The Integration of Religious Values into Sciences-Related Topic Toward Postmodernism of Science in Islam

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ABSTRACT

For a long time, Islam has a dichotomy tradition of science and religion. As a result of the Dutch colonialism, dual education and curriculum systems were born in Indonesia, namely the education system of the ministry of national education which was often considered as a secular curriculum and the education system of the ministry of religion which considered less in science aspect.The democratization era provides opportunity to synthesize them with the advent of Integrated Schools of Islam as an alternative. This research aims to find out how the integration of Islam values into science. The qualitative method is used as research methodology. The data were collected through observation, in-depth interview, and documentation. The result of the research reveals that the school not only teaches the science, but also *the fact behind the fact*. They integrate science and spiritual values of Islam. The integration is done by synthesizing two curriculums into one curriculum of Integrated Elementary School of Islam. It is a great effort towards the synthesis of postmodernism of science in Islam.

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1. INTRODUCTION

The dichotomy of science into religious and non-religious sciences is not actually new. Islam had the dichotomy tradition more than a thousand years ago. But, it does not cause too many problems in the education system of Islam, so that through imperialism the Western secular education system is introduced to Islam (Kartanegara, 2005a; Muchith, 2015). Even though the dichotomy between the religious and non-religious sciences is already known in classical works, such as Al-Gazali and IbnKaldun, IbnRushd(Mas'udi, 2013; Soleh, 2012; Zarkasyi, 2018) he acknowledges the scientific validity and status of each scientific group.

In contrast to the dichotomy in the world of modern Islam, western science often underestimates the scientific status of religious sciences. In the epistemology of western science today, science only focuses on empirical matters, even the psychology only focus on physical behavior, even they do not recognize it as science (Ghozi, 2011; Khusna, 2018; Surur, Agus Miftakus, Siti Mahmudah, 2018). This epistemology dominates the world, especially in Islam world. The western epistemology is another form of modern colonialism (Saiba, 2008). Some Westerners have criticized western civilization because it makes the world chaos and collapse (Alvin, 2002; Aprison, 2015; Capra, 2007). When this science concept enters the Islam world, it causes various reactions and problems, including Islamization and the integration of science and religion (Anshori, 2015; Billa, 2011; F. Hidayat, 2015; Kadir & Ibrahim, 2010; Kuntowijoyo, 1998; Umar, 2016).

In Indonesia, Mulyadi Kartanegara states that the Islamization is a confusing concept and it has been considered as universal (Kartanegara, 2003). He claims that (Kuntowijoyo, 1998) the new concept of Islamization similar to the paradigm of prophetic social science, but this concept has not developed well and it lacks adequate response from Indonesian scientists (Arifin, 2014). AM Saefuddin published the book of Islamization of science and campus (Saefuddin, 1998, 2010).

After reform era, in 1998, the integration gained momentum, the higher education institution of Islam also develop such as Institut Agama Islam Negeri (IAIN) and Sekolah Tinggi Agama Islam Negeri (STAIN) develop into Islam Negeri (UIN) (Asiyah, 2016). Almost all UIN in Indonesia use the integration of science and religion as the basis development (Husni, 2016; Ni'am, 2011; Salahuddin, 2014). For examples, UIN Malang uses the symbol of the tree of knowledge (Suharto, 2014; Zainiyati, 2015). UIN Jogjakarta uses the term spider web integration-interconnection (Abdullah, 2007). UIN Bandung uses revelation to guide knowledge (Editor, 2006; Tim, 2006). UIN Jakarta uses integration of general science and religious science (Setiady, 2009). It can be concluded that the framework of integration of science and religion for the higher education institution of Islam in Indonesia is quite a lot. However, the education institutions of Islam at the elementary schools (SD), junior high schools (SMP), and senior high schools (SMA) level are lack.

