Epistemology of Islamic and Western Perspectives (Teaching The Concepts of Scientific Thinking for Elementary-Age Children)

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Abstract

Epistemology related to philosophy can be likened to a branching tree. The tree of philosophy has branches in the form of subdisciplines; philosophy of science, ethics, aesthetics, philosophical anthropology, and metaphysics. Epistemology is a branch of philosophy that is devoted to the sources of knowledge. To arrive at an understanding of Islamic epistemology, it is necessary to use a genetivus subjectivus approach, which places Islam as the subject and object of epistemology. Epistemology as a result of human reason does not intend to interpret Islam but aims at how to acquire knowledge, how the methodology of knowledge, the nature of knowledge, and so on related to epistemology. So by itself, Islamic epistemology studies Islam itself, or in other words epistemology according to Islam. This formulation makes a distinction between Islamic epistemology in general. Islamic epistemology in addition to general epistemology concerns relevance as a source of knowledge and inspiration. Epistemology generally assumes that truth is human-centered because humans have the authority to determine knowledge. This paper tries to compare epistemology in the Islamic and Western worlds as teaching the concept of thinking for elementary-age children.

Keywords: Elementary Childhood, Epistemology, Islamic and Western Philosophy, Teaching.
INTRODUCTION

Philosophy and epistemology have a close relationship if likened to a tree with branches (Badruzaman, 2019:52-64; Mufid, 2013:19-40). This is because philosophy has many sub-disciplines, including aesthetics, ethics, anthropological philosophy, philosophy of science, and metaphysics (Ritauadin, 2015:127-144). Each branch of the discipline has sub-disciplines, namely ontology, epistemology, logic, and axiology. The scope of the philosophy of science is divided into 3, namely related to what you want to know or what is called ontology, how to acquire knowledge or what is called epistemology, and what is the function of the value of knowledge for humans/axiology (Rofiq, 2018:161-175).

The three scopes are interrelated, and if you want to study the epistemology of science, it must be related to the ontology and also the axiology of science. In terms of language, the origin of epistemology is episteme which means knowledge, while logos means knowledge. Epistemology is a branch of philosophy of science that discusses the origins or sources, methods, and structures (Bahrum, 2013:35-45; Hidayat, 2016; Wardi, 2013:54-69). As for knowledge, it appeared early in the mid-nineteenth century in a book by Rarrier entitled Institute of Metaphysics. Epistemology of science is the science that deals with "what is knowledge and how do you get it?" (Rokhmah, 2021:172-186).

Based on the description above, it is clear that epistemology is closely related to something related to philosophy. Because, philosophy is the mother of all sciences that seek to know the nature and truth of knowledge, and is a method that has the aim of delivering humans to obtain knowledge and a system to obtain the truth from science. This is based on a study of speculation that every science has a different way of obtaining it, both from the systematics, and the way to obtain it (Khojir, 2011).

According to Nursalim (2013:387-406), he argues, knowledge if is obtained through experience then is said to be with knowledge of experience, while knowledge if obtained through systematics and information, is referred to as science and seeking further information is referred to as knowledge. Knowledge is the "first ladder" for science to find out more information.

The phenomenon shows that elementary-age children tend to be consumptive with the sophistication of technology in the form of smartphones. On this basis, efforts are needed to educate children about the importance of experimenting, observing their surroundings, and acquiring concepts of knowledge from nature. This effort will be carried out optimally through the concept of instilling an epistemological philosophical attitude to children. Thus, during the learning process children are assisted to be able to independently and proactively find lesson concepts and know the stages of implementation (procedures) of learning.

The concept of teaching epistemology to elementary-aged children is implemented through learning based on a scientific approach. Where, children are educated to act and behave scientifically through the process of observing, asking, associating, discovering, and concluding each learning process. In this context, the role of the teacher and collaboration with parents is very much needed as an effort to engineer a maximum conducive learning climate for children.

Indeed, previous studies have discussed epistemological studies from various perspectives. Starting from the research of Rahmadani, et.al. (2021:307-311) and Winata & Sahudi (2020:48-59) who studied it to strengthen character education. Another study conducted by Fadli (2021:130-161) revealed that there is a relationship between epistemology and science and the concept of its development in the industrial revolution 4.0 era and society 5.0 era. Salam (2019) also examines relevant studies from the reconstruction aspect of the philosophy of science paradigm. Furthermore, there is research by Hikmawan (2017) on epistemological studies and their relevance to an educational philosophy based on humanistic educational psychology.

