that every student needs to have in the 21st century. Critical thinking ability is the ability to think deeply reflectively in making decisions and solving problems to analyze situations, evaluate arguments, and draw appropriate conclusions (Levina, J., Yarmi, G., & Soekisno, 2022; Rusdha et al., 2022; Wahyuni et al., 2022). The ability to think critically is very necessary in facing various challenges and problems in life, this is because the ability to think critically can make reasonable decisions, so that what we think is good about a truth we can do correctly (Prajono et al., 2022; Tantri & Soro, 2022; Warsah et al., 2021). Critical thinking ability can be influenced by students' interest in learning, where with the interest in learning, students will be able to carry out every problem-solving activity of daily life without any coercion in themselves (Al-Amin & Murtiyasa, 2021; Putri & Setiadi, 2022; K. L. Rahmawati, 2022; Ramdani et al., 2021). This shows that in developing critical thinking skills, it is necessary to cultivate interest in learning in students.

Interest in learning is one of the important factors in supporting the achievement of an effective teaching and learning process. Basically, interest is a desire and willingness that arises in a person to be enthusiastic about doing something (Amiruddin et al., 2021; Taneo & Nomleni, 2022). Interest in learning is a driving factor for the success of students in learning activities, where this interest arises by itself from within students so as to encourage students' perseverance in learning (Febrianti et al., 2021; Indriana et al., 2022; Mikhailova et al., 2022). High interest in learning will have an impact on high learning outcomes, and vice versa with low interest in learning it will have an impact on low learning outcomes as well (Fadillah & Maryanti, 2021; Sari & Trisnawati, 2021; Sutarto et al., 2020). This shows that interest in learning is very influential on the learning process and student learning outcomes.

There are several previous studies related to pro-environmental behavior, critical

thinking skills, and interest in learning that are relevant to the research conducted. Fisrst, research conducted aims to determine the pro-environmental behavior of students after being given different learning media (caricatures and comics) in class based on gender (Baga et al., 2022). The results of his research stated that there was a very significant influence between caricature learning media and comics learning media on pro-environmental behavior. In addition other research conducted is concluded that the environmental education curriculum plays a role in shaping students' pro-environmental behavior, and schools must focus on environmental knowledge, develop and internalize pro-environmental values, and they must also develop ways to familiarize pro-environmental behavior (Ratna Djuwita & Benyamin, 2019). Likewise research that stated that there was a positive relationship between personality and pro-environmental behavior in students. From this study, it was concluded that there was an effect of guided discovery learning with argument mapping on the critical thinking skills of high school students (Datau et al., 2019; Ristanto et al., 2022). Then previous research aims to determine students' initial critical thinking skills (Nurhayati, Agustini, et al., 2022). The results of this research indicate that the average critical thinking ability of students is in the low category. While other research found that there is a positive relationship between learning styles and students' critical thinking skills in learning gas kinetic theory (Rizaldi et al., 2021). While previous research shows the results that interest in learning is very important to foster a sense of learning so that student achievement can increase (Handayani & Rahma., 2021; Irwandi & Fajeriadi, 2020; N. Setiati & Jumadi., 2022).

Based on the description above, it can be concluded that the thing that distinguishes the research that has been done by previous researchers with this research relate on the material being measured or tested and the number of variables used, namely pro-environmental behavior, interest in learning, and critical thinking skills. Whereas previous research conducted research on materials other than the environment and only used one of the three variables on this study. Thus, it is necessary to know the effect of pro-environmental behavior on learning interest and critical thinking skills of students at the high school education level, this is because in reality there are still students who often do damage and are less concerned about their environment. Therefore, it is necessary to conduct research with the aim to analyze effect of pro-environment behavior-based learning on critical thinking and learning interest of high school students with details of how students respond to PEB-based learning.

## 2. METHODS

This study uses descriptive quantitative methods using survey techniques. Descriptive quantitative method is used to describe an event, by collecting data from questions given to a sample in a population (Creswell & Creswell, 2018). The type of research used is associative. This type of associative research was conducted with the aim of knowing the relationship between two or more variables. So that it can formulate a theory that can explain a situation (Sugiyono, 2013). This research was conducted at SMAN 11 Jambi city on December 5, 2021. With a population of 118 students in class X MIPA, two classes were taken, namely class X MIPA 1 and X MIPA 2 with a total of 50 students used as research samples. The research sample was taken using purposive sampling technique. Purposive sampling technique is used with the aim of selecting research samples that can represent the population as a whole.

