Designing the Integration of Science in Madrasas

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Abstract: The goal of this research is to determine how far the process of integrating knowledge in madrasas has progressed, as well as to provide solutions to maximize knowledge integration in madrasas. The author conducts library research using a qualitative descriptive approach, which consists of collecting books related to the object of research or research that is library in nature. According to the findings of research on the integration of science in madrasas, there are at least three priority issues that must be addressed by madrasas in order for the integration of science to achieve ideal results. Curriculum, teaching staff, and learning resources are three examples.

Keywords: Design, Integration, Islamic Institution, Science.

A. Introduction

In contrast to Western civilization, which was still filled with darkness, at that time the conditions of Western people were covered with rampant illiteracy, so that there was no place for knowledge except in the monasteries of the priests, which is only limited to them, so we can understand the extent of the greatness that our people reaped. How brilliant is our civilization in the history of social bodies and scientific institutions, and how great is Islam’s service in spreading knowledge, elevating general culture’s dignity, and straightening its paths for all the Sons of the Nation (As-siba’i, 2002)?

During the Abbasiyah dynasty, which was the triumph of classical Islamic civilization, literature, theology, philosophy, and natural sciences advanced rapidly, allowing fertile influences from Persia and the Hellenistic world to enter (Qardhawi, 2005). This includes the birth of scientists in various fields such as interpretation science, hadith science, Islamic law science, kalam science, Sufism science, philosophy science, medicine, pharmacy, astronomy, exact sciences, geography, and so on, both in the fields of science naqli and aqli knowledge (Gosworth, 1993).

The Abbasiyah dynasty, which was part of the Islamic classics at the time, was founded on an understanding of the value of science to a civilization. They recognize that power cannot exist without the support of science, because useful knowledge is the foundation of good deeds and the source of a meaningful life (Yusuf Qardhawi, 2005). Whereas several centuries ago the Muslim community was in a very sad state...
compared to the condition of Western civilization, which was very advanced and
dynamic, as expressed by Madjid (1997), the Islamic world today is the most
underdeveloped region of the world among adherents of the major religions in
the world due to so little progress in the field of science and technology (Madjid, 1997).

People have had many quantitative and qualitative failures, so when measured
against their various successes, it appears very unbalanced. There is no doubt that this
is heavily influenced by a variety of internal and external factors. External causes are
more important to supporters of historical conspiracy theories and facts. I don’t deny
it because we can see it with our own eyes, but I don’t need internal factors, and that’s
important is what allowing external factors to enter (Qardhawi, 2001).

Humans have been able to realize their scientific achievements in theory and
practice in the twentieth century, particularly in the last half-century, of which 10% or
even 0.1% could not be realized in previous centuries. In this century, advances in
science and technology have been made at every level, including civil society, the
military, and medicine. These triumphs occurred precisely when people believed it
was impossible (Qardhawi, 2001).

The progress of Western civilization which is based on materialist philosophy,
and dry with a touch of spiritual values, has a number of negative effects that can be
detrimental and life threatening. These impacts include: first, the impoverishment of
spiritual values, social actions do not have material implications (unproductive) are
considered irrational actions, secondly the fall of humans from spiritual beings to
material beings, which causes hayawaniyah lust to become the guide of human life.
Third, the role of religion is shifted to become affairs of the hereafter while world
affairs become matters of science (secularism). Fourth, God is only present in
thoughts, spoken and written, but not present in behavior and actions. Fifth, the
combination of primordial ties with modern political ties gave birth to nepotism,
bureaucratism and authoritarianism. Sixth, Individualistic. The family generally loses
its function as the smallest decision-making unit, a person is responsible for himself,
is no longer responsible for the family, the moral ties to the family are getting weaker
and the family is considered a very traditional institution. Seventh, existential
frustration occurs, with the following characteristics: a) excessive desire in power,
having fun for power, having fun to seek pleasure, which is usually reflected in
excessive behavior to collect money, to work, and to pursue sexual pleasure; b)
Existential emptiness in the form of a feeling of complete emptiness, meaningless life,
and so on; c) no genic neuroses, feelings of meaningless life, boredom, apathy,
aimlessness and so on. This kind of situation affects people more and more, day by
day. Eighth, information tensions in cities and villages, rich and poor, consumerists,
shortages and so on (JSIT Indonesia, 2010).

