

The Philosophy of Science Education on Children's Character Education

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Abstract

The shift towards a more holistic education reflects a paradigm shift in the education system which recognizes that student success is not only measured by academic achievement, but also by the development of their character and social skills. Holistic education emphasizes the importance of educating children holistically, involving emotional, social and moral aspects. This research explores the impact of philosophy of science education on children's character education, a concept that is often ignored in formal curricula. The surprising phenomenon that was raised was that most educational systems focus more on cognitive and academic aspects, while character development based on philosophical principles is often neglected. This research was conducted in elementary schools, with the aim of understanding how the application of the philosophy of science can strengthen children's character education. The method used is qualitative research with a case study approach, involving in-depth interviews with teachers, students and parents. The results of the research show that education in the philosophy of science, especially involving an understanding of ethics, logic and epistemology, can significantly shape children's character who is more critical, ethical and wise. Character education based on philosophical foundations provides children with a deeper frame of mind in understanding moral and ethical values.

Keywords: Philosophy of Science Education, Children's Character Education

1. Introduction

Character education is an important aspect in the development of education in various countries, including Indonesia. In this context, character education does not only focus on instilling moral and ethical values, but also on forming positive attitudes and behavior in children (Awaliyah et al., 2024). One approach that can strengthen character education is philosophy of science education.

Philosophy of science is a branch of philosophical study that discusses the deepest essence of knowledge. In this study, science is questioned from various angles, such as the origins of knowledge, the tools used to obtain it, the stages or methods in the process of forming knowledge, as well as how to assess the truth of knowledge to determine whether a science is true or false (Subekti et al., 2021).

Philosophy of science is a branch of philosophy that questions the nature of knowledge in depth, comprehensively and fundamentally. This branch involves exploration and exploration in the development of philosophical concepts related to knowledge. Scientific knowledge appears in various interrelated dimensions. Philosophy itself is a human thinking activity which aims to find the reasons or causes of everything, as well as understanding how humans act after gaining this knowledge (Makhmudah, 2018).

Gunawan Santoso and Mamun Murod stated that character education has an important role, especially in basic education. Its influence is not only felt at school, but also extends to society. The young generation who is equipped with positive values and good social skills will grow into moral individuals. This contributes to the creation of a more harmonious and inclusive society. Thus, character education can help build a better social environment (Santoso & Murod, 2021).

Character is a fundamental aspect of human social life. Therefore, character education must be internalized and applied to children from an early age, starting from the family environment. Educational institutions also play an important role in supporting children's moral development. As stated by Thomas Lickona in his book "Educating for Character", the history of moral or character education is always closely related to education itself. The main goal of education is to guide the younger generation to become intelligent and have good behavior (Hikmasari et al., 2021).

Lickona states that character education is a deliberate effort to help someone understand, appreciate, and apply essential ethical values. Based on this definition, when we imagine the character we want to build in students, it is clear that we expect them to be able to understand these values, reflect on their truth, and implement what they believe in, even though they have to face challenges or pressure from outside or within themselves. In other words, they have the "awareness to force themselves" to implement these values. Lickona's explanation shows that the process of character development involves knowledge (moral knowing), feeling (moral feeling), and actions (moral action), as well as providing a strong foundation for building comprehensive and coherent character education (Lickona, 2016).

Previous research that is relevant to this research is research by I Made Putra Aryana entitled *The Urgency of Character Education (Educational Philosophy Study)* shows that the three main foundations of educational philosophy, namely ontological, epistemological and axiological, direct the formation of a young generation that is intelligent, qualified, ethical, disciplined, honest, hardworking and moral. Only with a young generation who has strong character can the nation's problems be solved resolved. Apart from that, Indonesia's young generation is expected to be able to become a national identity in the midst of globalization and world cultural acculturation, while encouraging independence and increasing international competitiveness (I Made Putra Aryana, 2021).

This research aims to explore the relationship between philosophy of science education and children's character education. By analyzing the impact of applying the philosophy of science approach in the character education curriculum, it is hoped that more effective methods can be found in forming positive children's character. Through this study, it is hoped that educators and policy makers can develop a more holistic strategy in character education, thereby producing a generation that is not only academically intelligent, but also has high integrity and morality.

With this background, this research will discuss several main questions: How can philosophy of science education be applied in the context of character education? What benefits can be gained from applying the philosophy of science in character learning? By answering these questions, it is hoped that this research can make a significant contribution to the development of education in Indonesia, especially in efforts to shape children's character better in the future.

