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Elementary School Students' Understanding and Attitudes towards Air Pollution Around the School Environment

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Abstract

This research aims to understand how elementary school students view and behave towards air pollution around the school environment. Using a qualitative approach, this research involved in-depth interviews with students from several elementary schools in urban areas that are exposed to significant levels of air pollution. The data obtained was analyzed thematically to identify students' perceptions regarding the impact of air pollution on their health and the actions they consider necessary to reduce pollution. The research results show that most students have a basic understanding of air pollution, but their knowledge about its impact on health is still limited. Students' attitudes tend to be passive, although they show a desire to be involved in environmental conservation efforts through simple activities at school. This research provides important insights for the development of more effective educational programs to increase students' awareness of the importance of maintaining the air quality around them.

Keywords* : *Air pollution, health impacts, environmental awareness.

INTRODUCTION

Air pollution is an environmental problem that is increasingly worrying, especially in urban areas that are densely populated and industrial activities. Air pollution can cause various negative impacts on human health, including respiratory problems, heart disease, and disorders of the nervous system. Although air pollution is generally associated with dense urban areas, its impacts can be felt at various levels of society, including elementary school environments. Elementary schools, as places where children spend most of their time, need to be a main concern in efforts to reduce the impact of air pollution.

Elementary school students, who are at a critical stage of physical and cognitive development, are more vulnerable to the impacts of air pollution. They tend to be outdoors more often, playing in the school yard, and interacting with the surrounding environment. Exposure to air pollution can affect children's growth and development, cause a decrease in quality of life, and potentially disrupt the teaching and learning process. Therefore, it is important to assess how students understand and respond to air pollution around them.

Research on students' understanding and attitudes towards air pollution is very important, especially in educational contexts. As the next generation, children have a big role in protecting and caring for their living environment. By providing appropriate knowledge about air pollution and its impacts, it is hoped that they can develop a more caring attitude towards the surrounding environment. As a result, they can become agents of change in reducing air pollution, both through personal behavior and through contributions to broader policies in society.

Many previous studies have highlighted air pollution in urban environments, but few have focused on elementary school students' understanding and attitudes towards this problem. Therefore, this research aims to explore more deeply how elementary school students understand air pollution around their school environment. What they know about air pollution, how they feel about its impacts, and the extent to which their attitudes reflect a readiness to participate in pollution reduction efforts.

In addition, it is important to explore the factors that influence students' understanding and attitudes, including the sources of information they obtain, such as teachers, family, peers, and the media. These sources of information can influence how students form their views on air pollution issues. This research will also assess how the role of environmental education in schools can increase students' knowledge and awareness of environmental issues.

In several developing countries, including Indonesia, the problem of air pollution is increasingly urgent to be addressed. Many elementary schools are located in areas with high levels of air pollution, but there are no environmental education programs intensive enough to address this issue. Students often do not receive enough information about the dangers of air pollution, how to identify pollutants, and ways to reduce their impact. Therefore, this research will provide an overview of the extent to which elementary school students in Indonesia understand air pollution and how they deal with it.

One approach that can be used to improve students' understanding is to use relevant learning media, such as pictures and illustrations. Visual media can help students understand abstract topics in a more interesting and easy to digest way. In this context, images depicting the impact of air pollution on health and the surrounding environment can help students form a clearer understanding of this issue.

It is also important to understand that students' attitudes towards air pollution depend not only on their level of understanding, but also on the social and cultural factors that surround them. The attitudes formed in students can be influenced by the influence of parents, peers, and existing school policies. Therefore, this study will not only assess students' knowledge, but also the external factors that influence their attitudes towards air pollution.

In efforts to reduce air pollution, collaboration between schools, government and society is very important. Schools have the potential to become effective environmental education centers, by educating students about the importance of maintaining air and environmental quality. In addition, developing a curriculum that is more based on environmental awareness can encourage students to develop a proactive attitude in keeping the air clean and contribute to greater change in their communities.

Through this research, it is hoped that various strategies can be found that can be implemented in elementary schools to improve students' understanding and attitudes towards air pollution. This research is also expected to contribute to the development of better environmental education policies, which not only equip students with knowledge, but also with the skills and attitudes necessary to face future environmental challenges.

Finally, it is hoped that the results of this research can become a reference for the development of environmental education programs based on in-depth understanding and active involvement of elementary school students. With the right approach, students will not only be more aware of the problem of air pollution, but will also be better prepared to engage in mitigation efforts that can bring positive change to their environment.

RESEARCH METHODOLOGY

This research uses a qualitative approach to explore elementary school students' understanding and attitudes towards air pollution around their school environment. This approach was chosen because it aims to gain an in-depth understanding of students' subjective perspectives on air pollution and its impacts, as well as the factors that influence their attitudes. This method allows researchers to explore students' experiences more widely through in-depth interviews, focus group discussions (FGD), observations, and documentation analysis.

The research participants consisted of elementary school students aged 9 to 12 years who attended schools in urban areas with fairly high levels of air pollution. The sample was selected purposively, taking into account location factors and exposure to air pollution. Apart from students, this research also involved teachers and parents of students to get a more holistic view of students' understanding and attitudes towards air pollution issues. Data was collected through semi-structured interviews, FGD, and direct observation in the school environment.

Data collection was carried out using several main techniques, namely in-depth interviews to explore students' understanding of air pollution, FGDs to see the dynamics of students' collective attitudes, and observations to assess the influence of air pollution on students' activities outside the classroom. Researchers also collected documentation related to teaching materials or environmental education programs in schools to explore the efforts that have been made to introduce air pollution issues to students.