These negative impacts are the result of science which underlies various
advances in Western civilization, the development of distancing oneself from divine
values (secularization of science). To restore human civilization according to its
nature, Islamization or integration of science is the solution.
B. Methods

This study uses a qualitative descriptive approach. The author uses library research, namely collecting books related to research objects or library research. This research was conducted to find data or research information through reading scientific journals, reference books and publication materials available in the library (Rosadi, 2010).

Because this writing is library research, the data taken comes from various written sources, both from magazines, scientific writings and others related to the research that the author discusses. The research was obtained from several data sources including primary and secondary. Primary data sources are primary sources obtained by the author from various books that discuss the Islamization or integration of knowledge, namely the work of Daud (1998), The Educational Philosophy and Practice of Syed Muhammad Naquib al-Attas, translated by Hamid Fahmy et al. Philosophy and Practice of Islamic Education Syed M. Naquib al-Attas, publisher Mizan Bandung.

Secondary sources are “supporting sources related to the problem which can be in the form of books on Subject Matter written by other people, documents which are the result of research and report results (Saebani, 2008). Other experts say that secondary sources are data sources that are not limited by space and time (Black, 2001). That is, the type of information or data is already available so the writer just needs to take, collect and classify the data. In this study the authors took secondary data from books, encyclopedias, dictionaries, magazines, papers, and websites and others.

The most appropriate and simple technique in collecting data is the documentation method. The documentation method is to find data about things or variables in the form of notes, transcripts, newspapers, magazines, inscriptions, minutes, leggers, agendas, and so on (Suryabarta, 2008). So, the data collection technique in the research that the writer did was to use the documentation method, namely to obtain the necessary documents and basic data from written sources. In the form of books, journals and website sources from the internet.

C. Results and Discussion

Secularization of Science

Since the occurrence of enlightenment in Europe, the development of rational sciences in all fields of study has been very rapid and almost entirely pioneered by Western scientists and intellectuals, as a result the science that has developed is formed from references to Western philosophical thought which is influenced by secularism, utilitarianism and materialism, interpretation, and the meaning of science itself cannot be avoided from the influence of these thoughts. The industrial revolution in England and the socio-political revolution in France in the second half of the 18th century which were the starting points for the European renaissance towards modern civilization, led the West to achieve extraordinary success in
developing future technology, while Muslims experienced setbacks. Systemic decline in the flow of civilization (Muksin, 2019).

The rapid flow of secularization that occurred in the West, which caused the separation of science/knowledge from religion, because Western science is based on philosophy which is the only objective material of science. At this point, it is understandable that secularization is an attempt to separate something from religious values, including the separation of science from religion (Harahap, 2019).

In its development, this secularization has also succeeded in cultivating a dichotomous attitude in humans in viewing science. This is as emphasized by Lubis (2014) that the problem of dualism and even dichotomous between various fields of human life and science, including in the Islamic world is the reason for the emergence of scientific integration efforts. Not only are educational institutions segregated into religious and general education, even the sciences they work on are separated from the religion they hold, and the knowledge they learn themselves is divided into religious and non-religious sciences, which are sometimes also called general science or world science (Lubis, 2014).

Western civilization which separates the affairs of the world and the hereafter has a negative impact on the future of humanity. As stated by Qardhawi (2001), the separation of various vital affairs from this implies that all life has been separated from morals in carrying out the Western wheel of life based only on animals, lust and material benefits, not carrying them out in accordance with moral standards and human values. This occurs as the field of science and its political and economic behavior in war and peace this is a double secret in Western politics, they forbid something in one nation but make it lawful for other nations sometimes they punish a nation for what they have done but do not punish other nations for the same deed (Qardhawi, 2001).

Knowledge Integration

The loss of the sacred aspect of the concept of Western science and Muslim scientific attitudes which led to stagnation after separating revelation from reason, and separating thought from action and culture are seen as dangerous for the development of Islamic scholarship. Because of that, an idea emerged to bring together the advantages of the two, so that a new science was born that was modern but still religious and had the breath of monotheism. This idea became known as the Islamization of Science (Hashim, 2005). In order to overcome this problem, a movement for the Islamization of knowledge or the Islamization of scientists emerged and recently there has been a suggestion to carry out scientific integration (Lubis, 2014).