In order to obtain the data needed in this study, a research instrument was used in the form of a questionnaire filled out by the research sample. The grid of student responses to pro-environmental behavior (PEB) questionnaires is show in Table 1.

**Table 1.** Grid of Student's Response to Pro Environmental Behavior Toward the Environmental Material

| Variable | Indicator | Question Number | |
|---|---|---|---|
| | | Positive (+) Item | Negative (-) Item |
| Students' response to pro environmental behavior towards the environmental material | Energy conservation | 1, 2 | - |
| | Transportation | 3 | 4 |
| | Waste avoidance | 5, 6 | - |
| | Consumerism | 7, 8 | 9, 10 |
| | Recycling | 11, 12 | - |
| | Vicarious, social behavior | 13, 14, 15 | - |

Questionnaires of student responses to PEB on environmental learning materials were distributed in two classes, namely class X MIPA 1 and class X MIPA 2. This instrument was conducted to find out how students responded to PEB. The questionnaire of students' interest in learning on environmental materials is show in Table 2.

**Table 2.** Grid of Student's Interest in the Environmental Material

| Variable | Indicator | Question Number | |
|---|---|---|---|
| | | Positive (+) Item | Negative (-) Item |
| Students' interest in the environmental material | Attention to study | 1, 3 ,4 | 2 |
| | Student engagement | 5, 6, 9 | 7, 8 |
| | Feeling happy | 10, 11 | 12, 13, 14 |
| | Curiosity | 15, 19 | 16, 17, 18 |
| | Learning material and teacher attitude | 20, 21, 22, 23, 25 | 24 |
| | Benefits of subjects | 29, 30 | 26, 27, 28 |

Questionnaires of students' learning interest in environmental learning materials were distributed in two classes, namely class X MIPA 1 and class X MIPA 2. This instrument was conducted to determine how students' interest in learning environmental material was. The questionnaire about students' critical thinking skills on environmental material is show in Figure 1.


1. Perhatikan gambar sungai yang tercemar berikut!

Setelah kalian mengamati gambar,
a. Apakah sumber pencemar yang paling dominan mencemari sungai? Jelaskan alasanya (2 alasan)!
b. Jelaskan kemungkinan dampaknya bagi makhluk hidup yang ada di dalam sungai dan manusia yang tinggal di sekitar sungai!

2. Perhatikan gambar kerusakan hutan di bawah ini!

a. Setelah kalian mengamati gambar, menurut kalian apakah sumber kerusakan hutan yang ada pada gambar di atas?
b. Jelaskan kemungkinan dampak dari kerusakan hutan di atas (4 dampak)!

3. Apa upaya yang dapat dilakukan pemerintah (sebutkan 2) dan anda (sebutkan 3) untuk mencegah dan mengurangi kerusakan hutan?
4. Suatu hari kamu melihat temanmu membuang sampah di Sungai.
   a. Apa tindakan yang akan kamu lakukan?
   b. Apa alasanmu melakukan hal tersebut?
5. Bila di sekitar rumahmu ditemukan banyak limbah rumah tangga yakni:
   a. dedaunan
   b. sampah plastik bekas bungkus jajanan
   c. sisa lauk makan malam
   d. botol bekas minuman
   e. kaleng bekas susu

Apa tindakan yang dapat kamu lakukan agar limbah tersebut tidak semakin menumpuk dan mencemari lingkungan?

**Figure 1.** Questionnaire of Student's Critical Thinking Skills on Environmental Material

With data on student critical thinking seen with the following assessment criteria as show in Table 3.

**Table 3.** Critical Thinking Assesment Criteria

| Score Range | Criteria |
|---|---|
| 86 – 100 | Very Good |
| 70 – 85 | Good |
| 60 – 69 | Sufficient |
| 50 – 59 | Poor |
| 0 - 49 | Very Poor |

The data collected in this study are quantitative data. The data obtained were then analyzed using descriptive quantitative, so that an overview of the conditions in the field was obtained. Furthermore, the data is tested using assumption test and hypothesis testing. The assumption test used is in the form of normality test and homogeneity test. Where the data normality test is carried out to determine the level of normality of the distribution of research data, while the homogeneity test is carried out to determine the data samples taken from the same population. In hypothesis testing, regression tests were used with the aim of knowing the relationship between students' PEB response variables to interest and students' PEB response variables to their critical thinking skills. The flow of data collection can be seen in the image below.