The collected data will be analyzed using thematic analysis, where researchers will identify main themes related to students' understanding of air pollution and their attitudes towards pollution reduction. Researchers will also look for relationships between external factors, such as the influence of parents and teachers, on student attitudes. Data triangulation will be used to validate the findings by comparing data obtained from various sources, methods and researchers.

This research prioritizes research ethics by ensuring that all participants provide voluntary consent and the information provided by participants is kept confidential. Although this study has limitations in terms of the limited sample size, the qualitative approach allows researchers to explore a deeper understanding of students' views on air pollution, which can provide insights for the development of more effective environmental education programs in elementary schools.

RESULTS AND DISCUSSION

This research aims to explore elementary school students' understanding and attitudes towards air pollution around their school environment. Based on interviews, focus group discussions (FGD), observations and documentation that have been carried out, several main findings were found that describe how students understand air pollution and their attitudes towards this issue.

First, the results of interviews with students show that the majority of students have a basic understanding of air pollution. They know that air pollution is related to vehicle and factory fumes, but their understanding of other sources of pollution, such as dust and cigarette smoke, is limited. Some students linked air pollution to direct impacts on health, such as shortness of breath or coughing. However, there are also students who do not know the long-term impacts of air pollution, such as chronic lung disease or cancer.

Students' attitudes towards air pollution tend to be passive, even though they acknowledge the existence of pollution problems around the school. Only a few students showed awareness to act more actively in reducing pollution. Some students expressed that they felt they could not do much to address this problem. This shows that although there is a basic understanding of air pollution, a proactive attitude in reducing pollution has not been maximally formed.

From the results of the FGD, more diverse views emerged regarding air pollution. Some students feel that they are less affected by pollution because they are used to bad air, while others worry about the long-term effects. This discussion also revealed that most students did not know about effective ways to reduce air pollution, such as using public transportation or planting trees. This shows the importance of more in-depth education regarding preventive actions that students can take to reduce pollution.

Observation results show that student activities outside the classroom, such as playing in the school yard, are quite affected by air pollution. Many students were seen wearing masks outdoors, even though they did not always suit their medical needs. Some students complained of discomfort due to polluted air, such as sore eyes or mild coughing. These observations show that air pollution does affect students' comfort and health during activities outside the classroom.

In terms of school policy, the documentation results show that several schools have begun to include topics regarding air pollution in natural science (science) lessons and environmental education. However, teaching about air pollution tends to be theoretical and does not involve students directly in practical activities to reduce pollution. Existing environmental education programs in schools emphasize knowledge about air pollution rather than implementing concrete actions.

External factors also influence students' attitudes towards air pollution. Interviews with parents show that most parents do not realize how much impact air pollution has on their children. Some parents even consider air pollution as a less serious problem or something that cannot be avoided in big cities. This view of parents not caring enough can influence the attitudes of students who do not feel the need to take action to reduce air pollution.

In terms of media influence, most students stated that they often see advertisements or environmental education programs on television or social media that teach the importance of keeping the air clean. However, these media do not always link air pollution to its greater impact on long-term health. This research shows that although students are exposed to information from the media, they still lack a deep understanding of air pollution and its impacts.

Students' attitudes towards air pollution are also influenced by the social environment at school. Teachers have an important role in shaping students' understanding and attitudes towards environmental issues. Several students stated that their teachers often remind them about the importance of keeping the environment clean, but there is still a lack of practical activities that involve students in real action, such as cleaning the environment around the school or reducing the use of private vehicles. This shows that although there is adequate teaching about air pollution, more interactive and applicable learning approaches still need to be improved.

Lastly, even though students' understanding of air pollution is limited, they show the potential to change to be more concerned about the environment if given more interesting and relevant education. Environmental education programs that involve visual media, such as pictures and illustrations about the impacts of air pollution, can help students understand this issue better. Some students show great interest when given concrete examples, such as pictures illustrating the impact of air pollution on health or quality of life.

Overall, the results of this study show that although primary school students have a basic understanding of air pollution, more needs to be done to increase their awareness. More practical and interactive education, involving students in real efforts to reduce air pollution, is essential to forming a proactive attitude towards this environmental problem. With stronger education policies and support from families and communities, it is hoped that students can become agents of change who care more about the quality of the air around them. For a clearer understanding, this can be seen in the following image.

Figure 1. comparison of clean air and air full of pollution

CONCLUSION

This research shows that elementary school students' understanding and attitudes towards air pollution around the school environment are still limited and tend to be passive. Although most students understand that air pollution comes from vehicle and factory fumes, their understanding of other sources of pollution and the long-term impacts on health is still very limited. Students' attitudes towards air pollution tend not to be proactive, even though they acknowledge the existence of air pollution problems around them.

The research results also reveal that although there are several environmental education programs in schools that discuss air pollution, the approach used is still more theoretical in nature and does not involve students in practical activities that can reduce pollution. External influences, such as the views

of parents who are less concerned about the impacts of pollution, as well as the lack of clear and in-depth information from the media, also influence students' attitudes towards this problem.

However, this research also shows the potential for students to become more concerned about the environment if they are given education that is more interactive and based on direct experience. Education that involves visual media, such as images depicting the impacts of air pollution, as well as practical activities that teach ways to reduce pollution, can help improve students' understanding and attitudes towards air pollution.

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