2. Research Methods

This research uses a qualitative method with a case study approach to analyze the relationship between philosophy of science education and children's character education (Yin, 2009). The case study approach allows researchers to explore in depth certain phenomena in a specific context, so that they can understand the dynamics and interactions between philosophies. science and process of character education. The main focus of this research is to explore how the values of the philosophy of science can be integrated into the practice of character education in educational institutions.

SDN 1 Tangkisan has unique social and cultural characteristics, which are an important background in shaping student behavior and values. Research at this school provides an illustration of how character education can be formed in a specific environment, while also showing the role of philosophy of science in this process. Grade 4 of elementary school is an important stage in which children.

Children begin to develop the ability to think logically and understand more abstract concepts. SDN 1 Tangkisan has implemented a character education program in its curriculum, so this location is very relevant to explore how the philosophy of science can support the program in more depth.

The research subjects consisted of teachers, students and parents who were involved in character education at SDN 1 Tangkisan. Subject selection is done by considering a diversity of perspectives that will provide a comprehensive picture of how the philosophy of science influences character education. By involving various stakeholders, this research is expected to provide broader insight into effective character education practices.

Data will be collected through in-depth interviews, observation and document analysis (Sugiyono, 2021). In-depth interviews will be conducted to explore the views and experiences of teachers, students and parents

regarding character education and philosophy of science. Observations in the classroom and educational environment will help researchers understand daily interactions and practices that reflect the values of character education. In addition, analysis of documents, such as curriculum and teaching materials, will provide information about how the philosophy of science is applied in character education.

Data analysis will be carried out by means of data reduction, categorization and drawing conclusions (Sugiyono, 2021). Data collected from interviews and observations will be filtered to find relevant themes, then grouped based on the principles of philosophy of science related to character education. Through this process, researchers can identify significant patterns and relationships between philosophy of science education and children's character education.

It is hoped that the research results will provide a deeper understanding of how philosophy of science education can contribute to the development of children's character. It is also hoped that this research can provide practical recommendations for educators in designing and implementing a curriculum that integrates the values of the philosophy of science, so that character education becomes more effective and relevant in forming a generation that thinks critically, ethically and responsibly.

3. Results and Discussion

3.1. Ontological Approach: The Essence of Character Education in the Philosophy of Science

Ontology is a branch of essence theory that discusses the nature of existing things. The essence of "existing" refers to the true reality of something, not to a temporary reality, illusion, or something that changes (Rusdiana, 2018, p. 31). In the context of this research, the ontological approach asks what character education is and what is the nature of character education based on the philosophy of science.

It was found that character education based on the philosophy of science emphasizes the development of a child's holistic moral personality, including basic values such as honesty, responsibility, independence and empathy. The philosophy of science provides a conceptual framework within which the child's character is viewed only as a result of behavioral training, but as a reflection of a deep understanding of morality.

Children who engage in philosophy of science-based learning demonstrate a deeper understanding of abstract moral concepts. They not only accept values dogmatically, but also begin to understand the essence of those values, such as the reasons why honesty is important or how responsibility plays a role in social life.

Ontologically, character education rooted in the philosophy of science allows children to view morality as an integral part of their identity, not just as a set of rules. Philosophy of science education helps children understand morality as something real and inherent in their every action. By teaching the philosophy of science, teachers can help children see that character is part of their essence as social and thinking creatures.

3.2. Epistemological Approach: How Children Understand Moral Values through the Philosophy of Science

Epistemology discusses the process of obtaining knowledge, what factors need to be considered to obtain correct knowledge, as well as what is called truth and what the criteria for truth are. The focus of epistemological studies is to question how something emerged, how we know it, and how to differentiate it from other things, including paying attention to the spatial and temporal context related to that thing (Rusdiana, 2018). In the context of character education, the epistemological approach emphasizes how children acquire and understand knowledge about moral values.

Character education based on the philosophy of science improves children's critical thinking abilities. They are invited to process information and moral values through a dialogical process and critical reflection. Children are not only taught to accept values such as discipline and responsibility, but are also asked to ask questions, doubt, and search for the meaning behind these values.

The Socratic questioning method or philosophical dialogue encourages children to examine their own moral beliefs and values. Children involved in this learning process show an increase in the ability to argue, question existing norms, and analyze ethical situations in a logical and coherent way. This epistemological approach strengthens children's ability to understand basic moral knowledge. Children who understand values not only as rules but as concepts that have logical justification will more likely to practice these values consciously and consistently. Philosophy of science education provides an epistemological structure that allows children to link moral values with logical reasoning and empirical evidence, so that they are more critical and reflective in internalizing the desired character.

