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The Implementation of Integrated Islamic Education Model at MAN Insan Cendekia Pekalongan

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Abstrak
Saat ini lembaga pendidikan Islam dituntut untuk dapat mengimplementasikan model pendidikan Islam yang terintegrasi. Dalam hal ini, mereka diharapkan mampu mengintegrasikan antara studi Islam, ilmu pengetahuan, dan teknologi. Penelitian ini bertujuan untuk mengungkapkan rasionalisasi MAN IC Pekalongan dalam mengimplementasikan pendidikan Islam berbasis integrasi ilmu agama, sains dan teknologi, mendeskripsikan model implementasi program kegiatan siswa berbasis integrasi ilmu, mendeskripsikan model implementasi pengembangan kurikulum berbasis integrasi ilmu, dan mendeskripsikan model implementasi desain pembelajaran berbasis integrasi ilmu agama, sains dan teknologi. Didasari dalam pendekatan kualitatif, data dikumpulkan melalui wawancara, observasi dan dokumentasi. Data dianalisis melalui reduksi data, penyajian data, dan verifikasi. Hasil penelitian menunjukkan bahwa pertama, rasionalisasi MAN IC Pekalongan menerapkan pembelajaran berbasis integrasi ilmu agama, sains dan teknologi adalah bertumpu pada visi madrasah yang memiliki keunggulan akademik dan nonakademik melalui berbagai kompetisi sehingga diharapkan mampu mendongkrak kualitasnya sebagai lembaga pendidikan Islam integratif. Kedua, implementasi program kegiatan kesiswaan menggunakan model *separated integration system* (SIS). Ketiga, Implementasi program pengembangan kurikulum menggunakan dengan model *integrated tree curriculum* (ITC). Keempat, implementasi pembelajarannya menggunakan model *integrating verb* (IV), integrasi *dialogis interdisipliner* (IDI), integrasi *justifikasi instrumentalis* (IJI), dan teknik reflektif.

Kata Kunci: Pendidikan Islam Terintegrasi, Ilmu Agama, Sains dan Teknologi

Abstract
Islamic educational institutions are encouraged to implement the model of integrated Islamic education in recent years. They are supposed to integrate Islamic studies, science and technology. The present study aims to reveal the reasons why MAN IC

Pekalongan implement an integrated Islamic education model, describe the implementation of students' activities programs based on science integration, describe the implementation of curriculum development based on science integration, describe the learning implementation based on the integration of Islamic studies, science and technology. Grounded in qualitative approach, data were garnered through interview, observation, and documentation. Data were analyzed through reduction, display, and data verification. The study findings expose that: first, the reasons of integrating Islamic studies, science and technology is to reach the vision of the school which aims to be excellent both on academic and non-academic areas which then be able to improve the quality of madrasah as an integrative Islamic education institution. Second, the students' activity program used is the model of Separated Integration System (SIS). Third, the curriculum development program used is the model of Integrated Tree Curriculum (ITC). Fourth, the learning implementation uses the model of Integrating Verb (IV), Interdisciplinary Dialogic Integration (IDI), Instrumentalist Justification Integration (IJI), and reflective technique.

Keywords: *Integrated Islamic Education, Religious Sciences, Technology*

INTRODUCTION

The relationship of religion and science, according to Ian G. Barbour quoted by Abdullah (2013: 1), can be classified into four styles, i.e. conflict, independence, dialogue, and integration. The actualization in Islamic education institution are generally still using model of conflict and independence. Those who use either conflict paradigm or independence paradigm have greatly influenced establishment of the culture of religious social thinking both in private and public space. The argument that will propose is that the relationship between Islamic studies, in this case *ulumu al-din*, and general sciences such as natural, social, and culture require a relationship style which is dialogic and integrative-interconnection.