## 3. RESULTS AND DISCUSSION

### Result

From the research that has been done, research data is obtained in the form of student responses to PEB-based learning, students' interest in learning, and also student critical thinking on environmental materials. The results of the research are shown in Table 4.

**Table 4.** Table of Student's Response to PEB-Based Learning

| Class | F | Percentage (%) | Interval | Category | Mean | Median | Min | Max |
|---|---|---|---|---|---|---|---|---|
| X IPA 1 | 0 | 0 | 15 – 27 | Very Poor | 3.6 | 4 | 3 | 4 |
| | 0 | 0 | 27,1 – 39 | Poor | | | | |
| | 10 | 40 | 39,1 – 51 | Sufficient | | | | |
| | 15 | 60 | 51,1 – 63 | Good | | | | |
| | 0 | 0 | 63,1 – 75 | Very Good | | | | |
| X IPA 2 | 0 | 0 | 15 – 27 | Very Poor | 3.52 | 4 | 3 | 4 |
| | 0 | 0 | 27,1 – 39 | Poor | | | | |
| | 12 | 48 | 39,1 – 51 | Sufficient | | | | |
| | 13 | 52 | 51,1 – 63 | Good | | | | |
| | 0 | 0 | 63,1 – 75 | Very Good | | | | |

Table 4 shows the students' responses to PEB-based learning. The table shows that both students in class X IPA 1 and class X IPA 2 have sufficient responses, even in a good direction. Even so, students from class X IPA 1 seem to have a better response than students

in class X IPA 2. Next, the result data related to students' interest in learning is shown in the Table 5.

**Table 5.** Table of Student's Learning Interest

| Class | F | Percentage (%) | Interval | Category | Mean | Median | Min | Max |
|---|---|---|---|---|---|---|---|---|
| X IPA 1 | 0 | 0 | 30 – 54 | Very Poor | 3.28 | 3 | 3 | 4 |
| | 0 | 0 | 54.1 – 78 | Poor | | | | |
| | 18 | 72 | 78.1 – 102 | Sufficient | | | | |
| | 7 | 28 | 102.1 – 126 | Good | | | | |
| | 0 | 0 | 126.1 - 150 | Very Good | | | | |
| X IPA 2 | 0 | 0 | 30 – 54 | Very Poor | 3.4 | 3 | 3 | 4 |
| | 0 | 0 | 54.1 – 78 | Poor | | | | |
| | 15 | 60 | 78.1 – 102 | Sufficient | | | | |
| | 10 | 40 | 102.1 – 126 | Good | | | | |
| | 0 | 0 | 126.1 - 150 | Very Good | | | | |

Base on Table 5 shows that students' interest in learning in class X IPA 2 has a better interest in learning than students in class X IPA 1. However, the two research samples used showed sufficient interest in learning about environmental materials. Next, the result data related to student critical thinking on environmental material is displayed in Table 6.

**Table 6.** Table of Student's Critical Thinking on Environmental Material

| Class | F | Percentage (%) | Interval | Category | Mean | Median | Min | Max |
|---|---|---|---|---|---|---|---|---|
| X IPA 1 | 0 | 0 | 0 – 49 | Very Poor | 81.4 | 80 | 80 | 85 |
| | 0 | 0 | 50 – 74 | Poor | | | | |
| | 18 | 72 | 75 – 80 | Sufficient | | | | |
| | 7 | 28 | 81 – 90 | Good | | | | |
| | 0 | 0 | 91 - 100 | Very Good | | | | |
| X IPA 2 | 0 | 0 | 0 – 49 | Very Poor | 79.64 | 80 | 77 | 87 |
| | 0 | 0 | 50 – 74 | Poor | | | | |
| | 22 | 88 | 75 – 85 | Sufficient | | | | |
| | 3 | 12 | 86 – 95 | Good | | | | |
| | 0 | 0 | 96 - 100 | Very Good | | | | |

Base on Table 6 shows that the critical thinking of students in class X IPA 1 have better critical thinking than students in class X IPA 2. However, in the two research samples used, it shows that student critical thinking are quite related to environmental material. The result of normality test is show in Table 7.