3.3. Axiological Approach: Moral Values in Action and Their Influence on Children's Lives

Axiology is a theory of values related to the application of acquired knowledge. Axiology is considered a form of education that assesses and incorporates various values into human life, while maintaining and developing these values in the character of students (Kristiawan, 2016). In character education based on the philosophy of science, the axiological approach looks at how moral values are applied in children's daily actions.

Children who take part in character education based on the philosophy of science show an increase in the application of moral values in daily social interactions. Values such as cooperation, honesty and responsibility are practiced more consistently. Children not only know what is right, but also understand the importance of acting in accordance with their moral knowledge.

Consistency between moral understanding and action was found to be stronger in children involved in philosophy of science based learning. They are more aware of the moral consequences of their actions and are better able to assess ethical situations by considering multiple points of view.

From an axiological perspective, character education based on the philosophy of science provides a solid foundation for children to practice moral values consciously and authentically. The philosophy of science helps children understand that moral values are not only to be learned, but also to be actively applied in everyday life. In addition, a philosophy of science education helps children develop moral integrity, where their values and actions are more aligned because they have strong reasons to act morally.

3.4. Benefits of applying the philosophy of science in character learning

3.4.1. Development of Critical Thinking

The application of the philosophy of science in character learning helps students develop critical thinking skills. Students are taught to analyze arguments, question assumptions, and evaluate the values they hold. By teaching students to think critically, they don't just accept information passively, but actively participate in the learning process, which strengthens their ability to make ethical and informed decisions.

3.4.2. Formation of Values and Ethics

In the context of character learning, the philosophy of science functions as a tool for instilling ethical and moral values. Through discussions of various ethical theories, students can understand the importance of considering the consequences of their actions. In this way, students not only learn about good behavior, but also understand the reasons behind that behavior, which underlies their decision making in everyday life.

3.4.3. Increased Self-Awareness

The philosophy of science also contributes to increasing students' self-awareness. By encouraging students to reflect on their experiences and values, they become more aware of the impact their actions have on others. When students engage in critical reflection about their behavior and choices, they can identify areas for improvement and develop stronger identities, which in turn enhances their ability to act ethically.

3.4.4. Increased Empathy and Tolerance

The application of philosophy in character education also increases empathy and tolerance among students. Discussion of different perspectives allows students to understand and appreciate differences between individuals. By developing empathy, students can learn to interact with others with more care and respect, creating a more positive social environment.

3.4.5. Conflict Resolution

Philosophy of science provides tools for students to resolve conflicts in a more ethical and reflective manner. By understanding the various views and arguments that exist, students can dialogue and find mutually beneficial solutions. In doing so, students are trained to become effective mediators, able to navigate conflict situations in a constructive and peaceful manner.

3.4.6. Involvement in the Community

Education based on the philosophy of science encourages students to be actively involved in society. Students are taught to understand their social responsibilities and the importance of contributing to the community. When students are involved in community activities, they do not only apply existing character values learned, but also build strong relationships with the communities around them.

3.4.7. Holistic Character Development

By integrating the philosophy of science, character learning becomes more holistic. Students not only learn good behavior, but also understand the meaning and context behind that behavior. By building emotional intelligence, students can develop positive attitudes that support ethical and moral behavior in various aspects of life.

3.4.8. Experience Based Education

The application of philosophy in character learning also emphasizes the importance of direct experience. Students engage in exploratory learning, where they can test values through real situations. By applying this approach, students can strengthen their understanding of character values and how to apply them in everyday life.

With these various benefits, the application of the philosophy of science in character learning not only develops students' academic abilities, but also forms ethical and responsible individuals.

4. Conclusion

The ontological, epistemological and axiological approaches in philosophy of science education towards children's character education provide a comprehensive picture of how moral values are internalized and practiced by children. Ontologically, character education based on the philosophy of science helps children understand that moral character is part of their deeper identity, not just a rule to obey. Epistemologically, children are invited to develop critical and reflective thinking skills, enabling them to process and understand moral values through logical reasoning and dialogue. Axiologically, this education produces children who are more aware of the importance of moral actions that are consistent with the values they learn, thereby promoting more authentic and resilient moral behavior. By integrating these three approaches, philosophy of science education provides a deeper and more meaningful framework for character education, which allows children not only to understand but also to implement moral values in everyday life. The philosophy of science and character education have a close relationship. The philosophy of science provides a deep and reflective framework for thinking, which can strengthen understanding and internalization of moral values in character education. Incorporating philosophy of science education into children's character education not only improves children's cognitive abilities in critical thinking, but also helps them develop more mature moral attitudes. However, implementing this strategy requires good skills and understanding from educators.

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