Mapping basic science and religious competencies: an initial step to realizing integrated science learning with islamic values

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ABSTRACT

Appropriate steps are needed to integrate religious subjects (Qur'an Hadith, Aqidah Akhlak, and Fiqh) so that integrated science learning of Islamic values can be conducted successfully and adequately. One of the ways to make it successful is by mapping Basic Competencies in science subjects and religious subjects as the first step in this integration. A study has been carried out on Basic Competencies in science and religion subjects at Madrasah Tsanawiyah (MTs) with the aim of producing a map of the relevance of the Basic Competencies in these subjects. This study is a literature study that uses data sources in the form of 2013 curriculum documents, science and religion textbooks and related articles. The instruments in this study were researchers equipped with identification and data recording formats. Data was collected utilizing document study approaches, namely by analyzing the relevancy of each basic competency topic, which includes choosing references and identifying and classifying basic competencies. Data analysis was done qualitatively by classifying, summarizing, and deriving conclusions from the data. As a result of this research, a map of the correlation between scientific and religion basic competencies has been found. It demonstrates how one science basic competency in one class can be related to several fundamental religious competencies at all grade levels. This linkage provides a recommendation that science subject matter can be integrated with religion subject matter at all grade levels while still considering the linkages between these Basic Competencies.

INTRODUCTION

The concept of science in Islam includes a spiritual aspect that accommodates revelation and intuition, which is limited by the reality of experimentation and theoretical reasoning (Golshani, 2007). The knowledge acquisition or science in Islam's perspective can be made through three different sources, namely: revelation through the Qur'an, rationalization by the human mind, and empirical work through scientific research (Salleh et al., 2011). In this case, nature acts as learning sources and science as interpretation tools that will lead to belief in the oneness and power of Allah SWT, which is strengthened by Allah's revelation through the Qur'an and hadith. Islam also provides whole motivation to work on and develop science through scientific method work procedures (Mukri et al., 2019) because science and technology in the view of Islam are part of the verses of Allah (Asyhari, 2017). Science has made an essential contribution to religious learning, while religion is the basis and source of scientific information, which is then confirmed and followed up by science through scientific evidence.

Natural science is the science of natural phenomena that are interpreted as facts, concepts, principles, and laws proven through a series of activities in the scientific method (Zubaidah et al., 2013). The distinctive characteristics of science objects, living things, and the environment with all their problems, provide a huge opportunity for teachers to carry out learning strategies that integrate Islamic values. One of them is through integrated learning of Islamic values in science subject content. Integrating relevant Islamic values into the content of science subject matter is one strategy that can be implemented. Integrating religious material content into science material is intended to make the learning process more constructive (Priyanto, 2014).

According to Fiteriani (2014), the educational practice should integrate knowledge to make education more comprehensive (integral holistic) and balance general and religious material. The integration follows the characteristics of knowledge development in Islam's point of view, which is holistic, integrative, and interconnected. This integration follows the purpose of studying science from an Islamic perspective on how it explains the nature of creation and understanding God's will regarding the design of nature. Thus, apart from deepening and strengthening the meaning of students' cognitive understanding, observing the phenomena of the universe can also be an inspiration to acknowledge the signs of Allah's power, which will make them more submissive and obedient to Him. Allah SWT says in QS. Al-Qashash (28): 77.

> "But seek, through that which Allah has given you, the home of the hereafter; and [yet], do not forget your share of the world. And do good as Allah has done good to you. And desire not corruption in the land. Indeed, Allah does not like corrupters" (Qur'an, 28: 77)

Madrasah is an Islamic educational institution or public educational institution with Islamic characteristics (Ma'zumi & Jakaria, 2012). The function and task of madrasah are to achieve and create a generation who believe, love knowledge, and have a global outlook on obtaining happiness in this world and the hereafter. The concept of madrasah in Islamic education as strategies used by teachers to create the spiritual character (Sabki & Hardaker, 2013). This concept shows that the creation of spiritual characteristics in madrasah is manifested in the learning process.

In Indonesia, all madrasah uses the madrasah curriculum, consisting of 70% general lessons and 30% religious lessons (Tan, 2014). Religious learning in madrasah is given in the subjects of Qur'an Hadith, Aqidah Akhlak, Fiqh, History of Islamic Culture, and Arabic Language; while in public schools, it is given through Islamic Religious Education subjects. Besides Indonesia, the curriculum that consists of religious subjects and general subjects such as language, science, and humanity, were also found in other countries such as Malaysia, United Arab Emirates, Singapore, Egypt, and Brunei Darussalam. The learning of the two knowledge groups is conducted separately, both in public schools and Islamic schools. This fact is due to the scientific tradition that only recognizes what is measurable and repeatable and that society only accepts science and religion as different fields.