**Table 7.** Table of Normality Test

| Variable | Class | Sig. value | Distribution |
|---|---|---|---|
| Students Response | X IPA 1 | 0.360 | Normal |
| | X IPA 2 | 0.238 | Normal |
| Interest | X IPA 1 | 0.590 | Normal |
| | X IPA 2 | 0.752 | Normal |
| Critical thinking | X IPA 1 | 0.660 | Normal |
| | X IPA 2 | 0.487 | Normal |

Base on Table 7 shows that the level of normality of the data used in the research conducted is normally distributed. This is indicated by the value of sig. which is greater than the significance value used, which is 0.05. Therefore, the level of distribution of the data used is normally distributed. The results of the homogeneity level test of the data used in the research conducted are shown in Table 8.

**Table 8.** Table of Homogeneity Test

| Variable | Class | Sig. value | Homogeneity |
|---|---|---|---|
| Students Response | X IPA 1 | 0.250 | Homogeneous |
| | X IPA 2 | 0.253 | Homogeneous |
| Interest | X IPA 1 | 0.666 | Homogeneous |
| | X IPA 2 | 0.661 | Homogeneous |
| Critical thinking | X IPA 1 | 0.659 | Homogeneous |
| | X IPA 2 | 0.439 | Homogeneous |

Base on Table 8 shows that the level of homogeneity of the data used in the research conducted is homogeneous. This is indicated by the value of sig. which is greater than the significance value used, which is 0.05. Therefore, the level of distribution of the data used is homogeneous. The following are the results of the data regression test to see the effect of the PEB response on students' learning interest used in the research conducted, which is shown in Table 9.

**Table 9.** Table of Effect of Student's Response Toward PEB-Based Learning

| Class | Regression Test | | | |
|---|---|---|---|---|
| | Variable | B | t-value | Sig |
| X IPA 1 | (Constant) | 16.631 | 9.346 | 0.000 |
| | Student Response | 0.680 | 1.867 | 0.045 |
| X IPA 2 | (Constant) | 16.642 | 9.445 | 0.000 |
| | Student Response | 0.694 | 1.859 | 0.041 |

Base on Table 9 it is illustrated that the value of B on the variable of student's responses toward PEB-based learning is positive. Judging from the t-table value, it is known that the t-table value with 50 respondents as research samples, was found to have a t-table value 1.676. Seen in the value of t count is greater than the value of t table, thus it can be seen that the student's responses toward PEB-based learning has a positive impact on the student's learning interest. Finally, judging from the significance test value which looks lower than the tolerance or significance test value used, which is 0.05. This indicates that the student's response toward PEB-based learning has a significant effect to the learning interest of student's. The results of the data regression test to see the effect of the PEB response on student critical thinking on environmental materials used in the research conducted, shown in the Table 10.

**Table 10.** Table of Effect of Student's Response Toward PEB-Based Learning on Student's Critical Thinking

| Class | Regression Test | | | |
|---|---|---|---|---|
| | Variable | B | t-value | .Sig |
| X IPA 1 | (Constant) | 16.933 | 9.469 | 0.000 |
| | Student Response | 0.687 | 1.867 | 0.038 |
| X IPA 2 | (Constant) | 16.979 | 9.498 | 0.000 |
| | Student Response | 0.689 | 1.859 | 0.041 |

Base on Table 10 is illustrated that the value of B on the variable of student's responses toward PEB-based learning is positive. Judging from the t-table value, it is known that the t-table value with 50 respondents as research samples, was found to have a t-table value 1.676. Seen in the value of t count is greater than the value of t table, thus it can be seen that the student's responses toward PEB-based learning has a positive impact on the student's critical thinking. Finally, judging from the significance test value which looks lower than the tolerance or significance test value used, which is 0.05. This indicates that the student's response toward PEB-based learning has a significant effect to the student's critical thinking.

