

The nature of science in Islam (philosophical analysis)

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Abstract

Science is something of the great urgency in learning by having the primacy of the subject of thinking, in which the process of fostering a mindset and maturity of action can be realized in problem solving and socializing. From a philosophical point of view, science is actually formed because humans try to think further about the knowledge they have. The purpose of writing this scientific paper is to find out, identify, and understand science in Islam in the form of (1) its essence (2) objectives (3) implementation in Islam. The type of writing is library research, namely obtaining reference sources from books related to the discussion, the holy book of the Qur'an, and journals are indicated by ISSN. The writing in this scientific work can be divided into two data methods which are interconnected, namely: primary data used as the main object is the book on Islamic education philosophy by Ramayulis, Margustam, and Hasan Basri. Meanwhile, secondary data sources are used by the author as a treasure trove of thinking that has relevance to science in the discussion of this writing. After obtaining the appropriate data, then it is analysed by using inductive techniques.

Keywords: Nature, Science, and Islam

INTRODUCTION

Islamic education is a process of guidance to humans, including physically, and spiritually based on Islam that has *Taqwa* in the patientce of guiding and directing the development of the *fitrah* (basic abilities) for students with Islamic teaching towards maximizing growth and development. The efforts to foster the subject itself require a treasure of deep thinking that we devote to students because the light of science is correlated to all aspects of human life, both thinking power, and experience. So, regarding science, it is not enough when it is based on skill, but it also requires thinking power in universal. Studying science is not only with the *output* of scientifically critical research, but also sources are needed and must be interrelated with one another.

During the 7-12 centuries AD, the progress of Islamic education was dominant, all Muslim scholars felt that it was never enough to master in one branch of knowledge. Muslim leaders have to be very enthusiastic about *upgrading* themselves and completing various kinds of competencies and other fields of knowledge. This is motivated by the perspective of Islam itself on the existence of science and the urgency of understanding various fields of science for Muslims. This tendency is a habit of Muslim leaders to improve their quality and *endeavor* in the glory of Islam at that time. However, the current progress of globalization has changed the circumstances in human life, so that there is a negative impact in the good meaning of science, such as the incompatibility of Muslim thinking about the usefulness of science which the knowledge obtained from the process of that can increase intellectual intelligence.

Improving intellectual and intelligence become a function of education and are related to all aspects for the educators, students, educational institutions, methods of learning, curriculum, strategies in learning, evaluation, the moral responsibility of educators, facilities and infrastructure, libraries as well as literature studies, welfare education, financial support from the government for education, both material and moral from parents, vision and mission of education, educational goals, and others. All of them influence the intrinsic success of education.

After describing the background, this research will be focused on the nature of science from an Islamic perspective, then what is the purpose of science from an Islamic point of view, and how to implement science.

METHOD

The type of writing used library research that obtain the data from libraries such as scientific books, the Qur'an, and other related documents. The type of writing is library research, which is obtaining references and sources from books which are related to the discussion, the holy book of the Qur'an, and journals that are by ISSN. The writing in this scientific work can be divided into two which are interconnected, namely: primary data used as the main object is the book on Islamic education philosophy by Ramayulis, Margustam, and Hasan Basri. Meanwhile, secondary data sources are used by the author as a treasure trove of thinking that has relevance to science in the discussion of this writing.

RESULTS AND DISCUSSION

The author's study of science means a systematic learning process that is carried out consciously in research increases the treasures of thinking in many factual aspects in oneself so that the process of not knowing becomes knowing the knowledge gained. Science gives reality through limiting the scope of view, and scientific certainty that is obtained through its limitations. Science is not only knowledge, but also the collection of knowledge based on agreed theories and systematic testing through a set of methods that exist in certain scientific fields.

At the same time, we know Philosophy of Education in general as well as Philosophy of Islamic Education in particular, is part of philosophy when studying philosophy requires a prior understanding in the definition of philosophy to its correlation with education, especially Islamic education. Philosophy means "love of science". Philosophy itself comes from its origin, namely *Philo* means love, and *Sophos* means "scientific/wisdom". Along with the development and progress of the times, the current human way of thinking has a tremendous improvement (Sadulloh, 2014).