Madrasah Tsanawiyah, as one of the basic education levels at the junior high school, can be used as a benchmark for the success of instilling Islamic values through the learning process. At this level, psychologically, students are at the formal operational stage (over 11 years old), the highest level of student thinking. In this phase, students can systematically think about various variables, find abstract concepts and the relationships between them, formulate hypotheses, and find potential solutions to the problems they found (Lefa, 2014). This view reinforces the notion that inculcating Islamic values

through integration in every subject will be easier to accept and develop at this age. In addition to student characteristics, the teacher determines the success of inculcating Islamic values through the learning process.

Teachers are expected to understand the integration of science with religion and understand religion in appreciating science. This hope is related to science appreciation and realizing the complementarity between science and Islamic teachings (Baba & Salleh, 2015). This opinion is supported by (Mansour N, 2008) research, which shows the compatibility between science and religion, and the role of science teachers to reflect this conformity in the science curriculum. Related to this, it takes teachers' ability in planning and learning management so that integrated learning of Islamic values can be appropriately implemented. Muspiroh (2013) emphasized that integrating Islamic values in science learning strengthens the affective, psychomotor, and cognitive domains. If the integration is implemented in learning in schools, it will provide holistic student learning outcomes in all learning areas.

In the context of learning science in madrasah, integrating Islamic values is one of the strategies to realize more meaningful science learning (Purwati et al., 2018). The word integration in integration learning can be interpreted as combining scientific material and non-science material or religious material (Lubis, 2015). Integrating science with religion can be done through an interdisciplinary approach by incorporating verses of the Qur'an into science subjects (Hamzah, 2015; Kasim & Yusoff, 2014) specifically, by integrating religious subjects (Qur'an Hadith, Aqidah Akhlak, and Fiqh) with the material in science subjects (Hakim, 2012). In focusing on the integration process, it is crucial to map the Basic Competencies in science subjects with those found in religious subjects.

Priyanto (2014), has also outlined the challenges in the integration of Islamic religious education with science and technology. Two of the integration issues that have been successfully mapped are the accessibility of learning resources such as reference books (religious and science); approaches, strategies, or learning methodologies. In contrast to this study, it concentrated on comparing and contrasting the basic competencies found in science and religion. This study differs from earlier studies' findings due to the fact that it focuses on examining how science content is connected to regional local wisdom and how it affects the skills that students need to possess. Those earlier studies' findings looked at science content that was integrated with regional information (Heleni, 2012; Ida Mardiyana et al., 2020).

Students are required to master Basic Competencies as minimum competencies. Basic Competencies are developed based on core competencies and serve as guidelines in developing indicators that determine the direction, objectives, and how learning is conducted. Students should possess core competence to achieve graduate competency standards—the core competence functions as an organizing element that binds the organization vertically and horizontally. The vertical organization of Basic Competencies is the linkage of the Basic Competencies of one class with the upper class to fulfill the learning principle (there is a continuous accumulation of competencies learned by students). The horizontal organization links the Basic Competencies of one subject and the Basic Competencies of other subjects in the same class. There is a mutually reinforcing process (Permendikbud No 58 of 2014).

Due to the importance of the Basic Competence position in determining the direction and objectives of learning, integrated science learning of Islamic values in Islamic Junior High School should begin the mapping activities. In order to create a map of the relevance between the current basic competencies, mapping is used to establish the relationship between the Basic Competencies in science topics and the Basic Competencies in religious subjects (Qur'an Hadith, Aqidah Akhlak, and Fiqh). This basic competency evaluation or mapping is done with this objective. This mapping is expected to benefit science teachers in implementing holistic, integrative, and interconnected science learning. Teachers of religious subjects in Islamic Junior High School (Qur'an Hadith, Aqidah Akhlak, and Fiqh) and junior high schools are also expected to utilize this mapping as reference material for developing supplementary teaching materials in each subject.

METHODS
Research Design
This research is qualitative research with a literature study covering the analysis of Basic Competencies in religious subjects and Basic Competencies in science subjects at the junior high school

level in Indonesia. The sources of data in this research namely: curriculum 2013 concerning Basic Competencies of Science subjects at the SMP/MTs level; attachment to the Decree of the Minister of Religion of the Republic of Indonesia Number 165 of 2014 concerning the 2013 Curriculum for Islamic religious education subjects and Arabic in *madrasah*; Science textbooks and religious lessons in *madrasah*; and articles related to integrated science learning with Islamic values.

Instrument

In this study, the main instrument was the researcher, assisted by identification formats and data recording sheets as well as other instruments.

