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Harmonization of Islam and Science in Education: Development of Scientific Integration

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Abstract:
This study aimed to analyze the progression of scientific integration, specifically the integration of Islam and science into educational practices. The research into the relevant literature used the databases of many international publishers that are associated with theoretical studies. Integration is more than just the coming together of scientific and Islamic viewpoints; it also involves bringing together scientific and Islamic modes of thought and behavior. Since it is made abundantly clear in the Qur'an that there is an invitation to seek or find all that exists, but because the way of thinking of each individual is different, the conclusion that can be drawn from this research is that there should have been harmony between science and Islam since the inception of Islam. This is because there is an invitation to seek or find all that exists; it needs to be fixed as soon as possible because both science and Islam are critical to the continuation of the human race.

Keywords: Islam, science, education, Islamic education, scientific integration.

伊斯兰教与教育科学的协调：科学整合的发展

摘要：
本研究旨在分析科学整合的进展，特别是将伊斯兰教和科学整合到教育实践中。 相关文献的研究使用了与理论研究相关的许多国际出版商的数据库。 整合不仅仅是科学和伊斯兰观点的结合； 它还涉及将科学和伊斯兰的思想和行为模式结合起来。 由于《古兰经》中非常清楚地表明存在寻求或发现所有存在的邀请，但由于每个人的思维方式不同，因此从这项研究中可以得出的结论是，应该有 自伊斯兰教诞生以来，科学与伊斯兰教一直和谐相处。 这是因为存在寻求或发现一切存在的邀请； 它需要尽快修复，因为科学和伊

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斯兰教对人类的延续都至关重要。

关键词：伊斯兰、科学、教育、伊斯兰教育、科学整合。

1. Introduction

Science is often considered an objective, universe-ordered science. Premodern science and spirituality are linked. Pre-modern science saw coherence between scientific and spiritual knowledge, or a comity model between believers and scientists (Firmansyah, 2022). Islamic culture has produced numerous influential academics. Ibn Khaldun, Ibn Sina, Ibn Rushd, al-Farabi, and al-Ghazali were famous Muslims. These Muslim scholars helped Western civilization and led to the Renaissance (Bassiouni, 2015; Ahmad et al., 2016). Religiously committed Muslim youth don't benefit from science education. Most violent Islamist extremists have technical backgrounds (Gambetta & Hertog, 2016; Sahin, 2018).

Contemporary attitudes that divide Islam from science have hampered research and technology in Muslim majority countries. This has slowed down scientific and technical progress in Muslim-majority countries (Butler, 2003; Mustafa et al., 2021). The rationality narrative values reason, science, and knowledge. Humanism values this. "First humanist" Socrates promoted human reason and ethics (Schjetne & Hansen, 2021). Society appreciates science, education, and science education. They overlap and interact (Hildebrand, 2007; Chowdhury, 2016). Aristotle described the objective, function, and utility of moral character (Chowdhury, 2016). Moral exemplification was important to Aristotle. Aristotelian virtue is about intrinsic human qualities, so phronesis is important. Phronesis organizes appetite, emotions, and feelings into an admirable character (Chowdhury, 2016).

Adopting the new integrated curricula appears tougher than preparing them. Many governments are hesitant to embrace integrated Islamic education since it changes individuals, society, and people (Atique, 2012; Aree & Rahman, 2016; Priatna, 2020). Iqra, meaning read, is the Qur'an's first Zord. Education is the cornerstone of Islam. Allah asks in the Quran, "Are the learned and the ignorant equal?" (Al-Quran, Part 39, Verse 9). The Muslims must be educated. The Prophet Muhammad said, "Every Muslim must pursue knowledge." Science deals with facts, not values, say most scientists. Values aren't objective like science (Allchin, 1998; Chowdhury, 2016). According to Hurd (1998) and Chowdhury (2016), successful science curriculum modifications should focus on rigorous science teaching. Science educators suggest a process-driven approach. It requires stressing societal and scientific values (Corrigan et al., 2007; Chowdhury, 2016). A science curriculum should stress science and technology's benefits to society (Asia and the Pacific Programme of Educational Innovation for Development, 1991; Chowdhury, 2016). The re-emergence of values in science education requires an understanding of value-science interactions in national and cultural contexts and their societal or cultural repercussions.

2. Literature Review

2.1. Scientific Integration

In numerous nations, "integration" refers to "assimilation" into a pre-existing, cohesive social order with a consistent culture and established norms and values. Integration is more than just a process of giving and receiving. In addition to this, it is made up of intricate and multifaceted practices, including economic, social, and cultural aspects. It is impossible to increase the likelihood of successful integration by identifying a particular path and result (Rüdiger et al., 2003; Sengupta, 2015).