Out of such confusion, the integrated elementary school of Islam (SD IT), Cahaya Hati Bukittinggi had been integrated science and religion. From such uncertainty, Cahaya Hati, Integrated Islamic Elementary School (SDIT CH) Bukittinggi present with a vision of integration between science and religion. The study of this integration, has developed from the initial study, Sarah Croche (Croche, 2015) by taking the Senegal locus has conducted a study of the relationship between science and religion using "Actor- Network-Theory" and "Foucalt's" Apparatus" concept concluded that schools teach contradictory messages some to their students , they do not teach religion in academic sense , but teach religion in all schools (Arslan, 2019) conducted a study of reading the universe by heart and practicing science as religious ethic by taking Fatullah Gulen, this article explains that scientific practice uses reason and heart as a way to understand the greatness of God. Gulen understands Islamic epistemology to fight the domination of Western epistemology. However, this article fails to reconstruct an epistemology that can reconcile science and religion. The study was added by Hakan Oruh (Coruh, 2020; Robinson, 2020) by taking the modern interpretes of Sayyid Ahmad Khan, Muhammad Abduh, and Said Nursy. Berry (Billingsley, Berry, Fran Riga, 2014; Black, 2017; Walker, 2019; Yasri, 2012) and colleagues describe their study in England on high school teachers' perception of bridging lessons in harmony with religion. To what extent do they collaborate in teaching both? The answer is that very few teachers collaborate in bridging between science and religion. Meanwhile, religious teachers struggle to bridge the two. As'ad (As'ad, Firmansyah, 2022) and his friend have investigated the integration of science and religion in Islamic tertiary institutions by taking the locus at UIN Sunan Kalijaga Yogyakarta, UIN Malang, and UIN Syarif Hidayatullah Jakarta with the conclusion that the discourse of integration will still develop in such a way. This article clearly not the same and tries to fill the discourse on the integration of science and religion. In such academic anxiety, this article gains momentum of urgency to be understood by the public.

Clearly, it shows that this school believes that the dualism in our education must end (Mustakim, 2015), It also can be as a sign of the rise of Islam in Southeast Asia (Naisbitt, 1996, 2009; Subhan, 2007). The integration is the characteristic of curriculum structure and learning in integrated elementary school of Islam (SD IT), Cahaya Hati Bukittinggi. Therefore, this research wants to fill the research gape related to the integration of science and religion at the level of elementary school in Indonesia.

This research also wants to find out how the integration of Islam values into science in the curriculum and learning as well as the integration of the education system in school, home and society. Theoritically, this article is expected to contribute to enriching the discourse on the relationship between science and religion, which continues to develop until now. Meanwhile, practically,it provides direction and practice guidelines in peaceful learning of two entities that are often contradicted and misunderstood by people.

2. METHODS

This research uses a qualitative approach (Denzim, 2009; Lincoln, 1985). It aims to find out the practice of integrating Islam values into science. The data is collected through (1) observation; how the teacher teaches students in classroom, (2) documentation; to see the teacher's preparation, the lesson plan (RPP) made by the teacher, and (3) interviews and FGDs; Interviews were conducted with subject teachers, school principals, deputy principals, JSIT administrators of the West Sumatra and central JSIT administrators in Jakarta.

Then, FGD was conducted to support data collection. It used to verify what has been found before, complete the findings from various sources, so that there is no doubt about the data validation. It was conducted on teachers and principals as well as vice-principals at the research site.
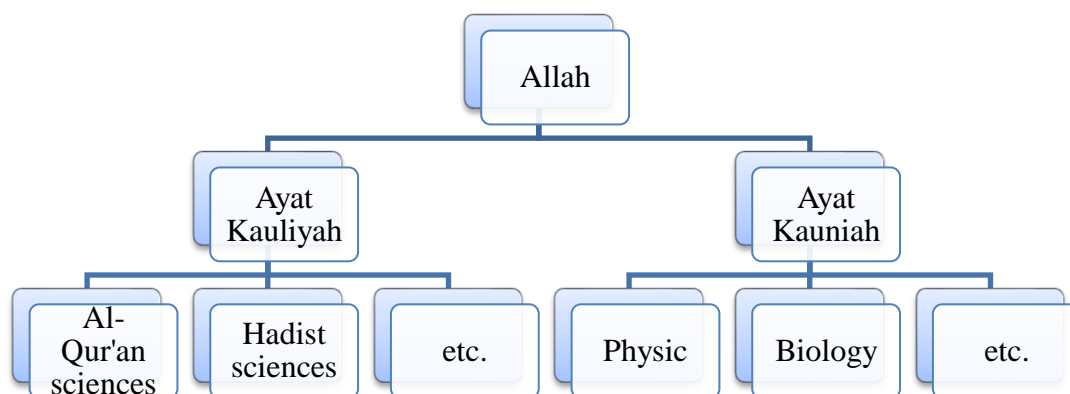
Data were analyzed by using techniques developed by Miles and Huberman (Miles, 2007), namely: (1) data reduction, (2) data presentation, (3) data verification. Data reduction was carried out in the form of a process of selecting, editing, focusing, simplifying, abstracting, and transforming data that emerged from field notes. Then, it was presented in written form that illustrates the understanding of what is found in the field. Last, the data is compiled and conclusions drawn are presented in narrative form.