Procedure

The data obtained from the research of Basic Competencies in science and religion lessons were then compared with the information obtained from the literature in the form of books and articles. The main steps in this study are determining the basic references for mapping, identifying, grouping, or categorizing Basic Competences, presenting data, and drawing conclusions. The stages carried out in this research are presented in Figure 1.
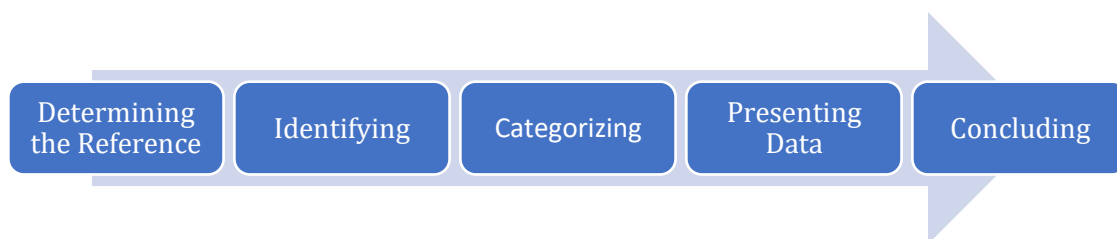

Figure 1. Research Procedure

The analysis of the Basic Competencies in science topics and how they relate to the Basic Competencies in religion subjects is an important phase in the mapping process is. This analysis is conducted to determine the science concepts students will study and what concepts are contained in religious subjects that can be integrated with science concepts. The concepts in religious subjects will determine what Islamic values are integrated, and in the end, the concepts can be determined in learning. The analysis results mapped the Basic Competencies of religious subjects relevant to the Basic Competencies of Science.

The mapping process is conducted by referring to the integration model that has been proposed by (Fogarty, 1991) called the webbed model. The webbed model is an integration model that emphasizes the integration of multidisciplinary or various subjects in a particular theme. This integration is the relevance of the concept of science material with religious materials (Islamic values) contained in religious subjects at Islamic Junior High School such as Qur'an Hadith, Aqidah Akhlak, and Fiqh.

In the mapping process, Basic Competencies in science subjects in a class (level) are used as the starting point for mapping. Basic Competencies of Science subjects are compared with the Basic Competencies of religious subjects such as the Qur'an Hadith, Aqidah Akhlak, and Fiqh subjects in all classes. So that it is known that the Basic Competencies of Science subjects in certain classes are related or connected to the fundamental religious competencies contained in the subject and class, the mapping flow can be shown in Figure 2.

Data Analysis Techniques

The data in this study were analyzed qualitatively using a content study technique, which involved classifying and describing the data before concluding.
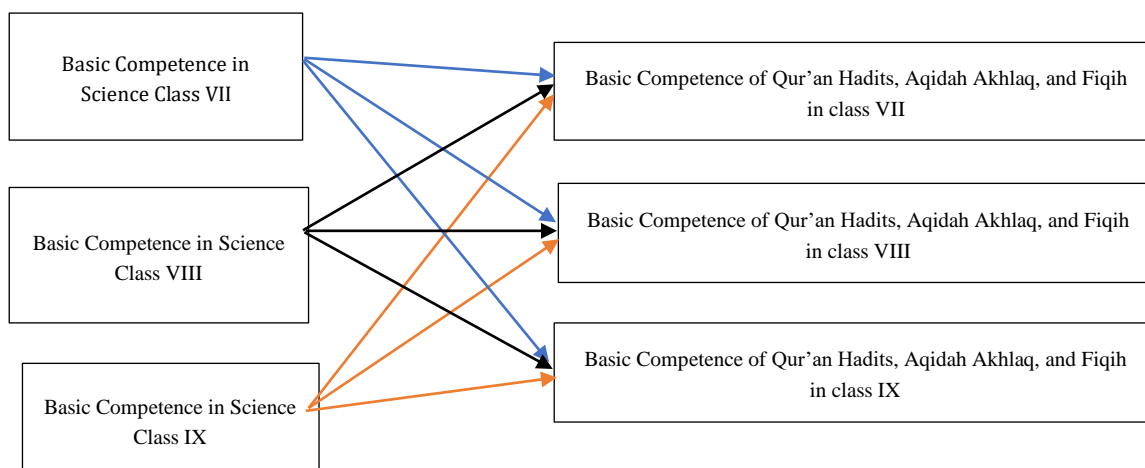
Figure 2. Process Mechanism of Basic Competency Mapping

RESULTS AND DISCUSSION

The hope that Indonesian people can live as individuals and citizens who are faithful, productive, creative, innovative, and affective and contribute to the society, nation, state, and world civilization is one of the great goals of Indonesian education. This goal requires the mastery of four core competencies: spiritual competence, social attitude competence, knowledge competence, and skills competence. Spiritual and social competence is not taught in certain subjects but is carried out indirectly in every lesson. The development and inculcation of students' social and spiritual values and attitudes are done throughout the learning process. It means that the cultivation of spiritual values is integrated with learning. In the curriculum 2013, it is stated that each subject has Basic Competencies of knowledge and skills that students must master. Thus, to instill spiritual values (in this case, Islamic values) should be integrated into these competencies and implemented in every learning process and students' daily lives (Judiani, 2010).