**Discussion**

This research has been carried out and it can be seen in the research data that the students' responses to PEB-based learning have a positive influence, both on students' interest in learning and on their critical thinking. This is evidenced by the data which show that there is a significant influence between student responses to PEB learning and student interest and critical thinking. The data used are also normally distributed and homogeneous. The environment is one of the learning materials for class 10 SMA, especially in the natural sciences (IPA) specialization class. Environmental material covers the environment around humans who interact with them, be they fellow living things or inanimate objects (Khusnah, 2020; Yuliati, 2017). Learning related to the environment is very important for students, this is because the environment is very meaningful for human survival. Without a healthy living environment, humans will find it difficult to survive. Even so, the environment will continue to be sustainable even without human assistance. With this, environmental materials require critical thinking skills in the learning process, with the aim that students are able to understand learning and relate it to the state of reality that is around them.

Critical thinking skills are students' skills in reasoning and problem solving (Levina, J., Yarmi, G., & Soekisno, 2022; Rusdha et al., 2022; Wahyuni et al., 2022). With good critical thinking skills, students are able to apply them to learning by linking real situations, so that students are able to solve problems that exist in their environment. Critical thinking skills are one of the higher-order thinking skills, therefore these skills must be honed, with the aim of achieving learning objectives. Critical thinking skills can be developed by the students themselves through their interest in learning (Prajono et al., 2022; Tantri & Soro, 2022; Warsah et al., 2021). Therefore, it is important for educators to increase students' interest in learning. One way to increase students' interest in learning and thinking skills is by using appropriate learning models, one of which is pro-enironmental behavior (PEB).

PEB-based learning is a conscious action in reducing environmental damage and trying to improve the natural surroundings (Kayira et al., 2022; Sugiyarti et al., 2021). With this PEB-based learning model, students will be faced with environmental problems that are around them. By understanding the problems and impacts of environmental damage in their environment, students are trained to be critical of various activities or activities around them that have the potential to damage the environment. This is because, students understand the impact of the consequences of their actions and how they affect human survival. Not only that, PEB-based learning is also proven to be able to increase their interest in learning environmental materials, enable them to care more about the environment, and be able to apply it in their daily lives.

There are several previous studies related to pro-environmental behavior, critical thinking skills, and interest in learning that are relevant to this research. Previous study which aims to determine the pro-environmental behavior of students after being given different learning media (caricatures and comics) in class based on gender (Baga et al., 2022). The results of his research stated that there was a very significant influence between

caricature learning media and comics learning media on pro-environmental behavior. In addition, other research concluded that the environmental education curriculum plays a role in shaping students' pro-environmental behavior, and schools must focus on environmental knowledge, develop and internalize pro-environmental values, and they must also develop ways to familiarize pro-environmental behavior (R. Djuwita & Benyamin, 2019). Likewise research determine the relationship between personality and pro-environmental behavior in students (Datau et al., 2019). Based on the results of the study, it was stated that there was a positive relationship between personality and pro-environmental behavior in students of SMAN 27 Jakarta. Likewise research was found that there was an effect of guided discovery learning with argument mapping on the critical thinking skills of high school students (Nurhayati, Nurjamil, et al., 2022; Ristanto et al., 2022).

The limitations of this study are limited to knowing the effect of student responses to pro-environmental behavior (PEB)-based learning with interest in learning and student learning outcomes in environmental material learning, not yet into the skills or psychomotor aspects. Therefore, it is recommended to the next researcher to be able to add aspects that have not been studied in this study to make it more perfect. The novelty in this research is in the material being measured or tested and the number of variables used. Where in the previous study only used one of the three variables, and had not researched pro-environment. In addition, this research is only limited to knowing the effect of student responses to pro-environmental behavior-based learning (PEB) on interest in learning and student learning outcomes in environmental material learning, not yet on skills or psychomotor aspects. Therefore, it is recommended for further researchers to be able to add aspects that have not been studied in this study to make it more perfect.

## 4. CONCLUSION

With the implementation of this research, researchers know that the learning model has a significant influence on students, especially on their interest in learning and critical thinking. This PEB-based learning model is very suitable for application to environmental learning materials, because it has a very close relationship. PEB-based learning can increase students' awareness and skills in critical thinking. By way of reasoning and observing the surrounding environment and analyzing the circumstances around them. This can make students critical of what is happening in the environment around them, and make them able to provide solutions in order to reduce environmental damage, at least in their home and school environment. Not only that, PEB-based learning is also able to increase student interest in learning. By making students care and interested in their environment. Students make environmental learning a part of their lives, which causes them to be interested in deepening the material.

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