The Philosophical Concepts of the Integration of Science and Religion

The idea of the integration of science and religion emerged in the West (Ceglie, 2015). There are famous scientist such as Ian G. Barbour (I. G. Barbour, 2002, 2005, 2008; I. G. and J. M. B. Barbour, 2014; Taskin, 2014; Thoyib, 2014) who map four patterns of the relationship between science and religion, namely: conflict (Evans, 2008), independence (McGaughey, 2006), dialogue (Zaprulkhan, 2013), and integration (Preston, 2009; Thomas, 2018). Another expert such as John F. Haught (Haught, 2004), who proposes the pattern of the relationship between science and religion with four typologies, namely: conflict, contrast, contact and confirmation. (Dajani, 2012) Ecklund, 2009).

In Indonesia, there are some experts who propose the integration of science and religion, such as Amin Abdullah, and Muyadi Kartanegara. (Abdullah, 2007). Mulyadi Kartanegara (Kartanegara, 2005b) uses monotheism as the basis of the integration of science and religion. It is the most appropriate basis of the integration of science and religion, especially for the ontological. It can apply to epistemological basis, for example in terms of sources; the source of knowledge is not only on physical objects, but also on non-physical objects. Thus, in terms of methods, it not only relies on physically observation, but it also captures non-physical objects, such as the soul, angels, God and so on. Thus, we build knowledge and admit the sensory experience, such as mental, mystical, religious, intellectual, spiritual experiences. Similarly, it also proposed by William James (Buckley, 2015; James, 2003).

The theoretical framework described above can be simplified by the following figure:

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              ┌────────────────┴────────────────┐
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        │   Ayat   │                       │   Ayat   │
        │ Kauliyah │                       │ Kauniah  │
        └────┬─────┘                       └────┬─────┘
     ┌───────┼────────┐               ┌─────────┼────────┐
┌────────┐ ┌────────┐ ┌──────┐   ┌────────┐ ┌────────┐ ┌──────┐
│  Al-   │ │ Hadist │ │ etc. │   │ Physic │ │Biology │ │ etc. │
│ Qur'an │ │sciences│ │      │   │        │ │        │ │      │
│sciences│ │        │ │      │   │        │ │        │ │      │
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3. FINDINGS AND DISCUSSION

The Curriculum Integration and Learning

Cahaya Hati, Integrated Elementary School of Islam (SDIT CH), is located in Bukittinggi, which is affiliated to the Network of Indonesian Integrated Schools of Islam (JSIT) based in Jakarta. Hartono, board of the JSIT center in Jakarta, states that integrated schools of Islam is a school that implements the concept of Islam education based on the Qur'an and Sunnah and the National Education System Law. The operational concept (Integrated School of Islam) SIT is an accumulation of the process of civilization, inheritance, and development Islam religious teachings, culture and civilization from generation to generation. The term of integration in SIT is intended as an amplifier of Islam itself. It means that Islam is complete, comprehensive, integral, not partial, *syumuliah not juz'iyah*. It has become the main spirit in the preaching movement in the education field; this is as a resistance to secular understanding, dichotomy, and juz'iyah (Hudaeri, 2016). In the context of the development of science, their movements are part of the way of work that was proposed by Thomas Kuhn, who claims that science does not develop linearly, homogeneously and rationally (Kuhn, 2002; Muslih, 2014). The science develops in a scientific revolution by replacing the old paradigm into a new paradigm, and it is contrast to Popper (Karl, 2008; Muslih, 2014).

The Network of Integrated School of Islam (JSIT) is progressing very fast, the society welcomes this school enthusiastically. Until the end of 2018, Hartono said that there were 2228 schools that had joined the JSIT and there were still many schools that were in the process of joining JSIT. However, Suyatno also found 10,000 integrated schools of Islam not joining JSIT (Suyatno, 2013). While the Integrated Elementary School of Islam (SD IT) Cahaya Hati Bukittinggi was founded in 2006.