In terms of implementing learning that is integrated with Islamic values, an analysis of the linkages between certain Basic Competencies in a subject and religious subjects must be carried out as a first step to facilitate the process of developing and inculcating Islamic values and attitudes in students. The fundamental competency of natural science is decided to be the major reference in this study with reference to the hope of attaining science learning that is connected with Islamic principles in a more systematic and directed manner. Furthermore, the results of the identification and analysis of the 2013 curriculum documents, it was found that the Basic Science Competencies at the SMP/MTs level are 33 Basic Competencies spread over three classes, class VII, VIII, and IX. There are 11 Basic Competencies in class VII, 12 Basic Competencies in class VIII, and 10 Basic Competencies in class IX. These Basic Competencies are the starting point for mapping Basic Competencies by looking for links between Basic Competencies in science subjects and Basic Competencies in religious subjects in *madrasah*.

Based on the mapping, it is found that only one basic competence in science at certain classes (levels) can be integrated with the basic competence of religious subjects at all levels. The correlation shows that science subjects can be integrated with a religious subject in all grades by considering the correlation between the basic competencies. The correlation between the basic competencies can be the foundation for teachers to integrate certain Islamic values being taught in a science subject. These findings show that the mapping of fundamental competencies provides new knowledge that might assist teachers in carrying out their own instruction. In the framework of this study, the learning is science learning integrated with Islamic values.

Similar research has been reported in the past, suggesting comparable findings and suggestions. One of them is the mapping of fundamental scientific skills connected to Jambi local knowledge (Basuki et al., 2019). It has also been widely reported on mapping of basic competencies that concentrate on analyzing basic competencies in specific disciplines and levels, such as those conducted by (Heleni, 2012) in high school mathematics subjects and (Syahit, 2014) in SD/MI Indonesian language courses. In addition to the analysis that results in basic competency mapping, an analysis of the content of the material in relation to the content of a skill has also been reported. Ida Mardiyana et al., (2020) reported that the content of science material or content in grade 5 elementary school textbooks sufficiently

contained aspects of scientific literacy that were integrated with the local potential of the Madura area. Given the limitations and variations in each teacher's abilities to interpret the curriculum, it is crucial to analyze some elements of the curriculum, especially those that relate to fundamental skills. The teacher must utilize the subject's fundamental competency as a guide when creating learning designs for the classroom. Thus, a deep understanding of these basic competencies is the main capital that must be possessed (Syahit, 2014).

The ability of teachers to break down the curriculum into the learning process is an important point to achieve successful implementation of integrated learning. The success of science learning integrated with Islamic values also depends on the planning quality (Krajcik et al., 2014). For science learning integrated with Islamic values to get satisfying results, creative and comprehensive innovations are needed (Rustham & Rashid, 2012; Suyitno et al., 2014). These creative and comprehensive innovations can emerge from various activities, including appropriately and correctly preparing learning tools such as syllabus, lesson plans, media, and other instruments. Teacher performance in teaching science integrated with Islamic values can be seen from the analysis of the Basic Competencies to be taught, the syllabus developed, the study plan and its implementation, and the teaching materials (Isdaryanti et al., 2018).

Mapping basic competence in science and basic competence in the religious subject was done in all grades at Islamic Junior High School, which is basic competence in science at seventh, eighth, and nine grades. Table 1 displays mapping examples in one of the basic competencies in all grades, namely grade seventh, eighth, and nine.

Table 1
Examples of Mapping of Basic Competence in Science Subject and Basic Competence in Religious Subject