Seen through history, the initial knowledge was only limited to observing the symptoms that appeared. After that it was added to the knowledge gained through the observation of existing natural phenomena, then increased by knowledge gained from long-term thought. Then, proceed from increasing the ability to think, humans can experiment in searching of evidence and truth in science. Through the results of, processing the data obtained from this experiment, then obtaining the latest knowledge as a form of endeavor for the quality of human resources (HR) (Iqbal, 2015).

Efforts to improve human resources (HR) require a lot of insight, because science is related to all aspects of human life, be it from thoughts or experience. Thus, discussing education can not only be sufficed with experience, but also universal and in-depth thinking. The study of science cannot be fulfilled through the results of scientific research, however, the studies that are interrelated with one another are also needed.

This is the importance of humans in learning epistemology, is based on the basic principles for the birth of progress and development of science. Humans study epistemology is he most basic principle for the birth of progress and development of science. Epistemology is the second object of study in the philosophy of science, with a very particular discussion of the *theory of knowledge* or called the theory of science (Iqbal, 2015). Without epistemology, in to complete ontology and axiology, then science will not experience develop and progress well until now. The urgency of the study in this epistemology has implications for the development of science, a civilization that is advanced, scientific, and modern as it is today.

The nature of science in Islam

The term epistemology comes from Ancient Greek, from "*episteme*", means *knowledge*, and "*logos*" means theory. Etymology, epistemology means knowledge. The branch of philosophy in discussing or studying the discussion of method, structure, origin, and validity of a science is called epistemology (Gazalba, 2002).

Epistemology tries to answer related processes and becomes the possibility of knowledge in the form of science. how does this work? What are the criteria? What is truth itself? What things should be considered to gain knowledge as science? The theory of truth, according to philosophy, among others, is correspondence, consistency, pragmatic, and religious. Correspondence truth is the compatibility between facts and real situations. Truth is the correspondence between statements when what is experienced by the subject is adjusted through reality, the factual object, and something is said to be true. This theory is based on the ontological view, that in nature, there is an objective world that is independent, and the subject who is aware of it. Therefore, the truth must be determined from external factors and not only from internal (Siregar, 2017).

From this point of view, truth is objective. In simple terms, truth is the subject's impression of a factual and the comparison between impressions to the truth of objects. If

both of them matched, then the equation is true. For example, in the subject's mind that the location of UIN Sunan Kalijaga in Yogyakarta. The information is true, that is the truth of the *correspondence*. If in his mind the location of the State Islamic University (UIN) Sunan Kalijaga is Yogyakarta is Bengkulu, then this is not in accordance with reality.

Then, the theory of consistency is a search for truth based on the consistency (constancy) of ideas or impressions that are owned about a reality. That is, according to there is consistency between ideas or individual impressions of others for a similar object, then this is considered correct. So, something is said to be true to the extent that there is consistency between the truths received by one subject and another regarding the same factual (object). For example, the ideas (1) that every human being must feel meeting and parting. The idea (2) Suliyem is that a human being will inevitably part. Idea (3) then Suliyem will definitely have a meeting and feel the separation. So the first, second, and third ideas are consistently true. That is the truth of consistency.

Every science, when it was viewed from the point of view of the philosophy of science, has a foundation like a pillar that further strengthens existence. The scientific foundation is divided into three aspects that have coherence with one another, namely: aspects of ontology, aspects of epistemology, and axiology. According to Mujamil Qomar, there are differences in these three aspects, in terms of emphasis or discussion. The Greek intellectual tradition is more emphasized on Ontology until the discourse that arises for its philosophers emphasizes more on the dialogue of the substantive truth of what exists, when cognition or sensory context, the Ontology Tradition then gives rise to knowledge whose source is a speculative character about philosophy (Suharto, 2014).

In addition, in the Western intellectual tradition that focuses on the epistemological area, western philosophy concerned with the process aspect, namely the truth of science is built as a process on how truth or reality in science is built so that this process gives birth to epistemological truth.

From the various complementary definitions, it can be formulated that there are significant differences between western philosophy and Islamic education philosophy. Where the perfection of the philosophy of Islamic education comes from the main sources of Muslims, namely, the Qur'an and the Sunnah of the Prophet Muhammad.

