



Correlation of Ontology of Science in the Concept of Educational Management

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Article Info

Article history:

Received 06-01-2025

Revised 24-06-2025

Accepted 21-10-2025

Keywords:

Ontology

Philosophy

Knowledge

Educational Management

ABSTRACT

This article examines the ontological aspects of knowledge within the perspective of philosophy and its connection to educational management. Ontology, as a branch of philosophy that explores the nature of being and reality, provides a foundational framework for the development of knowledge, including education. In the context of educational management, ontology serves as a basis for understanding the reality, existence, and underlying values of educational systems. This approach enables the application of principles such as sustainability, meaningfulness, and empowerment in educational management. The article also explores the relevance of ontological philosophy in building a value-based framework for educational management, including curriculum development, human resource management, and the adoption of technological innovation in education. Furthermore, integrating ontology into modern educational management addresses the challenges of the digital era by ensuring that educational objectives remain relevant and adaptive to changing times. This study aims to foster a deeper understanding of the importance of ontological philosophy as a foundation for holistic and meaningful educational management.

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INTRODUCTION

Ontology as a branch of philosophy that discusses the nature of reality and existence has significant relevance in the development of science, including in the context of educational management. In the discourse of the philosophy of science, ontology functions as a foundation for understanding the basic essence of entities that are the objects of scientific study. In the context of educational management, ontological questions such as "What is the nature of education?", "What

entities are the main focus in educational management?", and "What is the relationship between individuals, institutions, and educational goals?" are important to answer in order to strengthen the theoretical and practical framework of this field (Zagorulko et al., 2018).

In the world of education, a deep understanding of the nature of science is an important foundation in the development of educational management theory and practice. Ontology, as a branch of philosophy that studies the nature of existence and reality, plays a crucial role in forming the conceptual framework of science. According to Suaedi, ontology explores questions such as "what is in this world?" and "how can something exist?" to explain reality and the relationships between them (Sangrá et al., 2019).

In the context of educational management, the ontological aspect helps understand the nature and reality of education itself, including questions about the basis of education, the implementation of educational concepts, and what is considered true and real in the context of education. This understanding is essential to formulate effective goals, methods, and strategies in educational management. As explained by Karisna, reviewing the nature and reality is part of an ontological study that includes questions about the nature of knowledge and its truth. However, the integration of ontological concepts in philosophy with educational management practices often does not receive adequate attention. In fact, ontological understanding can provide a deeper perspective in decision making, policy formulation, and implementation of educational strategies. For example, in Islamic educational management, the ontological aspect is related to the nature and reality of Islamic education itself, including questions about the basis of Islamic education, the implementation of educational concepts, and what is considered true and real in the context of Islamic education (Laplane et al., 2019).

In a practical context, understanding ontology allows education managers to design policies and strategies that are in accordance with the ontological reality of the world of education. For example, if we understand that the essence of education is the process of human transformation towards better humanization, then the entire process of education management must be directed to support this transformation. Conversely, if education is viewed solely as a process of knowledge transfer, then education management will focus on the efficiency of the learning process without paying attention to the dimensions of ethics and values (Lohse, 2017).

Ontology also contributes to building an inclusive and adaptive education management paradigm to change. In the modern era marked by the dynamics of globalization and technological advances, an ontological approach helps us understand the essence of these changes and their implications for the education system. Thus, education management based on ontological understanding is not only able to answer contemporary challenges, but also prepare a sustainable education system for the future (Epstein, 2016).

Therefore, a study of the ontological aspects of science from a philosophical perspective that is associated with education management is relevant to carry out. This study is expected to contribute to the development of education management theories and practices that are more rooted in a deep philosophical understanding, so that they are able to answer the challenges and dynamics in today's world of education.