In terms of curriculum, SDIT CH uses three curriculum models, first the curriculum of the Ministry of Education; second, the curriculum of the Ministry of Religion; and third, the JSIT curriculum. They integrated the three curriculum models into one curriculum of the Integrated Elementary School of Islam; Cahaya Hati Bukittinggi. Thus, this research focuses on how they integrate science and religion.

The integration is carried out starting from curriculum planning, learning, to the implementation of learning. Nationally, the integration of science and religion in the JSIT curriculum is done by processing the curriculum of the ministry of education and also curriculum of the ministry of religion into one JSIT curriculum. The process of curriculum began with the administrators of the Central JSIT in Jakarta. They start from the standardizing graduate competencies (SKL) and standardizing curriculum content. The standardization of curriculum content is an important step in the integration process, because it will influences its implementation in schools. After the two curriculums (Ministry

of Education and Ministry of Religion) are analyzed, then they make additional content standards in each curriculum of existing subjects. As can be seen in the following table:

Cognitive	Psychomotor	Addition of the Integrated School of Islam
3.8 Explain the events of the rotation and revolution of the earth and the occurrence of lunar and solar eclipses	4.1 Create lunar eclipses and solar eclipses models	• Theorem: Quran Surah: Ar Rahman verse 5 and Surat Ibrahim verse 33 • Additional points of KD: get to know the story of Muslim scientists who discovered the theory of the planetary movement Nashiruddin AthThusi (Helio centric) • Additional points of KD: get to know the Muslim science of Al Haitsam • The story of an eclipse in the time of the Prophet • The practice of eclipse prayers • Story: the story of the Muslim scientist, Ibn Amajur, who recorded the process of the journey to the moon

Source: Quality Standards Document of the Integrated School of Islam (4th, 2017)

They tried to Islamize the national education system; Jamhari found that there was a movement to Islamize the national education system since the reform era (Asyari, 2017; N. Hasan, 2012; Makruf, 2009). This stage is very crucial, because the teacher will have difficulty in implementing the curriculum if it is unclear. From the information of the JSIT Indonesia central management, Hartono, states that JSIT was established to bring a moderation spirit in Indonesia. The moderation of secularism is represented by schools under the ministry of education and Islam schools which marginalize science under the ministry of religion (Kurniawan, 2018). There is a tendency that the synthesis of secularism that underestimates religion and Islamism which marginalizes science into an integrated School of Islam (Guthrie, 2007; Humaidi, 2013; Ivakhiv, 2007; Kellert, 2007; Mcandrew, 2020). Then, let's see how the teacher integrates this curriculum concept into teaching preparation.

Based on the documentation, the lesson plan of Class V. Basic competencies for IPA KD 3.2 Explain respiratory organs and their functions in animals and humans and maintain human respiratory organs and KD 4.2 make a simple model of human respiratory system. Meanwhile the Indicator 3.3.1 describes the human respiratory system. Desired character values: religious, nationalist, independent, mutual cooperation, and integrity. Then where is the integration of Islamic values in this learning? Here's the explanation *Internalization of Islam values (they use ukhrawi, the latest term, it's just not yet applied in the research field, 2019)*:

The researcher finds that Allah gives a lot of help to humans. All the human needs are provided easily. For example, let's think about ourselves. From the moment we wake up, it takes a lot of things. In short, we can survive because of Allah blessings given to us. We are able to breathe as soon as we wake up. We don't have difficulty in doing it; it is caused by our respiratory system work properly. We should be grateful. It is clear that this school not only teaches pure science, but goes far beyond science itself. This is in line with Capra and Blanch, who state that modern civilization only teaches the facts and it has become a cause mental illness for modern humans, unfortunately found that the modern physics can be spiritualism, Taoism, can be mutually complete (S. Hidayat, 2014). Borrowing the term of Mukalam(Mukalam, 2013), the science integration movement carried out by the Integrated Elementary School of Islam is a movement towards the postmodernism of science in Islam. (Blanch, 2007; Capra, 2007; Iqbal, 2014; Rusydi, 2012).