No	Grade	Basic Competence in Science Subject	Basic Competence in Religious Subject		
			Qur'an Hadith	Aqidah Akhlak	Fiqh
1	2	3	4	5	6
1	VII	**3.4** Analyzing the concepts of temperature, expansion, heat, heat transfer, and their application in everyday life, including the mechanism for maintaining a stable body temperature in humans and animals. **4.4** Conducting experiments to investigate the effect of heat on the temperature and shape of objects as well as heat transfer	**A5. 1.2** Believing in the power of God in natural phenomena occurred **A5. 2.1** Being used to deal with natural phenomena **A6. 1.2** Appreciating natural phenomena as a source of knowledge	**B5. 1.3** Appreciating the value of knowledge, hard work, creativity, and productivity in the phenomena of life **B5. 2.3** Being used to the knowledgeable, hard-working, creative, and productive behavior **B5. 4.2** Showing the example of knowledgeable, hard-working, creative, and productive behavior	**C1. 1.1** Believing in the provisions of purity from *hadas*, najis **C1. 2.1** Living *kaifiyah* of righteousness from *hadas* **C1. 3.1** Understanding najis dan how to purify from it
2	VIII	**3.4** Analyzing the interrelationships of plant tissue structures and functions, as well as technologies inspired by plant structures	**A5. 1.2** Believing in the power of God in natural phenomena occurred **A5. 2.1** Being used to deal	**B1. 1.1** Respecting the values of Aqidah Islam **B1. 4.1** Presenting facts and phenomena about the truth of Aqidah Islam	**C3. 1.2** Appreciating the importance of blessing **C3. 2.1** Being used to be grateful to Allah SWT as an

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No	Grade	Basic Competence in Science Subject	Basic Competence in Religious Subject		
			Qur'an Hadith	Aqidah Akhlak	Fiqh
		4.4 Creating project based on the various resources of information about technology inspired by plant structures	with natural phenomena **A6. 1.2** Appreciating natural phenomena as a source of knowledge **A6. 2.3** Possessing a strong passion for studying	**B1. 4.2** Presenting examples of phenomena in life that appear as evidence of the mandatory, impossible, and *jaiz* properties of Allah SWT. **B5. 1.3** Appreciating the value of knowledge, hard work, creativity, and productivity in the phenomena of life **B5. 2.3** Being used to the knowledgeable, hard-working, creative, and productive behavior **B5. 4.2** Giving example of the knowledgeable, hard-working, creative, and productive behavior **B5. 4.3** Presenting stories from life phenomena about the positive impact of being knowledgeable, hard-working, creative, and productive **B6. 1.3** Living good attitude towards the environment: to animals and plants, in public places, and on the road	implementation of the understanding of gratitude
3	IX	**3.7** Applying the concept of biotechnology and its role in human life **4.7** Producing one of the conventional biotechnology products in the surroundings	**A5.1.2** Believing in the power of God in natural phenomena occurred **A5. 2.1** Being used to deal with natural phenomena **A6. 1.2** Appreciating natural phenomena as a source of	**B1. 4.1** Presenting facts and phenomena about the truth of Aqidah Islam **B1. 4.2** Presenting examples of phenomena in life that appear as evidence of the mandatory, impossible, and jaiz properties of Allah SWT. **B2. 1.1** Believing in the attributes of Allah (SWT) through *al-*	**C4. 2.3** Getting used to consuming halal and healthy food and drinks **C4. 3.4** Analyze the provisions of halal and haram food **C4. 3.5** Analyze the provisions of halal and haram food **C4. 3.6** Knowing how to

No	Grade	Basic Competence in Science Subject	Basic Competence in Religious Subject		
			Qur'an Hadith	**Aqidah Akhlak**	**Fiqh**
			knowledge	*asmaa' al-husna* **B5. 3.3** Understanding Definition, Examples, and Impact of Knowledge, Hard Work, Creative, and Productive in the Phenomenon of Life	consume halal and healthy food and drinks

Table 1 shows that: first, basic competencies in science at grades seventh, eighth, and nine can be integrated into the basic competencies of the religious subject found in several religious subjects, namely the Qur'an Hadith (Code B), Aqidah Akhlak (Code B), and Fiqh (Code C). Second, basic competencies in science for the seventh grade are integrated into basic competencies of a religious subject in grades seventh and nine. In contrast, basic science competencies for grades eight and nine are integrated into basic competencies of the religious subject at all grade levels. Third, basic competencies of science subjects for the eighth grade are integrated to basic competencies at the religious subject at all grade levels, such as: a) Basic Competencies 1.2 and 2.1 in the Qur'an Hadith subjects of grade nine semester 1, b) Basic Competency 1.2 in the Qur'an Hadith subject of grade nine semester 2, c) Basic Competencies 1.1, 4.1, and 4.2 Aqidah Akhlak subjects of seventh-grade semester 1, d) Basic Competencies 1.3, 2.3, 4.2, and 4.3 in Aqidah Akhlak subjects of nine grade semester 1, e) Basic Competency 1.3 in the Aqidah Akhlak subject of nine grade semester 2, and f) Basic Competencies 1.2 and 2.1 in Fiqh subject of eighth-grade semester 1.