The word science is mentioned 854 times in the Qur'an. Used when the process reaches its goal. Science from the aspect of language has the meaning of clarity, then science is something that discusses something. The issue of the nature of science (Ontology) has been debated among materialists as well as idealists. Materialists know that knowledge is empirical, understanding that knowledge is only obtained through the senses that exist in the material world of the world. In contrast to the Idealists including Islam, stating that knowledge is not only obtained through the empirical senses but also from its immaterial nature, namely knowledge that originates from Allah the Creator who created that knowledge (Ramayulis, 2015).

God's command in seeking, finding, and studying knowledge can be understood in 2 aspects, namely: (1) The Qur'an commands humans to use their minds, according to Sheikh Muhammad Abduh, that some blessings are given from God to humans is the heart and mind. In harmony with the words of Allah QS *Al-Hajj* 22: 46) then, (2) The Qur'an commands humans to research the universe, this command is only a command but so that humans understand the signs of God's power and the glory contained in it to human needs themselves. (Surah Yunus 10:101).

Humans have a sense of curiosity this is a natural desire *entry point* for the emergence of various sciences. Thus, the birth of science starts from the curiosity of humans to something that exists. What he knows is called the philosophy of knowledge (*Epistemology / Theory of Knowledge*). Koento Wibisono explained that science emerged from Immanuel Kant (1724-1804) explained that science refers to the scope and limits of knowledge appropriately and precisely (Suharto, 2014).

Theory of Knowledge, idealism explains its point of view that knowledge obtained from the senses is incomplete and uncertain because the world is only a hoax, is a shadow that does not match reality. True knowledge is the result of mere reason because reason can give different spiritual forms of things beyond the material. Then Hegel explained Plato's concept of the theory of knowledge stating that knowledge is called valid and still systematic, then human knowledge of reality is true for a systematic sense. The theory of knowledge, as well as truth idealism, looks at rationalism as well as coherence. based on the opinion that particular items of knowledge become significant when viewed in the overall context (Sadulloh, 2014). Therefore, all ideas and theories must be *validated* concerning their coherence in the

development of pre-existing knowledge systems. Thus, knowledge is not found from sense experience, but from conceptions in principles as a result of the activity of the soul. It is the human soul that organizes sensory experiences so that intellectual intelligence increases.

Improving intellectual intelligence becomes a function of education and is related to all aspects, be it educators, students, educational institutions, methods of learning, curriculum, strategies in learning, evaluation, the moral responsibility of educators, facilities and infrastructure, libraries as well as literature studies, welfare education, financial support from the government for education, both material and moral from parents, vision and mission of education, educational goals, and others. All of them influence the intrinsic success of education. The nature of education touches 4 most urgent things and become the foundation of the continuity of a good education, namely as follows (Basri, 2009).

Initially, education was carried out informal as well as non-formal institutions, namely in family schools, as well as in the community. Education is essentially a process of fostering the human mind that has the potential of itself as a thinking creature. Coaching that is formed by the mindset, humans can be expected to further increase their intelligence and increase their maturity in thinking and especially acting in solving problems in their daily lives.

Second, education is also a skill exercise when getting sufficient knowledge from the results of his mind. So the skills in question are objects that assist in human life because through these skills humans seek their life needs.

Third, the purpose of education is the realization of a society that has high manners and culture through indicators of increasing intellectual and intelligence in the community, morals and ethics of an authoritative and good society that can form a noble personality which aims at national education, namely the development of the potential of students to have intelligent character, spiritual character. and good characters (Dikbud & Tokyo, n.d.). The 2013 curriculum which emphasizes character has a program to produce the best graduates one can expect. There are only two characteristics, namely (1) being able to live quietly and (2) being productive in life together (Tafsir, 2012).

Thus, it can be concluded that the nature of knowledge in Islam is an obligation that is required for all Muslims. Even the obligation to seek knowledge from birth to death. For example, mothers who are pregnant are advised to do more obligatory worship and the *sunnah*

is better in terms of reading the Qur'an, and *dzikir* because the morals of a good mother when pregnant have a great influence on the child being conceived. Likewise, for a newborn baby, his parents read the *adzan* as well as the *iqamat* because hearing is a sensory organ that functions very early. The sound that is heard has meaning for the baby's early monotheism.