In the integration of Islam, science, and technology into the living environment, three main ways to merge scientific investigation and religious practice are mentioned. The first interpretation, according to Barbour, is the natural theology school of thinking. This school of thought believes that one can reach a conclusion about the existence of God based on evidence indicating a systematic design in the universe and that individuals will obtain an understanding of their place in the world based on this evidence. The second perspective, known as "theology of nature," contends that the basic origins of theology reside outside the realm of scientific research. Science and religion are viewed as largely separate sources of ideas by both the scientific and religious communities. The third and final technique is the systematic synthesis, which can be employed when both science and religion contribute to the development of a more consistent worldview within an all-encompassing metaphysical framework (Barbour, 2000; Sunhaji, 2018).

Al-Attas (1978), a Malaysian scholar, is credited with being the first person to use and introduce the term "Islamization of knowledge" in a contemporary context. He did so in his book titled "Islam and Secularism." It is possible to use Al-explanation Attas's of Islamization as a definition of what it means to be "Islamic." According to this definition, the fact that Muslim scientists have produced scientific findings does not by itself make science Islamic. Instead, it should be called "Islamic medicine" because it was freed "first from a national-cultural tradition that is magical, mythological, animistic, and contradicts Islam, and then from the hold that the material world has on the reasoning and language of man" (Al-Attas, 1991; Deuraseh et al., 2011).

2.2. Islam and Science

Hadith and the Qur'an serve as the foundation for an "Islamic" organization's moral code, which is derived from "the words of Allah" (The words of Prophet Muhammad; Peace be upon Him). To explain and clarify the Islamic roots of their socio-economic policies and practices, Muslims frequently quote from the Al-Quran, the occurrences, and experiences that occurred during the life of Prophet Muhammad (PBUH). This is done to demonstrate that Islam is an institution. The Shariah Principles (also known as Islamic Law) and the norms of humanity can be traced back to the Holy Qur'an and Hadith. In its most fundamental form, the Shariah, which is an essential component of the revelation, is a set of rules for human conduct that covers every sphere of life. Every single Islamic organization is obligated, from a theological standpoint, to adhere to the Shariah principles outlined in Islamic law and to possess Islamic knowledge and comprehension regarding all aspects of the working environment (Seidu, 2006; Rahman et al., 2013).

During the eighth century, the Muslim scientists revised and re-introduced Greek scientific treatises in the various fields of knowledge, including astronomy, medicine, engineering, botany, chemistry, and mathematics to the Arabic-speaking world (Guessoum, 2008; Mustafa et al., 2021).

Later on, many Muslim scholars working in various fields of contemporary knowledge gave their takes on how their projects should be interpreted. Sadly, the people who assisted him in clarifying his project did not appreciate what he meant by the phrase "Islamization of knowledge. Al-Attas (1978) defined "Islamization" as the liberation of man from secular control over his reason and language and from magical, mythological, animistic, national cultural traditions hostile to Islam. This term applies to the process of Islamization in a more general sense as it occurred throughout history. A person is deemed a man of Islam if he has reached the point when his reason and language are no longer influenced by supernatural forces, mythology, animism, or their own national and cultural traditions that are in direct conflict with Islam and secularism (Deuraseh et al., 2011).

The extent to which modern natural sciences can be applied to people's day-to-day living experiences has a significant bearing on the ways in which Islamic people relate to science and their intellectual and scientific tradition. This is because of the deep connection that exists between the two. In this conversation about the link between Islam and science in places where Islam is practiced, regardless of which side of the debate one chooses to defend, there are two essential facets that should be considered. The first one is connected to the issues and requirements that are significant to the way of life in Muslim nations on a day-to-day basis. The governments of the Muslim world must do everything in their power to ensure that they are always on the cutting edge of scientific and technological advancements. The second facet relates to the realm of ideas, namely the intellectual arena, where people often look to the scientific tradition of Islam as an alternative to current science and the intellectual principles that underpin it when attempting to explain natural occurrences (Kalin, 2006; Mansour, 2011).

Religious books connected with current disciplines, such as *tafsir*, *hadith*, *fiqh*, etc., have been introduced into Islamic education at all levels, beginning with primary school and continuing through higher education (Munadi & Hakiman, 2021). As a result, there is now a seamless integration between religious belief and scientific inquiry. The process does not, however, establish a foundation in established philosophical principles; all it does is link scientific findings and religious texts. Therefore, the teaching of science and religion does not result in the complete comprehension of the students (Nugroho, 2017). The vast majority of contemporary research on Islam's relationship to education in Western nations is carried out not by academics trained in education studies but rather by sociologists, historians, political scientists, and ethnologists. These disciplines are responsible for conducting the research. In a recent issue of comparative education review that was prepared by a well-known historian of Islamic thought, the writers claim to differentiate between "truths" and "myths" surrounding the educational system of Islam (Kalin, 2006; Sahin, 2018).