Observing the relevant research above (literature review), it can be seen that epistemological studies are very interesting and have been reviewed by previous researchers. Likewise, there is an "empty space" that has never been studied before about epistemology, namely teaching for elementary-age children based on a
scientific approach. On this basis, the researcher seeks to deepen the study which is summarized in the research title, "Epistemology of Islamic and Western Perspectives (Teaching Conceptions of Scientific Thinking for Elementary Age Children)".

METHOD

This study examines the epistemology of Islamic and Western perspectives. The scope of the discussion is aimed at teaching the conception of scientific thinking for elementary school-aged children. Sources of research data, which will then be analyzed, are obtained from scientific references including articles (scientific journals), books, proceedings, and final assignments (thesis, theses, dissertations) through credible search pages (Assingkily, 2021). On this basis, the research carried out includes qualitative research using the literature study method. In analyzing the data, the researcher first sorts the data according to the research topic, then the researcher analyzes the data. The method used in the analysis of this research is a descriptive-analytical method with a focus on the epistemology of Islamic and Western perspectives as teaching for the conception of scientific thinking for elementary school-aged children.

RESULTS AND DISCUSSION

Definition, Scope, and Position of Epistemology

Etymologically, epistemology comes from the Greek, namely episteme which means knowledge, and logos means knowledge. Meanwhile, in terms of terminology, epistemology is a branch of the philosophy of science that discusses the origin, nature, character, and types of knowledge and also discusses the nature of science, its scope, basics, sources, and discusses how to account for its truth.

Epistemology seeks to answer the question of "what can be known, and how one can know it" (Supartono, 2005). As for that knowledge, it is learned through the scientific method, which is a way to get true knowledge. This method is what distinguishes science from other ideas, which do not use the scientific method, where this scientific method discusses in-depth all that is visible (phenomena) or invisible (metaphysics) to acquire knowledge.

In the world of philosophy, according to Azizy (2003), epistemology is a philosophy of science that tends to stand alone. Epistemology seems to talk about itself, dissecting more deeply about itself, it deals with what needs to be known and how to know a concept of knowledge. Epistemology is then defined as a branch of philosophy that deals with the nature and scope of knowledge, presuppositions, and basics as well as general reliability that can be used to recognize something like science.

Epistemology in Western Perspective

There are differences of opinion among scientists in describing epistemological methods. Broadly speaking, there are three classifications of epistemological methods including Rationalism, Intuitionism, and Empiricism. While Kattsoff in Salminawati & Hasibuan (2021) divides it into 6 parts, namely empiricism, phenomenology, rationalism, intuitionism, and scientific methods and hypotheses, what is discussed in this article deals with 3 (three) only, namely empiricism, rationalism, and criticism.

1. Empiricism (empirical)

When viewed etymologically, Empiricism comes from the Greek, empeiria, empeiros which means experienced, skilled, and acquainted. Meanwhile, in terms, empiricism is a source of knowledge that is not derived from reason and a doctrine that the source of all knowledge is obtained through the senses. Thus, adherents of this school assume that the senses are the basis or source of knowledge. This flow was pioneered by Aristotle who argued that sensory knowledge is the basis of all knowledge, while essential science is the science of universal concepts and meanings, which is the essence and essence of something (Ismail & Mutawalli, 2003).
One of the philosophers who was born in England named Francis Bacon in 1561/1626 argued, it would be impossible for humans to know the nature of science without the mediation of the senses, which is the beginning of all knowledge. According to him, knowledge is something that is obtained through the senses, because something that is obtained by the senses is the right thing. A similar opinion was also expressed by Mill in 1806/1873 who argued that the senses are the truest source of knowledge, whereas reason is not, but rather the mind has the task of processing a material obtained through the senses through the inductive/induction method.

In contrast to the two opinions above, Locke in 1632/1704 who argued that reason is like a white paper that will be filled with various experiences, thus giving birth to an idea, which is why he concludes all knowledge from an experience. In this context, there are several weaknesses of empiricism including:

a. The senses can manipulate. For example, a person who suffers from malaria feels that sugar is bitter, hot air becomes cold, so it produces a knowledge that is not true.

b. Limited senses. As in the case of objects that are far away will appear small, even though the object is large, with limited sensory abilities can report objects that are not as they are, so that it will lead to a wrong conclusion in knowledge.

c. The object can manipulate. For example, the illusion of a mirage where the object should exist but cannot be reached by the senses.

d. The weakness of the human senses as well as the object of the senses. For example, in one of the senses, namely the eye, we cannot see closely all the limbs of a buffalo and a buffalo also cannot reveal all of its body, causing weakness that comes from the senses as well as from the object. That is, if humans look closely at the buffalo, then what is visible is the head of the buffalo, while the tail or back is not visible (Butar-Butar, 2021:240-246; Tafsir, 1999).