There are three main arguments that form the philosophical basis for the emergence of the Islamization of science. First, the assumption that science is value free, as secular Western thinkers tout it is actually very unrealistic. Second, Islam does not recognize the dichotomy between religion and science. In Islam, sources of knowledge are also not limited to the empirical and rational alone. Islam includes a
metaphysical dimension in its epistemological structure. Nature, including science, is a reality that is closely related to God and other supernatural dimensions. Third, it is something that is certain that something that is under pressure from other parties tends to fight against the party that suppresses it. By borrowing Gramsci’s “hegemony-counter hegemony” lens, the Islamization of science is an expression of the counter hegemony of Islam over Western domination. Or if borrowing Hegel’s dialectical model, thesis-anti-thesis-synthesis, the Islamization of science is the anti-thesis of the secular Western positivistic paradigm. Furthermore, he wants to give birth to a new form of synthesis in the form of science that is integral to the values of Islamic teachings (Muksin, 2019).

The Islamization of science is explained clearly by al-Attas, namely the liberation of human beings from magical, mythological, animistic, national-cultural traditions that are contrary to Islam and from the shackles of secular understanding of thought and language. Also, liberation from the control of their physical impulses which tend to be secular and unfair to the nature of himself or his soul, because humans in their physical form tend to forget their true nature, and do injustice to them. Islamization is a process towards its original form which is not as strong as the process of evolution and devolution (Daud, 1998).

The same view was put forward by Al-Attas who stated that integration (in the form of Islamization of knowledge) was motivated by the backwardness of Muslims and left behind from modern Western society because of their misunderstanding of science, which caused a loss of moral in society. The knowledge that is developing in the Islamic world comes from the West which has been infiltrated by the secularist view of life of Western nations (Al-Rasyidin and Ja’far, 2015).

Ismail al-Faruqi defines the Islamization of science as an attempt to reformulate science by redefining, rearranging data, rethinking arguments and rationalizations related to that data, reassessing conclusions and interpretations, reshaping the aims of science in accordance with the vision of Islam. Meanwhile, according to Syed Hossein Nasr, the Islamization of science is an effort to translate modern knowledge into a language understood by Muslim communities. Islamization means bringing together the way of thinking and acting of Western society with Muslim society. Thus, the Islamization of knowledge in Nasr’s perspective is at the level of epistemology and axiology (Sumarna, 2005).

In the context of the Islamic scientific paradigm, the integration of knowledge is interpreted as the unification of knowledge. As stated by Kuntowijoyo (2006), the result of integration is a science that unites God’s revelations and the findings of the human mind, so that it becomes a scientific principle that will not isolate God (secularism) and also does not isolate humans (Kuntowijoyo, 2006).

This means that Islamization is not just labelling, such as Islamic technology, Islamic sociology, Islamic bombing, Islamic computers. Nor is it justification of verses and hadiths for existing scientific phenomena, such as including verses from the Koran to justify discoveries in science and technology. Likewise, not by building Islamic institutions solely that focus on the inclusion of Islamic ethics and aesthetics.
in every educational activity. However, Islamization is an epistemological work that requires a mature mastery of Islamic epistemology. These two challenging tasks naturally require a deep understanding of the form, spirit, and characteristics of Islam as a religion, culture and civilization, as well as Western culture and civilization. In other words, it requires mastery of Occidentalism against Islamic Worldview and Occidentalism (Muksin, 2019).

**Integration of Science in Madrasas**

As explained by M. Amin Abdullah, the development of IAIN to become UIN is an example of this scientific integration. Integration in this concept is where the faculties of religion are maintained, but the curriculum needs to be developed so that it is adapted to the needs of the IAIN service user community in the era of globalization, and the teaching staff and lecturers must also be strengthened with various new methods and approaches, but at the same time that General faculties in universities also need to be equipped with more critical and focused religious spirituality and moral content in the integrated curriculum format and not the separated curriculum as it is currently available.

Lately, we have felt how the process of Islamization of knowledge has been going very fast. Now it is almost impossible to find out exactly which science is developed by an institution, whether it is a religious institution or a public institution. Take for example, the knowledge developed at public universities and religious universities also depicts no significant difference (Syam, 2017).

Madrasas carry out the mission of scientific integration. Madrasah is a formal education unit that organizes general and vocational education. Madrasas are distinguished from schools because this education unit is under the guidance of the Minister of Religion and has the uniqueness of the Islamic religion (See PMA No. 60 of 2015). Thus, scientific integration starts from the lowest level, early childhood education (PAUD), namely Raudhatul Athfal (RA), basic education, namely Madrasah Ibtidaiyah (MI) and Madrasah Tsanawiyah (MTs), and secondary education, namely Madrasah Aliyah (MA) and Vocational Aliyah Madrasah (MAK). In accordance with the diversity of different levels at each level.