3. Methods and Materials

This paper covered literature as a method for performing research and public offers, as well as how to locate and conduct library searches. The steps of literature research carried out in this study were preparing tools, compiling a bibliography of works, managing time, reading and making research notes, and sources of data obtained from relevant literature such as books, and scientific articles related to the chosen topic. This study used content analysis to analyze data. This analysis is used to draw meaningful conclusions and is context-dependent (Snyder, 2019).

4. Findings

A modernist reformer contended that God's words cannot contradict his creation, nature. As a result, he underlined that the Qur'anic verses do not contradict the scientific data that may be gathered from an investigation (Coruh, 2020; Sururin et al., 2021). The logic of the modern world of science uses three technical phrases: the subjective, the objective, and the intersubjective. These terms are particularly important when discussing the relationship between science and religion (Bracken, 2009; Abdullah, 2014). In other words, the study and understanding of religion are always subjective. Although there is indeed a degree of objectivity within religion, it is also true that there is always a degree of subjectivity attached to it as well as the other way around. Fundamentally speaking, religion is nothing more than structured subjectivism (Martin,

1985; Abdullah, 2014).

Muslims and non-Muslims alike have engaged in and generated knowledge in the field of Islamic education studies, which seeks to characterize and evaluate what constitutes education, educational principles, and educational philosophy in the Islamic tradition. Using the term "Muslim Education" may indicate that only Muslims engage in such endeavors. Bucar (2018) proposes a distinction very similar to this, arguing that the term "Islamic virtue ethics" is better than "Muslim virtue ethics," which is broader (Sahin, 2018).

The integrated learning model is a potential method that might be applied to make the study of Islamic religious education more contextual and all-encompassing. Not only is there an emphasis placed on the manner of integrating values in the textual elements; rather, this emphasis is placed everywhere. The following is a list of the scientific arguments that support the process of integrating Islamic religious education with the natural sciences: 1) Followers of this religion are expected to direct a significant portion of their mental energy on contemplating the world that God fashioned. By reading the passages that God has provided, which contain both the *kauniyah* verse and the *kauliyah* verse, human people can learn about God's power and how it can be used. However, if they don't give any thought to it, they can't possibly know anything about the creation that God made. 2) The educational resources that are provided in the Natural Sciences are the ones that provide a substantial level of detail regarding the natural occurrences and sustainability of biotic and abiotic elements. These details are provided by the resources that are presented in the Natural Sciences. 3) The amount of faith and dedication to God that is shown by the pupils is the single most important factor in determining whether or not an Islamic Religious Education program is successful. Through faith, religious behavior evolves, and tafakur and tadhabur define the establishment of faith and devotion in the religion. *Tafakur* and *tadhabur* are about God's creation. The idea that God was responsible for creating the natural world is central to this thought process.

There is no longer a divide between general knowledge and Islam because of Islam's reconstruction of science; rather, Islam and general knowledge are now functionally related to one another (functional correlation). The period between 650 and 1250 AD is referred to as the "Glory Age of Science in Islam." This refers to the period when science was systematically integrated into Islamic culture (Ja'far, 2015; Wahyuni, 2020).

Next, it is crucial to have serious dialogues with Islamic academics and persuade them that scientists have much to add to conversations on matters that have been the exclusive domain of religious experts and their speech for far too long. This brings us to the next important issue. Although it is general knowledge that human knowledge grows and evolves, it is also common information that the essential doctrines of many religions, particularly Islam, are absolute, immutable, transcendental concepts founded in rigid frames of reference. In the modern world, however, religions, including Islam, cannot afford to take a static attitude. If they do, they risk coming into conflict with and being eclipsed by modern knowledge, and the fundamental tenets of their faith will start to look increasingly archaic and out of date (Guessoum, 2011; Abdullah, 2014).

Islamic and secular education both aim to develop persons academically, socially, and physically, while secular education includes spiritual and moral components. There should be harmony in the development of all of these components, with none of them being given preference over the others. Instead of developing one's intellect alone, education in Islamic cultures is aimed at developing one's full person, rather than just one's intellect (Sheikh, 2013; Eissa & Khalid, 2018).