2. Rationalism

Rationalism is the opposite of empiricism, if the school of empiricism argues that knowledge does not come from reason/reason, then rationalism is the opposite, which argues that knowledge is obtained through reason/reason using deductive methods, and among its characters, Rene Descartes and Leebniz, and when the classical period of rationalism was pioneered by Plato. Some of these figures are the most famous figures in the flow of Rationalism. The debate that took place between Plato and Aristotle, who became the prototype for the forerunner of rationalism and empiricism, it is clear that Plato put more emphasis on reason as a source of knowledge because according to him, the results obtained through the senses are not capable of providing strong knowledge, because their nature can change so that it is less accurate and difficult to accept the results. While Aristotle emphasizes the senses as a source of acquiring knowledge (Teng, 2016).

Rene Descartes is a person who made philosophy rise in Europe, through his philosophical studies, he said that "I think that's why I exist". According to him, thinking is a truth that contains certainty, so it is a principle of Descartes' philosophy and is a standard for the beliefs of philosophers (Choiriyah, 2014:237-243; Ash-Shadr, 1993).

Leibniz in his knowledge makes the concept of fitrah (natural and natural) and considers ideas, as well as general principles as a hidden readiness in the soul that cannot be felt, and requires a response from the senses in order to turn to feelings (Ismail & Mutawalli, 2003). Rationalism does not deny the function of the senses but says that the senses are only a stimulus for a reason which will provide material to be digested by the mind, then the mind processes it, to form good and valid knowledge. If Empiricism chooses the induction method, rationalism prefers to use the deduction method, because this method uses a lot of logic to make a decision.

3. Criticism

Criticism is a school that bridges the conflict between rationalism and empiricism, which is related to reason and the senses as a source of knowledge. Based on this, the question arises as to which is the actual
method of knowledge? (Baskara, 2007). Based on this, Immanuel Kant, who was a German philosopher, emerged in 1724/1804 AD, in order to reconcile the two contradictions between rationalism and empiricism, so that a school known as Criticalism was formed, this school tried to combine the two schools. The flow of criticism begins by investigating the limits of the ability of the ratio, as a method of acquiring knowledge. Immanuel Kant said that the role of reason is very large, especially in a priori knowledge (source of knowledge that comes from before experience occurs) both in the form of synthesis and analysis. While empiricism plays a role in aposteriori knowledge obtained after the experience (Izzah, 2013; Hudin, 2019:168-183).

**Islamic Perspective Epistemology**

In the concept of Islamic philosophy, the object of study is in the form of Allah's verses, namely His words written in His holy book, and verses that are implied and contained in His creation, namely the universe and humans. If you study the scriptures, then what is born is religious knowledge, while if you study the universe in physical or material dimensions, it will give birth to natural science and exact science, which includes the study of humans in relation to their physical dimensions. However, if you examine the non-physical dimensions, such as behavior, character, and existence in various aspects of life, it will give birth to the science of humanities. The study of the three verses of Allah is carried out at the level of meaning, which seeks to find its essence, thus giving birth to the science of philosophy (Atabik, 2014).

As a branch of the philosophy of science, epistemology specifically deals with the source of a source/theory of knowledge. Epistemology as a result of human thought, does not intend to interpret Islam, but aims at how to obtain knowledge, how the methodology of knowledge, the nature of knowledge, and so on, which are related to epistemology. So by itself, Islamic epistemology is studying epistemology from an Islamic perspective, or in other words, is an Islamic perspective epistemology (Mujahidin, 2013:41-64; Amin, 1983).

The epistemology of the Islamic perspective is related to revelation and inspiration as a source of knowledge, so this becomes the formula for distinguishing between Islamic epistemology and general epistemology which considers humans as a source of knowledge (Buseri, 2015:77-102). In the Qur'an, it is explained in detail about the verses that indicate the means used in obtaining knowledge. The facilities mentioned include hearing, sight, reason and heart. As explained in the word of Allah, which means: "And Allah brought you out of your mother's womb knowing nothing, and He gave you hearing, sight and heart, that you might give thanks." (Surat an-Nahl: 78).

Based on the verse above, humans must use these tools to gain knowledge and faith. Thus, the Qur'an instructs humans to use the five senses as well as reason in terms of acquiring knowledge, both spiritual and material. Because, reason and senses complement each other, and between the two can not be separated as claimed by the philosophers of empiricism and rationalism (Soleh, 2005).

According to the views of Muslim philosophers, the theory of knowledge is at least divided into three types, namely, First, the knowledge obtained rationally by the characters, namely al-Farabi, Ibn Bajah, Ibn Sina, and Ibn Rushd. Second, knowledge obtained through the senses is limited to the classification of sources of knowledge. Third, knowledge gained through inspiration. Among these three theories of knowledge, the most dominant of the philosophical traditions, namely Rational knowledge, compared to sensory knowledge which has less place, even though the Qur'an contains many verses that encourage humans to use their senses to be a source of knowledge.