METHOD

The research method used in this study is a literature study, which is an approach to collect and analyze information from various literature related to the ontology of science and educational management. Literature studies are conducted by tracing books, scientific articles, journals, research reports, and other relevant reference sources. This process involves systematic steps, starting from identifying the topic and purpose of the research, collecting literature, critical analysis of the content, to synthesizing the findings to construct a coherent argument. In the context of this theme, literature studies aim to understand the fundamental concepts of ontology and how these concepts are applied in educational management. The analysis is conducted to explore theoretical perspectives from experts, understand the relationship patterns between ontological elements in the education system, and identify their practical implications. With this method, it is hoped that a comprehensive and in-depth understanding of the correlation between the ontology of science and educational management can be obtained, while providing a strong theoretical foundation for the development of further studies.

FINDINGS AND DISCUSSION

Concept of Ontology of Science

Ontology is a branch of philosophy that studies the nature of existence and reality. The term comes from the Greek: "ontos" which means "that which exists" and "logos" which means "science". Thus, ontology is the science that discusses "that which exists" or existence. As one of the most ancient branches of philosophy, ontology focuses on fundamental questions about what really exists in this world and how things can be categorized and related to each other. In ontology, the concepts of being and reality are the center of study. Existence refers to everything that exists, both concrete and abstract (Stancin et al., 2020).

Ontology seeks to identify and classify the various forms of existence, as well as to understand the basic nature of reality itself. For example, the question of whether a particular entity is real or merely a construct of the mind is part of ontological exploration. The relationship between ontology, epistemology, and axiology in science is very close. Ontology discusses what exists (the nature of reality), epistemology discusses how we know something (sources and methods of knowledge), and axiology discusses the value and purpose of that knowledge. These three branches of philosophy are interrelated in building the foundation of science. Ontology determines what objects can be known, epistemology determines how to know those objects, and axiology assesses the benefits or purposes of the knowledge gained (Mitchell & Sackney, 2016).

By understanding the concepts of ontology, epistemology, and axiology, we can have a more comprehensive perspective in studying and developing science. This philosophical approach helps in formulating fundamental questions, appropriate research methods, and applications of knowledge that are valuable to human life. Philosophy plays a fundamental role in shaping the educational framework. As the mother of all sciences, philosophy encourages the development of critical, analytical, and reflective thinking skills that are essential for educators and students (Malakhov et al., 2023).

Through a philosophical approach, education focuses not only on the transfer of knowledge, but also on the development of character and moral values. Philosophical thinking helps individuals solve everyday problems, make wise decisions, and use reason proportionally. Philosophy teaches individuals how to think critically, analytically, and reflectively, which is very important in the context of education. The philosophical approach teaches us not to simply accept what is taught, but to question, analyze, and reflect on every piece of information or idea given. This is not only beneficial for educators who need to plan curriculum or evaluation, but also for students who are taught to think in a deeper and more structured way. For example, an educator who teaches philosophy or problem solving would encourage students to think more deeply about social, political, or scientific issues. For example, in a history class, students might be taught to question the viewpoints presented in the textbook and to analyze historical events from multiple perspectives.

The philosophy of education focuses not only on academic achievement but also on the moral and character development of students. This approach teaches that education should include the development of good character traits, such as honesty, responsibility, hard work, and empathy. The goal is for individuals to become not only intellectually intelligent, but also wise and ethical in their everyday actions (Salatino et al., 2018). Philosophy trains individuals to think logically and rationally in facing various life challenges. In the context of education, this means teaching students how to solve problems systematically, assess the consequences of various decisions, and make the right choices based on ethical and practical considerations. For example, a student who is trained to think philosophically will be able to analyze personal or social problems with a more careful and thoughtful approach. For example, a student who is faced with a situation where he is asked to choose between following a friend who is doing wrong or standing firm on the principle of truth, can use philosophical thinking to assess the consequences of his choices and choose to act with integrity (Sattar et al., 2020).

Philosophy also teaches individuals to use their reason proportionally, not excessively considering one thing, but also not ignoring other important things. Philosophical thinking helps one achieve balance in the decision-making process and minimizes bias or emotions that can damage objectivity. When faced with the choice between pursuing a lucrative career or living a simpler but more meaningful life, a philosophical approach can help one think about what is more important in his life such as long-term happiness or material achievement and make a wise decision based on deep personal values (Achadah & Fadil, 2020).