Islamic science is essentially the development of all human potential (element of reason, element of sense-intention, heart-spiritual, etc.) and structuring of morality based on an Islamic value system. In Islam, the one who knows is Allah in his word: "*Verily Allah is All-Hearing and All-Knowing.*" Humans seek, find, and research knowledge using their minds. Allah is omniscient, from the verses of the *Qur'aniyah* and the verses of the *Kauniyah*, humans give interpretations to the *Qur'aniyah* verses and carry out research on the *Kauniyah* verses, then Islamic knowledge emerges. Islamic knowledge was born. Another trait taught by the Qur'an and Hadith for Muslims is an open-mind, being able to gain knowledge from their efforts through hearing, sight, and heart.

The Purpose of Science in Islam

Science plays a role in interpreting a phenomenon that can be seen and rational. For example, someone turns on a lamp and then the lamp illuminates the room, then science explains what are the factors that cause the lamp to turn on. So, with knowledge, everything can be explained (Nata, the n.d.)

Humans in education occupy a central position because apart from being subjects, humans are also seen as objects of education. Seen as a subject, humans determine the direction of education. Humans have the potential and power to be developed, nurtured, and empowered, which in turn become creatures with personality and character.

The purpose of education is to achieve a society that has high morals and civilization. The most important indicators, namely: the achievement of the development of the subject's intelligence, good character, and good and wise morals as well as the development of noble character. Consistency with complex science, many aspects must be considered, namely: the field of demonstration, motivation, and the realm of strategy in the psychological revolution of students. Of course, these aspects must exist in every implementation of science in Islam to achieve the goals of true national education (Siregar, 2015).

While humans as objects of education, humans are the focus of all theories as well as educational activities. Because, when their life process continues to develop and grow, direction and guidance are needed. This is in line with Ali-Ashraf's opinion, that the concept of education should rely more on understanding who humans are. This means that the human concept provides provisions for all things in the world of education fundamentally. The concept of Islamic education, for example, cannot be fully understood before understanding the Islamic interpretation of the concept of individual development (Siregar, 2020).

In essence, discussing the purpose of science from an Islamic point of view cannot be separated from the purpose of human life. The goal itself is an object or goal to be achieved by someone. The purpose of science or what we usually call education is the interpretation of the purpose of human life. While the purpose of life is influenced by belief in himself, philosophy, science, culture, and others (Siregar, 2017).

The Islamic point of view requires that humans can be nurtured so that they can realize their goals in life in accordance with the noble words of QS. Adz-Dzariyat: 56, QS. Al-Baqarah: 21, QS. Al-Anbiya': 25 and QS An-Nahl: 36. In this case, stated by Jalal quoted by Ahmad Tafsir that some people think that worship is only limited to carrying out the pillars of faith and the pillars of Islam. Apart from that, it is not considered worship, but in essence, worship includes all matters of charity, thoughts, and feelings that are associated with the creator, namely *Allah Subhanahu Wa Ta'ala*. Worship is a way that includes all things that are done in the form of words, deeds, feelings, thoughts, which are associated with God. In this case, the purpose of Islamic education must be to prepare humans to become servants of Allah (*'ibad al-Rahman*) (Tafsir, 2019).

When we discussed the purpose of Islamic education, it means talking about Islamic nuanced values. In this case, it means that the achievement of the hereafter from the process of Islamic education is the goal to realize the ideals of Islam and this essentially has the value of human behavior based on a sense of faith and piety to the creator, namely *Allah Subhanahu Wa Ta'ala* as a source of absolute power, must obey the case of *amar ma'ruf* and *nahi munkar*.

Science Implementation

Pay attention to the motivation of the Qur'an in studying science, how to obtain knowledge in Islam, and the Qur'an is the main source of noble knowledge. So, an

educational institution should study the knowledge contained in the Qur'an, because the Qur'an is like an ocean of knowledge that is wide and deep, when humans can wade through it, they will also get a lot (Ramayulis, 2015). Where students who always study knowledge and practice it are a dedication to Allah *Subhanahu Wa Ta'ala* as the creator of the light of science.

We all understand that the implementation of science has strong relevance to the teacher. In the process of Islamic education, the teacher has an important role for the world of *tholabul ilmi*, or what we usually know as the claimant of knowledge. That is why, Islam has highly values and respects people who are knowledgeable and work as teachers, to successfully transfer knowledge to students or carry out their duties, Al-Ghazali suggests that a teacher must have good character/morals. This implies that students will imitate their teachers (Basri, 2009). The Rasulullah Saw said, *Verily Allah is holy, the angels, and the inhabitants of the heavens and the earth, both ants in their holes and fish in the sea, will pray for safety for those who teach goodness.*" (HR. Muslim).