The realization of the integration of science in Madrasahs has not run ideally, when it is juxtaposed with the concept of integration of knowledge moving from an integrative mindset, unifying the meaning of life in the world and the hereafter, general education which is essentially religious education as well, there should be no need for ambivalence in orientation Islamic education. Separation of education either in full by forming a separate college system, or in the form of dividing portions of religious and general education materials in a certain percentage, actually this still contains a dichotomous view. The combination must occur as a dissolution process and not as an ordinary mixing process (JSIT Indonesia, 2010).

Referring to this opinion, the integration of science in Madrasas is only limited to the separation of education, the division of portions of religious and general education material and as a process of ordinary mixing, even though the ideal is to
unite the meaning of life in the world and the hereafter, general education that exists in essence is religious education as well and it happens as a dissolving process. In order for a breakthrough in the integration of knowledge in Madrasas to be realized close to ideal, there are a number of things that need to be prepared by stakeholders, including the following:

**Madrasa Curriculum**

According to Fadilah, & Tohopi, (2020) in humans and education based on the results of the Second World conference on Muslim education, it was stated that all existing knowledge is classified into two types according to its source, namely perennial knowledge and acquired knowledge. Eternal knowledge is received through the revelation contained in the Qur’an and as-sunnah. As for the knowledge obtained through imagination and a series of experiences of Indra. It is only this science of forms that we learn through the philosophy and models of the West.

The eternal knowledge is studied in religious schools, non-formal schools, or simply attached to the general school curriculum as an additional subject, not the main subject. In fact, according to the Islamic conception, the curriculum building should combine the two kinds of knowledge.

Fadilah, & Tohopi, (2020) argues that integrating the two sciences in one curriculum building directs us to develop teaching methodologies. The teaching methodology referred to here is not only limited to matters of teaching practice but concerns broader issues within the scope of educational institutions such as management, administration, teaching staff, textbooks and other learning resources, educational technology and subject areas.

All teaching fields in the curriculum building are developed through a combination of Islamic values contained in the Qur’an and as-sunnah with the general knowledge values they teach. That is, when the teacher wants to teach general knowledge, this knowledge should already be packaged with the perspective of how the Koran or as-sunnah discusses it. Thus, there is no more ambivalence or dichotomy of knowledge. Whatever students learn is always packaged in a relationship with Islamic values. Be Islam as the basis, frame and inspiration for the whole process of thinking and learning. At the same time, the integration of Islamic values into this curriculum building eliminates or cleans up elements that are contrary to Islamic values (JSIT Indonesia, 2010).

Islamic Religious Education (PAI) does not merely study Islamic material in its context as Ulumul Syari’ah (fiqh, Worship, Morals and Aqidah), but is positioned as a religious lesson that provides a framework of knowledge of attitudes and behaviours that are very relevant and needed in the context of life, present time. PAI with a struggle perspective means emphasizing the importance of a high fighting spirit to defend truth, social justice, and evil as many of the Qur’an Karim ordered. PAI with a national perspective means that it also contains the values of love and defending the motherland, always caring about the glory and prosperity of the nation and its own country. PAI with a global perspective means making Islam a religion that is able to
provide a perspective of direction and provisions in global life which is very full of scientific and technological advances which have broad implications for life among humans. PAI with science and technology insight means providing the right framework for the development and use of science and technology for the benefit of life, the implication of which is PAI which is balanced between aspects of thinking and remembrance, triggering and spurring students to think hard deeply about nature. PAI with a democratic outlook emphasizes the core of democracy itself, namely appreciation and respect for human values which are really guaranteed in Islamic teachings. PAI with a pluralist perspective means explaining that Islam accepts or is tolerant of various ethnic, national and religious diversity as a reality of life without sacrificing the principles of *aqidah* which are clear and final (JSIT Indonesia, 2010).

**Educator**

According to the provisions of article 39 paragraph 2 of law no. 20 of 2003 concerning the National Education System, states that educators are professionals who have the duty to plan and carry out the learning process, carry out mentoring and training. To become a professional teacher, an educator must have four competencies, namely personal competence, pedagogical competence, professional competence and social competence. In the National Education Standards, elucidation of Article 28 paragraph (3) point b, it is stated that what is meant by personality competence is the ability of a personality to be steady, stable, mature, wise and authoritative, to be a role model for students, and to have noble character. Personal competence as referred to in paragraph (3) is a personality ability that is steady, stable, mature, wise and prudent, authoritative, has noble character, becomes a role model for students and society (Sembiring, 2009).