According to al-Farabi, the fa'al sense is that which relates to God, and only the Prophets and Philosophers have it. In addition, Ibn Sina argues that what is known as teaching revolves around "creation" and "active reason". According to him God is the only pure knowledge and true goodness and His existence is a must. Ibn Bajjah is known as a rationalist, he puts reason in a high position. According to Ibn Bajjah, the highest and correct knowledge is that which is free from material elements. The method for obtaining this knowledge, namely by being alone is called 'uzlah, which is separating oneself from the community. According to him, the first source of knowledge is Allah.
As for the level of knowledge that can be reached by the human mind based on Ibn Bajjah's opinion, it is divided into three types because the imagination and intelligence of every human being is different, for example, first, the knowledge of the Prophet is the highest level which by the power of Allah has not been trained the Prophet can acquire knowledge; second, the knowledge possessed by friends and pious people, who get some of the knowledge related to the unseen; The third is knowledge that is obtained through the grace of Allah, with his mind he can gain little by little knowledge regarding God, Prophets, angels and books and the last day (Sodiq, 2017).

Ibn Thufail's theory of knowledge seeks to harmonize Aristotle with the Neo-Platonists on the one hand and al-Ghazali on the other. Ibn Thufail argues that religion is basically following the nature of the mind (philosophy). Ibn Thufail said that the origin of religion was according to the realm of thought/philosophy. The development of the human mind is divided into six parts namely, (Irawan, 2011)
1. By utilizing the power of his mind he can know the developments that exist in nature, and think that every event that occurs must have a cause.
2. By thinking about objects in the sky that circulate regularly.
3. By paying attention to someone's happiness, then he has witnessed the obligatory existence of Allah.
4. By thinking about humans who are animal creatures, but Allah made them more special than animals.
5. By thinking about human safety and happiness.
6. Witness that humans and the universe are perishing, will also return to Allah.

Ibn Rushd believes that reason and revelation never contradict, because they both lead to the truth. Ibn Rushd argues that the task of philosophy is none other than thinking about the being or the substance who created everything that exists in this world through Allah's revelation. According to al-Jabiri, the epistemology of the Islamic perspective is divided into three, namely: (Jaenullah, 2018)
1. Bayani

_Bayani_ is a typical Arab thought method that emphasizes the authority of the text, either directly or indirectly. Directly means understanding the text as finished knowledge (whole concept) and directly applying it without the need for thought, while indirectly it means understanding the text as knowledge so that it needs interpretation. However, it does not mean that reason or ratio can freely determine the meaning, intent, and purpose, but must still rely on the text.

In the method that uses _bayani_, to gain knowledge, it is necessary to take two ways, first, namely by adhering to the text editor, by using Arabic rules. The second is to use qiyas which is the main principle in the bayani method. In the study of ushul fiqh, _qiya_ can be interpreted as giving a legal decision on a problem based on other problems that have legal certainty in the text because of the similarity of _illat_ (Syafirin, 2009).

2. ‘Irfani

_‘Irfani_ in language comes from _‘arafah_ which means the word _ma’rifa_ which means knowledge, _‘irfani_ and also _ma’rifah_ are related to knowledge obtained directly. In terminology, _‘irfani_ can be interpreted as knowledge obtained through the irradiation of the essence by Allah to His servants who carry out spiritual exercises that are carried out on the basis of love (Anshori, 2015:137-138; Al Bustomi, _et.al._, 2020). As for the _‘irfani_ method, the way to gain knowledge is by getting closer to Allah so that you get _ma’rifatullahi_.

3. Burhani

The _burhani_ method is a rational movement carried out through extracting premises that produce conclusions and contain values. _Burhani_ epistemology is knowledge related to philosophy and science obtained through the movement of translating foreign books. Including translating Aristotle's books into Arabic. In this _burhani_ method, the way to gain knowledge is through translation movements of foreign books (Kulsum, 2020:229-241; Akromullah, 2002).
CONCLUSION

Based on the description in the previous sub-discussion, it is concluded that the epistemology of the Islamic perspective proposes 2 (two) outlines of scientific conceptions, namely perennial knowledge and acquired knowledge which are integrally sourced from the Qur'an and hadith based on the worldview of monotheism. While the epistemology of the Western perspective suggests that the concept of science is based on logical formulas, hypotheses and verification. The concept of teaching that can be obtained by children through the essence of epistemological material in education is the conception of scientific (scientific) thinking, starting from the concept of observing, asking, associating, discovering, and communicating (concluding).

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