Mapping of Basic Competencies in Science related to Basic Competencies in religious subjects can assist teachers in formulating indicators for science learning integrated with Islamic values. It is also determining the main points of religious subject matter and dalil-dalil naqli from verses of the Qur'an and hadith, which are relevant to the main points of science subject. Mapping basic science competencies can also be supporting information showing the integration and close relationship between the main points of science subject and the Islamic values it contains. Thus, it assists teachers in selecting and determining the appropriate verses of the Qur'an or hadith that can be put into science learning materials. Those advantages align with (Isdaryanti et al., 2018). They state that Basic Competency analysis makes it easier for teachers to choose values to be integrated, develop a syllabus, insert Islamic values in the formulation of indicators, learning objectives, learning materials, learning method, and assessment.

In addition, the mapping of Basic Competencies in Science and Basic Competencies of Religious subject give great opportunities for science teachers and religious subject teachers to collaborate in planning and implementing the learning process. Collaboration between teachers in learning activities facilitates teachers in providing learning material and encourages teachers to improve the quality of their learning (Hill et al., 2015). Cooperation and collaboration between teachers offer more possibilities for integrating Islamic values in the religious subject into the planning of the science learning process and provide many alternative learning strategies that can be applied (Purwati et al., 2018). Thus, it is hoped that teachers would not find many difficulties and obstacles in compiling and developing integrated learning tools for Islamic values on various science subjects with specific learning models following the material's characteristics to be studied.

The combination of material content, academic skills, and interactive skills can positively influence student learning and development (Kudari, 2016), provide answers for students who show interest in learning, and streamline learning implementation (Hill et al., 2015). Following this statement, it requires the ability of teachers to choose and use appropriate teaching methods or strategies (Hassan, 2010; Hill et al., 2015) to improve student achievement in academics. According to Blazar & Kraft, (2017), the ability of teachers to organize learning in the classroom can influence students' attitudes and behavior in learning.

Effective and relevant teaching strategies are needed to achieve the goals of Islamic character building among students at Madrasah Tsanawiyah. Implementing learning integrated with Islamic value as alternative learning that has been done so far has few weaknesses and obstacles in its

implementation. An analysis of teachers' character, religious educational background, and technical preparation of science learning integrated with Islamic values in madrasah must be done more systematically and operationally. The mapping of basic competencies in religious subjects relevant to basic competencies in science subjects is the first basis for the development and preparation of science study plans integrated with Islamic values.

Teachers who are less likely to express their religious knowledge will not apply to learn integrated with Islamic values (Hashim & Abdallah, 2013). Religious values can be explicitly integrated with science learning because there is an interaction between religious belief and science learning. For Muslims, the character that must be built in the Islamic character is contained in the sources of Islamic teachings, namely the Qur'an and hadith. Therefore, religious values possessed by teachers are significant predictors of teacher skills in conducting the teaching-learning process. Islamic values can be inserted in integrated learning objectives designed in the learning process and included in learning tools such as syllabus, lesson plans, worksheets, and textbooks (Ibrahim & Zubainur, 2015). The Islamic values contained in the verses of the Qur'an and the hadith become the basis for teachers in developing science material or content to be taught and how the material will be prepared. Thus, teachers are expected to implement a learning process integrated with Islamic values to properly achieve character building in schools.

The results of the Basic Competency mapping in this study assist teachers in planning and conducting science learning integrated with Islamic values. Teachers of religious subjects (Qur'an Hadith, Aqidah Akhlak, and Fiqh) at Madrasah Tsanawiyah and teachers of Islamic Religious subjects in junior high school can benefit. Furthermore, da'i is also expected to use these mapping results to determine the topic of study related to the relationship between man and nature as a creature of God. In short, the mapping results have a wide scale of benefits that are not limited to formal education only but informal education.

CONCLUSION

By this research, a map of the correlation between scientific and religion basic competencies has been found. It demonstrates how one science basic competency in one class can be related to several fundamental religious competencies at all grade levels. The mapping results then serve as a guide for teachers in formulating indicators and objectives for integrated science learning with Islamic values, including preparing and developing the required learning tools.