Until nowadays, the development of sciences in Islamic education institutions seems still applying dichotomy conflict and independence pattern. This condition has become one of the main factors that cause the decrease of Islamic intellectualism within Islamic education up to the 12th century. The cause of dichotomy turned out to be quite complex and comprehensives, all of them seem to have contributed to the appearance of the effect of dichotomy indication, from government to scientist, from *ulama* to military, and from educational institutions to far beyond educational institutions constitute a natural indication from the intellectual to the spiritual treasure (Mas'ud, 2003: 119). This mindset of dichotomy seems to have been being established and left an assumption that Islamic learning has been identically to rigidity and setbacks. The

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dichotomy of science in Islamic education world is divided into three forms: the first is religious and non-religious (general) science. This perception has made the supremacy of religious sciences run in a monotic manner; the second is revelation (*wahyu*) and nature; the third is revelation (*wahyu*) and mind. The latest perception has separated the discipline of philosophy from Islamic education (Mas'ud, 2002: 9).

It is the time that there is no dichotomy between revelation and nature like what has been believed by Ibnu Taimiyah that there is no contradiction between ration and revelation. The Prophet Muhammad (PBUH) had taught to his *ummah* not to follow in blind. It means that to imitate the customs of ancestors without any critical reason. Islam teaches us that keeping the reason, treasure, dignity, honor, family, life and religion is an obligation to every individual. Therefore, the revelation and mind should not be opposed in Islam (Mas'ud, 2003: 172). To minimize the dichotomy, it is required an effort in the form of science integration.

Moslem intellectual who offers the concept of science integration and Islamization of science is al-Faruqi (1984: 55-59). He argued that the prerequisite to eliminate the dualism of education system and the dualism of life, and to find out the solution of problem that faced the *ummah*, the sciences that have been exist must be Islamized. To Islamize the science, it is imperative to notice the principles which have been the essence of Islam. Furthermore, Kuntowijoyo (2006: 55) stated that the core of integration is an effort to integrate (not merely combine) the revelation of God and human's inventions (integral science), not to isolate God (secularism) and human (other worldly asceticism). While Abdullah (2012: viii) with his concept of integration-interconnection has become a trend for academic community in developing the discipline of science from the level of basic education to higher education level. The model of integration-interconnection is intended to indicate that interdisciplinary fields of science actually have interrelationship.

Sciences based on rationality and facts have rapidly developed compared to Islamic religion. Science is broadly divided into three parts, namely (Nata: 2005: 1-3): the first is naturalist science, in the form of physical and natural science such as physics, biology, medicine, astronomy and so on; the second is sociological science, in the form of human social behavior such as sociology, politics, anthropology, education,

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communication, psychology, and so on; and the third is reasoning science, in the form of reasoning philosophy such as philosophy, logic, art and so on.

The assumption that considers science from western country as secular science and must be rejected is an incorrect assumption. Science constitutes the result of human interpretation of the verses of God (Allah). The science will lead to problems if it loses the dimension of spiritual because it able to cause disaster that is detrimental to human being (Mustansyir, 2002: 70). Technology has been resulted from the application of science which has greatly influenced human life. In its development, technology is part of science developing independently and creating its own world. To overcome the dichotomy problem, it needs an effort to integrate both of science and religion as something important because denying the religion in the science development will have a negative impact on an ongoing basis.

To find out the practice of science dichotomy in education, there is a study of literature used in learning activity in *Madrasah*. The result of study shows that there is dichotomy of science garnishing the science taught in *Madrasah*. It is explicitly distinguished between general science and Islamic studies. Islamic studies is considered as a sacred and important science, while general science is considered as an impure and less important. The other causes are disproportionate understanding and implementation about the meaning of worship and various activities that can be categorized as worship and the understanding of the doctrine of *aqidah*. Based on the understanding above, knowledge which is important and necessarily to be taught to the students is knowledge that is directly related to how students able to perform ritual of worship in the right way and based on the true belief. Besides that knowledge, it is considered less important because there is not direct relationship with worship (Supaat, 2011: 168).