Overall, philosophy provides a deep and broad framework for thinking in the world of education, with the aim of not only equipping students with knowledge, but also forming good character and thinking skills, so that they can face the challenges of life wisely. Ontology, as a branch of philosophy that studies the nature of existence and reality, provides a basis for deepening the essence of education. In the context of education, ontology helps answer fundamental questions about what education is, why education is needed, and what its ultimate goal is. Understanding the ontology of education helps educators and stakeholders create educational systems and processes

that touch on the fundamental dimensions of humans as beings with reason, emotion, and physicality.

Educational ontology asks: What is education really? This question not only touches on technical definitions, but also deep reflections on the role of education in human life. Education is not only understood as a process of transferring knowledge, but also as the formation of a whole individual. For example, the essence of education can be seen as the process of forming humans who are able to think critically, behave morally, and are able to contribute positively to society. For example, education at the elementary level aims to provide cognitive basics such as reading, writing, and arithmetic, but also instills basic values such as honesty, discipline, and cooperation (Susanto, 2021).

The ontological aspect also encourages educators to think about what the ultimate goal of education is? Is it only to produce individuals who are materially successful, or to form wise, moral, and happy humans? In character-based education, the ultimate goal of education is not only academic achievement, but also the formation of students' personalities. For example, a teacher integrates values such as empathy and respect into daily learning, so that students learn to understand and appreciate the existence of others in their environment. The ontological approach also helps design comprehensive education policies. Policies that only focus on the cognitive aspect tend to produce individuals who are technically skilled but lack strong moral character. In contrast, an educational policy based on ontological understanding will integrate intellectual, emotional, and spiritual development. The educational curriculum in Finland, for example, places student happiness as one of its top priorities (Rokhmah, 2021). This reflects an ontological understanding that education is not only about achieving academic achievement, but also about creating individuals who feel satisfied and meaningful in their lives.

In the digital era, understanding educational ontology is becoming increasingly important to deal with change. Technology is often considered only as a tool to convey knowledge. However, from an ontological perspective, technology must also be seen as a medium to enrich the affective and psychomotor dimensions of students, in addition to just cognitive. Technology-based learning such as virtual reality (VR) can be used to provide a holistic learning experience. For example, VR can simulate a historical environment that allows students to understand the historical context (cognitive), feel empathy for historical figures (affective), and hone digital navigation skills (psychomotor) (Yasin et al., 2018).

Educational ontology helps educators understand and formulate the essence of education as a holistic process. By paying attention to cognitive, affective, and psychomotor aspects, education can be a tool to form individuals who are balanced intellectually, emotionally, and practically. The implementation of this ontological understanding produces a more humane, relevant, and meaningful education system (Luthfiyah & Khobir, 2023). Ontology, as a branch of philosophy that studies the nature of existence and reality, is the foundation for understanding the essence of education. Educational ontology seeks to answer fundamental questions such as: What is the nature of education? What is the ultimate goal of the educational process? By understanding the ontological aspect, educators can formulate a deeper educational concept, which not only

focuses on the cognitive aspect, but also includes the development of the affective and psychomotor aspects of students (Nurasa et al., 2022).

The implications of ontological philosophy on the goals and methods of education are very significant. With an ontological foundation, educational goals can be directed at the development of the whole person, which includes intellectual, moral, and spiritual aspects. Educational methods are also adjusted to achieve these goals, by emphasizing a holistic and humanistic approach. For example, in character education, ontology helps in understanding the nature of the values to be instilled, so that teaching methods can be designed effectively to shape the personality of students with integrity. Thus, the integration of philosophy and ontology in the context of education provides a strong foundation for the development of a comprehensive education system, which is not only oriented towards academic achievement, but also towards the formation of character and human values.