ACKNOWLEDGMENT

REFERENCES

Asyhari, A. (2017). Literasi Sains Berbasis Nilai-nilai Islam dan Budaya. *Jurnal Ilmiah Pendidikan Fisika Al-Biruni*, *06*(1), 137–148. https://doi.org/10.24042/jpifalbiruni.v6i1.1584

Baba, S. bin, & Salleh, M. J. (2015). A Qur'anic Methodology for Integrating Knowledge and Education : Implications for Malaysia's Islamic Education Strategy A Qur'anic Methodology for Integrating Knowledge and Education : Implications for Malaysia's Islamic Education Strategy. *The American Journal of Islamic Social Sciences*, *32*(2), 1–30. https://doi.org/10.35632/ajis.v32i2.262

Basuki, F. R., Kurniawan, W., Jufrida, J., & Kurniawan, D. A. (2019). Pemetaan Kompetensi Dasar dan Integrasi Kearifan Lokal dalam Pembelajaran IPA SMP di Kabupaten Muaro Jambi. *DEDIKASI: Jurnal Pengabdian Masyarakat*, *1*(2), 301. https://doi.org/10.32332/d.v1i2.1767

Blazar, D., & Kraft, M. A. (2017). Teacher and Teaching Effects on Students' Attitudes and Behaviors. *Educational Evaluation and Policy Analysis*, *39*(1), 146–170. https://doi.org/10.3102%2F0162373716670260

Fiteriani, I. (2014). Analisis Model Integrasi Ilmu dan Agama dalam Pelaksanaan Pendidikan di Sekolah Dasar Islam Bandar Lampung. *Jurnal Terampil*, *2*, 1–35. https://doi.org/10.24042/terampil.v1i2.1314

Fogarty, R. (1991). Ten Ways to Integrate Curriculum. *Educational Leadership*, *49*(2), 61–65.

Golshani, M. (2007). Science for Humanity: An Islamic Perspective. *Islam and Science*, *5*(2), 181–192. https://mgolshani.ir/wp-content/uploads/2013/10/Science-for-Humanity-Islam-Science.pdf

Hakim, L. (2012). Internalisasi Nilai-nilai Agama Islam dalam Pembentukan Sikap dan Perilaku Siswa Sekolah Dasar Islam Terpadu Al-Muttaqin Kota Tasikmalaya. *Jurnal Pendidikan Agama Islam-Ta'lim*, *10*(1), 67–77. http://jurnal.upi.edu/1071/view/1266/internalisasi-nilai-nilai-agama-islam-dalam-pembentukan-sikap-dan-perilaku-siswa-sekolah-dasar-islam-terpadu-al-muttaqin-kota-tasikmalaya.html

Hamzah, F. (2015). Studi Pengembangan Modul Pembelajaran IPA Berbasis Integrasi Islam – Sains Pada Pokok Bahasan Sistem Reproduksi Kelas IX Madrasah Tsanawiyah. *Adabiyah : Jurnal Pendidikan Islam*, *1*(1), 41. https://doi.org/10.21070/ja.v1i1.163

Hashim, R., & Abdallah, S. S. (2013). Islamization of Human Knowledge in Theory and Practice: Achievements, Challenges and Prospects in the IIUM context Institute of Education, International Islamic University Malaysia (IIUM). *Journal IIUM Studies Educational*, *1*, 1–11. http://irep.iium.edu.my/40292/1/18-20-2-PB.pdf

Hassan, M. K. (2010). A Return to The Qur'anic Paradigm of Development and Integrated Knowledge: The Ulu al-Albab Model. *Intellectual Discourse*, *18*(2), 183–210. https://journals.iium.edu.my/intdiscourse/index.php/id/article/view/158

Heleni, S. (2012). Pemetaan Kompetensi Dasar Mata Pelajaran Matematika Siswa SMA di Kabupaten Bengkalis. *Jurnal Pendidikan*, *3*(2). http://dx.doi.org/10.31258/jp.3.2.%25p

Hill, H. C., Blazar, D., & Lynch, K. (2015). Resources for Teaching: Examining Personal and Institutional Predictors of High-Quality Instruction. *AERA Open*, *1*(4), 1–23. https://doi.org/10.1177/2332858415617703

Ibrahim, Dr., & Zubainur, Dr. C. M. (2015). Integrative Curriculum in Teaching Science in the Elementary School. *Researchers World – Journal of Arts Science & Commerce*, 48–54. https://doi.org/10.18843/rwjasc/v6i4/07

Ida Mardiyana, I., Cyntia Pritasari, A., & Luqman Hakim, M. (2020). Analisis Muatan IPA Kelas 5 berdasarkan Aspek Literasi Sains dan Integrasi terhadap Potensi Madura. *Prosiding Nasional Pendidikan*, 527–536. https://prosiding.ikippgribojonegoro.ac.id/index.php/Prosiding/article/view/1088

Isdaryanti, B., Rachman, M., Sukestiyarno, Y. L., & Florentinus, T. S. (2018). Teachers' Performance In Science Learning Management Integrated With Character Education. *Jurnal Pendidikan IPA Indonesia*, *7*(1), 9–15. https://doi.org/10.15294/jpii.v7i1.12887

Judiani, S. (2010). Implementasi Pendidikan Karakter di Sekolah Dasar Melalui Penguatan Pelaksanaan Kurikulum. *Jurnal Pendidikan Dan Kebudayaan*, *16*(Oktober).