The crucial step of the integration of science and religion in IPA in the Integrated Elementary School of Islam, CahayaHati, is the Internalization step. In this step the study of IPA does not only focus on the fact but also *the fact behind the fact* (Hanafi, 2012). It is seen in the lesson plan; the teacher not only teaches pure science but also teaches science that has been internalized with Islam values. Where do Islam values fit into the learning? The answer is human and animal can easily breathe because Allah helps. It is a form of integration of science and religion in the Cahaya Hati Bukittinggi. Consciously, the school planned in integrating science and religion (Mansour, 2008). It is proven by the result interviews with the Principal and also the teacher. The principal stated that the integration of science and religion was carried out systematically. The teacher added that conceptually, the integration was formulated by the central JSIT management in Jakarta. Then the teachers were trained in how to internalize Islam values into science. Additionally, the principal argued that Internalization, each lesson was linked to Islam values, for example IPA, first, the teacher search appropriate verse of Qur'an that related to the subject. Second, the teacher incorporates it into the lesson plan. Last, the teacher delivers in the learning to students (Danusiri, 2015; M. Hasan, 2015).

The Integration of Education Systems in School, Home and Society

Now we move to the integration of education system in the school, home and society in fostering a strong Islam personality. At school, the teachers work hard to foster the students' personality. To ensure that what they have developed at school becomes a habit, the school creates a contact book between teachers at school and parents at home.

The contact book has a very crucial role in fostering the students' personality, related to issue of worship, morals and students' daily behavior. The first point in a contact book, the students have to read and memorize a page of the Qur'an, the parent can evaluate by choosing good, adequate and bad. The parents are given the responsibility to continue the school program, as a result the students are getting used to their homes. This is because if the good activity is done repeatedly, then automatically embedded in the students' heart.

There are some important points that delivered by the teacher in the book. For example, Fardu prayer at the beginning of time, especially at subuh, maghrib, and isya; fasting sunnah of Monday / Thursday twice a month, fasting together with one class; read the Qur'an at least 4 pages per day; zikir al-ma'tsurat: three times a week (morning or evening) accompanied by the parent; duha sunnah prayer: every day a minimum of four rak'ahs; Qiyamullai/tahjud 2 times a week; study every day; increase memorization every day at least one line; help parents every day.

Based on the result of interview, the parents state that their children did not want to be taken to school because his/ her parents did not dress properly, wearing short skirt, so he/she was embarrassed, especially when seen by his/her friends. The teacher tells that there was a change in parents' attitude, there had been a re-Islamization of society   (Nashir, 2018). The teacher uses the term "hijrah". It means that when the parent is truly "hijrah", they tell that they are very grateful for what is received by their children from school, it improves parents' personality, and they dress properly. The parents feel very grateful that the school not only teaches her child but furthermore the school has helped in improving the parents' personality. I think many parents who experienced similar situation.

Aniswita as a one of mother confess that the education is not only a place to educate the children with a variety of knowledge, but also have to improve students' attitude especially spiritual attitude. She claims that SDIT CH is the best place for children's education, because this school balances the educating of science and religious attitudes. By using the contact book, parents can see the children development in the school, so there is a synergy between the teachers and parents. However, it does not mean that the teacher only focus on the education in schools. The students' motivation will increase when there is encouragement from school. For example tahajut prayers, the student is motivated to do the payer at home because in the contact book there is a checklist of tahajut prayers. In the focus group discussion (FGD) program with the IAIN Bukittinggi, the parents said that one of

the excellent programs in the schools incorporated in JSIT was that its activities in fostering the students' character. They seriously take care the students at school, thus the parents feel comfortable. It is in line with the result of the observation that in SD IT CH there are two teachers who work all day in the classroom. The students are accompanied by the teacher not only when studying, but also when playing. They will pray at mosque when zuhur pray. During lunch in the classroom, the teacher also accompanies the students, the teachers still able to guide the students to eat in Islam manners. For example pray before eating, the students sit properly, and also pray after eating. Furthermore, Imamuddin states that his child received guidance and affection from the teachers at the school. Even teachers treat students like their own children. Thus, it can be concluded that the implementation of the integration in the school, the house, and the community can be the basis for the creation of human beings (Hidayatullah, 2013; Saekan, 2017).

4. CONCLUSION

This research concludes that the educational institution of Islam not only teaches science, but integrates science and the spiritual values of Islam. The curriculum of the ministry of education is slightly secular and the curriculum of the ministry of religion is less in science aspect. They synthesized it into an integrated curriculum and applied it in the learning and the school system. The implementation of this curriculum is increasingly meaningful because it integrates the education system of home and society. Thus, it is hoped that the generation of kaffah will be avoided from the split personality that has shaken the modern human life. In fact, this school continuously grows and there is no expert predicts that this school will defeat the school system established by major Islam organizations in Indonesia.

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