Pedagogic competence is the ability to manage students which includes: understanding of insights or educational foundations, understanding of students, curriculum/syllabus development, learning design, implementing educational and dialogic learning, evaluating learning outcomes, and developing students to actualize their various potentials (Surya, 2006).

Teacher professional competence is a number of teachers’ authorities and abilities in carrying out their professional duties, including the following competencies: 1) Mastering the foundation of education, including knowing education (attainment of basic competencies and learning outcomes), regarding the function of schools in society, knowing psychological principles education which is very necessary in the learning process; 2) Mastering teaching materials; mastered the 2007 education curriculum (KTSP) and K-13; 3) Develop syllabus and learning programs; determine achievement of competencies and learning objectives, select teaching materials, select and develop learning strategies, select teaching media, select and utilize various learning resources; 4) Carry out learning events (programs); creating a conducive learning atmosphere, organizing study rooms, managing
teaching and learning interactions; 5) Assessing learning outcomes using a class-based assessment system (Surya, 2006).

Social competence is the ability of educators as part of society to: communicate orally and in writing; use communication and information technology functionally; interact effectively with students, education staff, parents/guardians of students and socialize in a polite manner with the surrounding community (Surya, 2006).

In every organization, Human Resources (HR) has a strategic role. Teachers as human resources are even thought to have contributed up to 80% in determining the success of education in schools (JSIT Indonesia, 2010). The teacher is the main educational component. Various other educational components, such as curriculum, infrastructure, and others will not mean anything if there are no teachers who implement and use them. Because of the importance of a teacher, it has been agreed that teachers are professionals who need various requirements that guarantee that their profession can be carried out properly. The requirements of the profession continue to evolve according to the demands of the times. In the digital era, as is happening today, the requirements for professional teachers are being questioned again. In addition to the requirements that have been previously owned, it needs to be supplemented with other appropriate requirements (Nata, 2018).

From the description above to become a teacher there are several competencies and teachers have a strategic position to achieve educational goals, as well as successful integration of knowledge in madrasas will be largely determined by the capacity of an educator or teacher. There are several conditions that must be met by madrasa teachers 1) madrasa teachers know and master the concept of integrating knowledge in madrasas, so they know where the direction or purpose of integrating knowledge is; 2) madrasah teachers master the science integration curriculum, which is an elaboration of the concept of science integration. The nature is closer to the technical; 3) madrasah Islamic Religious Education teachers, have broad insights regarding science and technology, social, culture, politics and nationality, so that when Islamic Religious Education teachers teach they can integrate Islamic education with all aspects of life, not limiting themselves to the verses of Kauliyah but being able to explaining to students about the Kauniyah verses; 4) Madrasah teachers who teach general subjects have broad Islamic insights, so that when teaching they are able to insert or connect the lessons they teach with Islamic values. The process of teaching and learning activities is not dry from spiritual values.

Learning Resources
The Association of Educational Communication Technology (AECT) defines that learning resources are all sources in the form of data, people or objects that can be used to provide learning facilities (convenience) for students (Warsita, 2008). Learning resources can be formulated as anything that can provide convenience to students in obtaining some information, knowledge, experience and skills in the teaching and learning process (Mulyasa, 2004).
Learning resources are essentially everything, both objects, data, facts, ideas, people, and so on that can lead to the learning process. For example, package books, modules, LKS (student worksheets), realia, models, markets, banks, museums, zoos, and markets (Prastowo, 2015).

Writing is more focused on textbooks. Textbooks are one of the learning resources and teaching materials that are widely used in learning. Textbooks are teaching materials as well as learning resources for conventional students. However, even though it is conventional and has been used for a long time and many consider it traditional, textbooks are still quite capable of making a good contribution to learning. Some learning materials cannot be taught without the help of textbooks.

As one of the supporting forces in the successful integration of science in madrasas, books, modules and other textbooks are provided. All of the subject matter in the learning resources has been integrated between the material of social sciences and academic sciences. This is very helpful for teachers in conveying the material to students.

D. Conclusion

The secularization of science that has been going on for centuries has had a negative impact on the future of civilization, because the secularization of science separates the creator and his creatures, the secularization of science separates the sciences and religious knowledge, resulting in secularized products. dry science of spiritual values. The integration of science is a solution in resolving the dichotomy of science. Madrasas can be pioneers in integrating knowledge. At least there are three things that are a priority for the success of the science integration mission in madrasas, namely, curriculum, educators (teachers) and learning resources, especially textbooks.

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References