Kasim, T. S. A. T., & Yusoff, Y. M. (2014). Active Teaching Methods: Personal Experience of Integrating Spiritual and Moral Values. *Religious Education*, *109*(5), 554–570. https://doi.org/10.1080/00344087.2014.956560

Krajcik, J., Codere, S., Dahsah, C., Bayer, R., & Mun, K. (2014). Planning Instruction to Meet the Intent of the Next Generation Science Standards. *Journal of Science Teacher Education*, *25*(2), 157–175. https://doi.org/10.1007/s10972-014-9383-2

Kudari. (2016). Survey on the Factors Influences the Students' Academic Performance. *International Journal of Emerging Research in Management & Technology*, *5*(6), 30–36.

Lefa, B. (2014). The Piaget Theory of Cognitive Development: An Educational Implications. *Educational Psycology*, *September*, 0–8.

Lubis, M. A. (2015). Effective Implementation of The Integrated Islamic Education. *Global Journal Al-Thaqafah*, *5*(1), 59–68. https://doi.org/10.7187/gjat792015.05.01

Mansour N. (2008). Religious beliefs: A hidden variable in the performance of science teachers in the

classroom. *European Educational Research Journal*, *7*(4), 557–576. https://doi.org/10.2304/eerj.2008.7.4.557

Ma'zumi, & Jakaria. (2012). Contributions of Madrasah to The Development of The Nation Character. *International Journal of Scientific & Technology Research*, *1*(11), 37–39. https://doi.org/10.1.1.300.2601

Mukri, M., Faisal, Anwar, S., & Asriani. (2019). Quran-integrated science in the era of industrial revolution 4. 0. *Journal of Physics: Conference Series*, 0–5. https://doi.org/10.1088/1742-6596/1155/1/012001

Muspiroh, N. (2013). Integrasi Nilai Islam dalam Pembelajaran IPA (Perspektif Pendidikan Islam). *Jurnal Pendidikan Islam UIN Sunan Gunung Djati*, *28*(3), 484–498. https://doi.org/10.15575/jpi.v28i3.560

Priyanto, D. (2014). Pemetaan Problematika Integrasi Pendidikan Agama Islam 222 Dengan Sains Dan Teknologi. *INSANIA: Jurnal Pemikiran Alternatif Kependidikan*, *19*(2), 222–240. https://doi.org/10.24090/insania.v19i2.713

Purwati, N., Zubaidah, S., Corebima, A. D., & Mahanal, S. (2018). Increasing Islamic Junior High School students learning outcomes through integration of science learning and Islamic values. *International Journal of Instruction*, *11*(4). https://doi.org/10.12973/iji.2018.11453a

Rustham, N., & Rashid, A. A. (2012). Teaching Methodologies in a Weekend Madrasah: A Study at Jamiyah Education Centre, Singapore. *International Journal of Art and Commerce*, *1*(2), 148–169. https://www.ijac.org.uk/images/frontImages/Vol_1_No_1_/Vol._1_No._2/11.pdf

Sabki, A. A., & Hardaker, G. (2013). *The madrasah concept of Islamic pedagogy*. *August*, 37–41. https://doi.org/10.1080/00131911.2012.668873

Salleh, K. M., Yusof, M., Othman, H., Radiman, S., Dakir, J., Tamuri, A. H., Alwi, N. H., Jumali, M. H., Halim, L., & Badzis, M. (2011). Teachers' Concerns, Perception and Acceptance toward Tauhidic Science Education. *Kyoto Bulletin of Islamic Area Studies*, *2*(March), 124–155. https://kias.asafas.kyoto-u.ac.jp/kyodo/pdf/kb4_1and2/10khalijah.pdf

Suyitno, H., Mulyono, & Agustina, W. (2014). Integration of Character and Realistic Education In Mathematics Classroom Learning Process. *ICMSE International Conference On Mathematics, Science, and Education*, *2014*, 302–308.

Syahit, A. U. F. (2014). *Pemetaan Kompetensi Dasar Sastra dalam KTSP 2006 Mata Pelajaran Bahasa Indonesia untuk Sekolah Dasar (SD)/Madrasah Ibtidaiyah (MI)* . Universitas Negeri Malang.

Tan, C. (2014). Educative Tradition and Islamic School in Indonesia. *Journal of Arabic and IIlamic Studies*, *14*, 47–62. https://doi.org/10.5617/jais.4638

Zubaidah, S., Mahanal, S., & Yulianti, L. (2013). *Ragam Model Pembelajaran IPA SMP*. Penerbit Universitas Negeri Malang.