To respond the public doubts about the quality of *Madrasah Aliyah* and the problem of science dichotomy, the Ministry of Religion Affair has developed several models of leading *Madrasah,* one of them is MAN Insan Cendekia Pekalongan which has purpose to develop students who have special education in the field of science and technology and have intellectual, emotional, spiritual and social intelligence in the model of boarding school. One of the missions is to provide educational paradigm that perform an integrated approach between Islamic studies, science, technology,

environment and society and the learning atmosphere that is fun, inspiring, support and appreciate each other.

Therefore, the various achievements and learning model that have been reached has motivated the researchers to examine it in depth. The objectives of the study include: first, mapping objectively the reason of *Madrasah* implement the integration of science; second, exploring the implementation model of students' activity programs based on the integration of science; third, exploring the implementation model of curriculum development program based on the integration of science; fourth, exploring the implementation model of learning based on the integration of science.

To obtain the information about the implementation of the science integration, this kind of study used is field research with qualitative approach. The discussion of the study uses the technique of descriptive. The primary data resources include information directly from the subjects of study such as Headmaster, Vice-Headmasters, Religion Teachers, Science Teachers and the representative of students that randomly chosen proportionally from grade 10. Referring to the opinion of Sugiyono (2005: 59), secondary data of the study obtained from literature studies and documentation derived from literature, regulations and documentations related to the theme of study. Data were garnered through interview, observation, documentation and audio visual material (Cresswel, 2010: 269-270). Interactive model was employed to analyze the data commonly used in qualitative research through the process of reduction, display and verification of data.

RATIONALITY OF INTEGRATION OF RELIGION, SCIENCE AND TECHNOLOGY

Based on the result of interviews with managers and teachers, the researchers found reasons about the application of science integration in school/*madrasah*'s activity, curriculum development, and learning process, they are: practicing skill of intellectual thinking based on religious spiritual values; graduating Islamic scientists to advance Islamic civilization; achieving various academic and non-academic competitions such as National Science Olympiad, *Madrasah* Science Competition, Quiz Competition, *Musabaqah Thilawatil Quran*, and Week of Regional Students' Sport; eliminating paradigm and praxis of science dichotomy; being inspiration and role model

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for other *Madrasah* in developing and in applying an integrative Islamic education; providing insights revived by religious spiritual values; training how to think in integrative way to the students so they can master the Islamic studies, science, and technology as well; boosting the popularity and the quality of school; making students more enthusiastic and interested in learning Islamic studies because they can recognize the wisdom of Islamic teachings in scientific perspective that is acceptable by the reason; enacting the students to think more critically and have comprehensive knowledge and to provide awareness to students in carrying out the Islamic teaching; giving and growing spiritual values and to increase gratitude to God (Allah) by studying scientific evidence contained in science lesson; and the learning of science in the classroom can be more meaningful.

By applying integration of Islamic studies, science, and technology directly or indirectly, it is proven to be able to develop academic and non-academic achievements not only in regional area but also province even national. Having these achievements, the popularity and the quality of MAN Insan Cendekia Pekalongan will be automatically developed. The school will become a supreme role model for other *madrasah* in Pekalongan, especially in implementing integrative Islamic education.

THE MODEL OF IMPLEMENTATION OF STUDENTS' ACTIVITY

To actualaise an academic culture that integrates Islamic studies, science, and technology, it can be observed through the program of activities that scheduled by the manager as representative of integration attempt of science. The academic culture that integrates Islamic studies, science and technology can be noticed through *Madrasah*and students' activities which implement boarding school system. As a *Madrasah*that applied boarding school system, MAN Insan Cendekia Pekalongan has daily activities that scheduled within 24 hours and 168 hours in a week. Learning activities in the class are conducted from Sunday to Friday with the range of active time around 7 to 8 hours each day. While the rest of the time around 16-17 hours are routine activitis in the boarding including religious activities, acaedmic guidance, study assistence, rest and so on.