The religious belief that is married to scientific inquiry in the world of today will be a widow in the world of tomorrow. Science, in all its numerous ideas and guises, is in a perpetual stage of development. The study of biology in 2050 will possibly be quite different from the study of biology now, just as the study of religion in 1850 was very different from the study of religion today. However, in the future, the religion of today that is indifferent to the findings of scientific research will not have any offspring. From this point on, no religion will be able to pass on its beliefs to subsequent generations unless it first addresses the natural processes and assertions about human nature that are currently in front of us. The difficulty is akin to that which living biological species encounter when attempting to adapt to a changing environment. Even while a good match is required for survival, overspecialization is virtually certainly the path that will lead to extinction. Any religion that has, to an excessive degree, accommodated any scientific theory will soon become irrelevant. It must maintain both independent integrity and resiliency. However, for religion to survive, it must conform to the intellectual world that serves as its surroundings. Even in this arena, only the strongest survive (Rolston, 1987; Abdullah, 2014).

5. Discussion

How may religion and science be integrated philosophically and theologically? Integrating faith and science has been a source of controversy between supporters and opponents. This is because of science and religion's terrible past (in medieval churches) (Draper, 1986; Khozin & Umiarso, 2019) and Islamic science (Iqbal, 2007; Khozin & Umiarso, 2019). Islam worships Qur'an and Sunnah knowledge and depicts education as a protracted process of training individuals to actualize their responsibility as Caliph of God Almighty on earth and to participate completely in the construction and development of their community to

achieve wealth in this world and the hereafter (Hassan, 2003; Wahyuni, 2020).

The national curriculum is supplemented with religion and Islamic moral education by systematically incorporating Islamic concepts and regulations of conduct into both general and religious sense courses in addition to schoolwork. Realistic views of the secular system are considered at the school, which also supports the Islamic cause. Muslim students and the next generation of Muslims are educated in the Islamic principles and values that they are expected to abide by. It stresses moral and religious training like a boarding school (Hasan, 2009; Bahroni, 2016). How can Islamic education improve? 1) Develop system-holistic training programs that include modern secular disciplines. 2) Dialogic cooperation of Islamic and secular universities for research-methodological, methodical, and source base growth 3) Establish a coalition of Islamic educational facilities, research institutes, and secular universities to develop textbooks for basic and applied Islamic study (Bektenova et al., 2017).

Muslim scholars discuss science and Islam. They have different perspectives on how to implement integration into the school system. Science and Islam specialists question the proposed methodology (Mufid, 2014; Khozin & Umiarso, 2019). The Islamic body of knowledge does not restrict itself to observation and deductive reasoning, and the scope of the scientific investigation of the world is unthought to be complete. It incorporates both the spiritual and material parts of society, nature, and the world through the fusion of revelation and intuition, and it holds the belief that there is more going on in reality than what appears to be at first glance (Golshani, 2007; Mansour, 2011). Many historical publications on Islamic education and medieval Muslim pedagogy offer new insights (Makdisi, 1990; Tibawi, 1978; Rosenthal, 2007; Gunther, 2015; Sahin, 2018). This education provides future preparations: potential reading for their lives; potential responses to difficulties; personalization (eliminating multiple personalities); capability to disseminate the Islamic message; perceptual integration (eliminating perceptual dichotomy); globalization; capability to maintain nature (Getteng, 1997; Halik, 2016).

Favorite Islamic school for morals: Islamic education is about history, religion, and morality; Balanced and secular education includes futuristic and wonderful values; Islamic education promotes democracy and independence (Tilaar, 2002; Halik, 2016). Islam emphasizes logical, spiritual, and social learning. An approach to education in Islam that is comprehensive and integrated seeks to achieve a balanced evolution of the total personality by educating the spirit, intelligence, rational human self, sentiments, and senses of the body to infuse a person's faith into his entire personality. This is accomplished by teaching the Qur'an (Al-Attas, 1979).

6. Conclusion

It is anticipated that the incorporation of Islamic scholarship and scientific inquiry into educational practices will render knowledge acquisition both more meaningful and more accessible. Because of this, Islamic education will assist students in knowing, comprehending, living, believing, having faith, and possessing a noble character in the application of Islamic teachings from Al-Quran and Al-Hadith through teaching, guiding activities, training, and use. This will make it possible for Islamic education to guide students toward knowing, understanding, living out, believing in, and having faith in the practice of Islamic ideas.

7. Limitations and Further Study

The weakness of this research lies in the method of data collection. This research seeks to integrate Islam and science into education through a literature review. For further research, empirical method is recommended for integrating Islam and science in education. Researchers can examine it casuistically to give a deeper insight into the integration of the two.

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