Educators pour knowledge and motivate so that all students are eager to seek, explore, and develop knowledge. Not only that, but the implementation of science is also very concerned about the realm of strategy in the mental revolution of the following students (Siregar, 2017).

Learn good things, Students who study positive and negative things. Individuals will be able to make decisions which values are chosen from considerations of their moral awareness, freedom, and understanding, as well as which values have good meaning from the process of finding a positive identity. So, the benefits are through the habits of people's behavior. Without understanding of freedom, the definition and awareness are not found in actions that have character. This behavior is an instinct or ritual that is close to the way animals act. It is explained in (Surah Az-Zumar 39: 9) Are you a polytheist who gets lucky or a person who worships at night prostrating and standing, while he is afraid of punishment and hopes? to God's grace? Say: "Are there the same people who know and those who don't know?" indeed a man of reason who can accept his lesson.

Moral feeling and loving, it is emphasized in knowing the feelings and behavior or the claimant of knowledge as well as the actions of others and increasing his awareness of the value in himself. So the students have a sense of sensitivity so that they have an empathetic attitude, animate and recognize values , and can communicate openly and honestly with others, emotionally aware of their values, beliefs, feelings, and behavior, and socialize with others.

Repentance by carrying out *takhalli*, *tahalli*, and *tajalli*, Repentance is essentially returning to the way of Allah *Subhanahu Wa Ta'ala* after committing a sin that is hated by Allah. Where he regrets the behavior or sins he has committed, he also promises not to carry it out and has a strong determination to improve himself in a kaffah Islamic way.

Based on this explanation, the author can formulate that the implementation of the nature of science is very complex, many aspects are considered, namely: exemplary, motivation, and the realm of strategy in the mental revolution of students. Of course, these aspects must exist in every implementation of science to achieve the goals of national education and avoid the existing massification. In this case, it is in line with the implementation of education that the author pays attention to at (SDIT) Rabbani, where the teachers and parents always pay attention to the 3 points above and communicate with each other and show in the form of an activity book report. So that good learning accompanied by love, the attention of parents and teachers in schools would be fulfilled each other, and always guides students and directs them when they make mistakes by doing repentance such as saying the word forgiveness *istighfar*, accompanied by a motivation not to repeat it.

CONCLUSION

Islamic science is essentially the development of all human potential (element of reason, element of sense-intention, heart-spiritual, etc.) and structuring of morality based on the Islamic value system. In Islam, the one who knows everything is Allah as he says: "*Verily Allah is all-hearing and all-knowing.*" Humans only seek, find, and research knowledge using their minds. Allah is omniscient, from the *Qur'aniyah* verse and the *Kauniyah* verse, humans interpret the *Qur'aniyah* verse and carry out their research on the *Kauniyah* verse, then Islamic knowledge emerges. Another characteristic that is taught from the Qur'an and Hadith for Muslims is open-mind, this can make it possible to gain knowledge from their efforts through hearing, sight, and heart.

The purpose of Islamic education means talking about Islamic nuanced values. In this case, it implies that the achievement of the hereafter from the process of Islamic education is nothing, but a goal that realizes Islamic ideals. The Islamic ideal itself essentially contains the value of human behavior based on a sense of faith and piety to the creator, namely Allah *Subhanahu Wa Ta'ala* as a source of absolute power that must be obeyed in the case of *Amar ma'ruf* and *nahi Munkar*.

The author can formulate that the implementation of the nature of science is very complex, many aspects are considered, namely: exemplary, motivation, and the realm of strategy in the mental revolution of students. Of course, these aspects must exist in every implementation of science to achieve the goals of national education and avoid the existing massification. In this case, it is in line with the implementation of education that the author pays attention to at (SDIT) Rabbani, where teachers and parents always pay attention to the 3 points above and communicate with each other and show them in the form of activity book reports. So that good learning accompanied by love, the attention of parents and teachers in schools are fulfilled each other, and always guides students and directs them when they make mistakes by doing repentance, such as saying the word forgiveness *istighfar*, accompanied by a motivation not to repeat it.

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