Educational Management in Ontology Perspective

Educational management, as a discipline that regulates various aspects of the education system, has an essence that can be reviewed from an ontological perspective, namely reality, existence, and values. Ontologically, educational management focuses on the management of resources, processes, and interactions in the educational environment to achieve predetermined goals. This includes the arrangement of curriculum, educators, students, facilities and infrastructure, and other aspects that shape the reality of education. The existence of educational management is manifested through practices and policies implemented in educational institutions, while the underlying values include the principles of justice, efficiency, and effectiveness in achieving educational goals (Youngs, 2017).

Educational management is a discipline that aims to regulate all aspects of the education system to achieve predetermined goals. When reviewed from an ontological perspective, educational management focuses on three main elements: reality, existence, and values. Each of these elements provides an in-depth understanding of how the education system is managed efficiently and meaningfully. The following is a detailed explanation of the three elements (Fellenz, 2016):

1. Reality in Educational Management

Ontology views reality as what exists and can be observed in the context of education. In educational management, reality includes resources, processes, and interactions that occur in the educational environment. Resources include curriculum, educators, students, facilities and infrastructure, and budget. Then the process includes planning, implementation, and evaluation in educational management. While interaction includes the relationship between various stakeholders, such as teachers, students, parents, and the government. A school designs a curriculum based on student needs (student reality) by considering the capacity of educators and available facilities. The interaction between teachers and students during the learning process is also a reality that is managed to ensure that learning objectives are achieved.

2. Existence in Educational Management

Existence refers to the existence of educational management practices and policies in educational institutions. This practice includes how management is actually implemented in the field, while policies include guidelines that direct the implementation of such management. The existence of educational management can be seen from the implementation of routine meetings by the principal to evaluate teacher performance, management of school operational funds, or implementation of extracurricular programs.

3. Values in Educational Management

Values include principles that form the basis for implementing educational management. These values reflect the deep purpose of the education system, namely to create a fair, efficient, and effective environment. All students get the same opportunity to access quality education. Likewise in the optimal use of existing resources to achieve maximum results. So that the achievement of educational goals is in accordance with the established plan. In the principle of justice, a school provides scholarships to students from underprivileged families, so that they can continue their education without economic barriers.

A school wants to improve student literacy. In planning, they develop a reading program based on the level of student ability (reality). This program is then implemented by involving teachers and providing appropriate books (existence). After the program is running, the principal evaluates its impact by seeing whether the program is fair (all students participate), efficient (funds are used optimally), and effective (literacy skills increase). Educational management from an ontological perspective provides a deep framework for understanding and managing the education system. By combining reality, existence, and values, educational management focuses not only on the end result, but also on the underlying process and principles. The holistic implementation of these elements creates an educational environment that supports optimal and sustainable student development (Chung & Kim, 2016).

The ontological principles in education management include sustainability, meaningfulness, and empowerment. Sustainability refers to efforts to ensure that the education system can continue to run and develop over time, with the management of education funds based on the principles of justice, efficiency, transparency, and accountability. Meaningfulness relates to the relevance and value of the education process itself, ensuring that what is taught and learned has a positive impact on individuals and society. Empowerment emphasizes the empowerment of all stakeholders in education, including educators, students, and communities, to actively participate in the education process (Ornellas et al., 2018).

First, sustainability. Sustainability refers to the ability of an education system to continue to operate and develop over time. This principle emphasizes the wise management of educational resources, so that they can support current needs without sacrificing the capabilities of future generations. It is carried out based on the principles of fairness, efficiency, transparency, and accountability to ensure optimal use of the education budget. *Second*, meaningfulness. Meaningfulness emphasizes that education must be relevant to the needs of individuals and society and have a positive impact on the development of students. A meaningful education process will produce individuals who are able to think critically, creatively, and contribute to their environment. Learning content must be adjusted to real-world needs, such as STEAM-based education (Science, Technology, Engineering, Arts, Mathematics). Education must shape character and provide applicable life skills. *Third*, empowerment. Empowerment in education means providing opportunities for all stakeholders (educators, learners, and communities) to actively participate in

the educational process. Empowerment aims to create an inclusive and collaborative educational environment. Teachers are given the necessary training and support to develop their competencies. Students are encouraged to become active and creative independent learners. Communities are involved in decision-making regarding local education policies.

The three ontological principles in education management (sustainability, meaningfulness, and empowerment) create a strong foundation for an adaptive, relevant, and inclusive education system. Consistent implementation of these principles not only supports the continuity of education, but also ensures that education brings real benefits to individuals and society. Through the implementation of effective strategies, education can become a tool for sustainable social transformation (Suminar, 2019). The integration of ontology of science into educational management practices offers a holistic approach that emphasizes a deep understanding of the nature of education. This approach seeks to see education as a whole, inseparable entity, by considering cognitive, affective, and psychomotor aspects in a balanced manner. Thus, educational management does not only focus on academic achievement, but also on the development of character and social skills of students.

The ontology of science focuses on the nature or essence of everything, including education. When applied in educational management, ontology provides a holistic approach, involving a deep understanding of the existence, reality, and values of education. This holistic approach views education as a complete unity, encompassing cognitive (knowledge), affective (emotions and attitudes), and psychomotor (physical and motor skills) aspects in a balanced manner (Andrianto, 2018). A holistic approach in educational management integrates various aspects in the learning process, not only limited to academic or cognitive aspects, but also includes affective development (character, attitude), and psychomotor (physical skills). Thus, educational management recognizes that the true goal of education is the development of the individual as a whole, both in terms of intellectual, emotional, and practical skills.

The integration of ontology of science in educational management practices offers a comprehensive holistic approach, where education is seen as a whole that involves balanced cognitive, affective, and psychomotor development. This approach encourages educational management to pay attention not only to academic achievement but also to character formation and the development of students' practical skills. Thus, students can develop into individuals who are not only smart but also good, skilled, and ready to contribute to society (Ermda & Ardimen, 2023). The implementation of ontological philosophy in educational management is a strategic step to create a more holistic education system that is relevant to the needs of modern society. However, to overcome challenges such as resistance to change, limited resources, and lack of understanding of concepts, a structured approach is needed, starting from intensive socialization, strengthening resource support, to mentoring and supportive policies. With commitment from all parties, ontology integration in educational management can be implemented effectively and have a positive impact on student development (Sari et al., 2024).

The relevance of ontology integration in curriculum development, human resources, and educational technology innovation is very significant. In curriculum development, an ontological approach ensures that the material taught is not only informative but also meaningful and relevant

to the lives of students. Meanwhile, in human resource management, ontological understanding helps in the professional development of educators who are able to understand and apply educational concepts in depth. As for educational technology innovation, this approach ensures that the technology applied is in line with holistic educational goals, not just as a tool, but as a means that enriches the learning process.

Thus, the integration of ontology of science in educational management practices encourages the creation of a more comprehensive, meaningful, and adaptive education system to the development of the times. A holistic approach that integrates cognitive, affective, and psychomotor aspects in educational management can produce more balanced students, not only academically intelligent but also have good character and practical skills. This contributes to the formation of individuals who are ready to face the challenges of a complex and dynamic life.

CONCLUSION

The nature of ontology as a branch of philosophy that discusses being and reality provides a fundamental foundation for science. Ontology helps answer essential questions about the nature, purpose, and value of an entity, including in the context of education. A deep understanding of ontology allows educators, academics, and education managers to develop a more holistic approach to managing educational institutions, which are not only oriented towards results but also towards the process and its impact on humanity. The relevance of ontology in building an educational management framework is very large. By making ontology the basis of values, educational management is able to create a system that is not only efficient but also meaningful. The principles of sustainability, meaningfulness, and empowerment, which come from the philosophy of ontology, become important pillars in educational management that aims to produce individuals who have integrity, are intelligent, and are able to contribute to society. The integration of ontological philosophy into modern educational strategies is very important to face the challenges of the digital era and globalization. Curriculum development, human resource management, and the application of educational technology based on ontology not only increase efficiency, but also ensure that educational goals remain based on universal human values. Thus, ontological philosophy becomes a solid foundation in creating an adaptive, relevant and meaningful education system for all stakeholders.

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