Table 1. Recapitulation of Student Activities Program at MAN Insan Cendekia Pekalongan

No.	Element of activity	Monday-Thursday	Friday	Saturday	Sunday	Time allocation in a week	Information
1	Religion	± 5 hours 15 minutes	± 6 hours 15 minutes	± 5 hours 15 minutes	± 3 hours 30 minutes	± 36 hours	*Qiyamul lail*, praying fardlu and Praying Jum'ah together, *kultum, qiraah, tahfidz qur'an*, book studies.
2	Academic	± 1 hour	± 1 hour 30 minutes	± 45	± 1 hour	± 1 hour 30 minutes	Guidance of OSN/KSM, *muhadharah* (discussion thematic), *muhadatsah* (*speaking*).
3	TLA	± 7 hours 30 minutes	± 6 hours 45 minutes	-	-	± 36 hours 45 minutes	Teaching learning in the class
4	Student assistance	± 1 hour 45 minutes	± 2 hours 45 minutes	± 6 hours 45 minutes	± 4 hours	± 16 hours 15 minutes	Foster teacher assistance, Counseling guidance, clinical programs, activities and independent learning.
5	Break time	± 8 hours 30 minutes	± 7 hours 45 minutes	± 8 hours 45 minutes	± 9 hours	± 59 hours 30 minutes	Eating, bathing, sleeping, cleaning and other personal needs.
6	Extracurricular	-	-	± 2 hours 30 minutes	-	± 2 hours 30 minutes	Scout and specialization
7	Sport	-	-	± 1 hour 15 minutes	-	± 1 hour 15 minutes	
8	Visitor				± 7 hours 15 minutes	± 7 hours 15 minutes	Parent visiting
	Total	24 hours	24 hours	24 hours	24 hours	168 hours	

Source: Vice-headmaster of curriculum

Table 1 demonstrates that it is found that the break time for the students ranged ± 56 hours 30 minutes for one week, teaching learning activities ± 36 hours 45 minutes, from Sunday to Friday, and religious activities took the third place with time allocation ± 36 hours a week with the range of each day between five to six hours, with the following percentages.

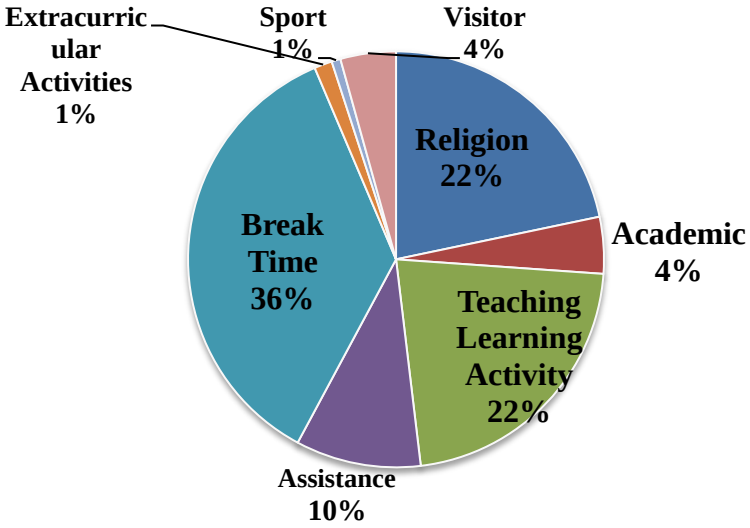

Figure 1. Time Allocation of Student Activity at MAN Insan Cendekia Pekalongan

Based on the figure 1, the religious activities as a representative of Islamic studies have the same percentage amount as the teaching learning activities which are dominated by science lessons with 22%. While, the academic activities that only reaches 4% as supporting of science lessons have provided additional values and have strengthened the position of the MAN Insan Cendekia as a leading *Madrasah* from which many Islamic scientists hopefully come. As an attempt to develop students' potential, the students' activities have been scheduled by applying the integration of sciences. The types of activities can be reviewed as follows:

Table 2. Student Activities

No.	Religion	Science	Integrated Model
1	*Majlis shalawat*, yellow book study, PHBI, tahfidz qur'an hadith, prayer obligatory in congregation, *qiyamul lail*, *qiraah*	Guidance for scientific work, coaching OSN and KSM	English and Arabic 7 minutes speech, *muhadhoroh*, thematic discussion, career day, collaboration study, morning apple, student care, English Arabic camp

Source: Vice-headmaster of student activities

From the table 2 above, the student activities have been specifically mapped according to the main objective of the activities. Some focus only on Islamic studies and science, others try to integrate both of them. The agenda has not covered specific activity regarding the technology development.

Related to the integration of science, the student activities have not specifically been designed to combine Islamic studies, science and Islamic technology. Nevertheless, the activities have accommodated many fields of science. There are also activities that aimed to certain science and skills, but in the actualization, there are other fields of science which are interspersed. By doing so, it can provide multidiscipline thinking paradigm to the students. The student activities is presented as follows:

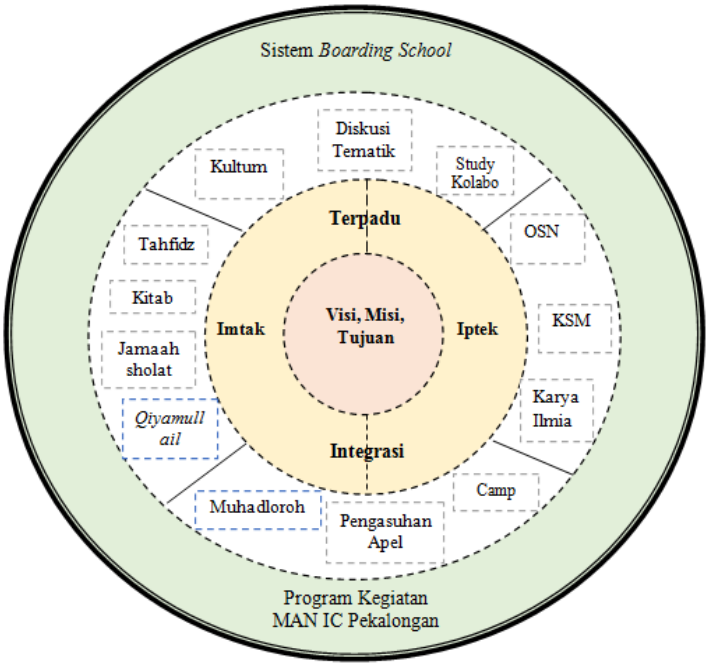

Figure 2. The Pattern of Student Activities Oriented in Sciences Integration

Through the figure 2 above, it can be illustrated that the model of student activity integration implemented is trying to connect and to unify the programs of student activities which have a variety objectives but within single system of *Madrasah*. All students are required participating the activities. From the activities, the students are hoped to have thinking and multidiscipline and multitalented skills which have been an integrative culture of the *Madrasah.*

Referring to the existing theory, the researchers analyses that the type of thinking in *Madrasah* develoment is based on the typology of thinking of Post-traditionalistics (Mu'ammar, 2013: 133). It means that it accommodate the activities which are attempt to preserve culture and Islamic heritage with modern educational standards. In relation to the model of integration, it has the same concept of integration as that has been developed by Amin Abdullah (model of Spider Web). All programs

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with different functions are compressed in a single system of *Madrasah*that runs side by side, interellated, complement each other, and try to discuss through model of dialogic integration (Riyanto, 2014: 125-126). Hence, it was found that the model of scientific integration in student activities had used the model of Separated Integration System (SIS). The model has characteristic to combine various activities of sciences and skills in one system of boarding school activity.

MODEL OF CURRICULUM DEVELOPMENT

To identify if *Madrasah* has implemented the education based on the integration of science, one of them can be recognized through the curriculum design that has been developed whether it has included in integrative curriculum or not. The integrative curriculum basically seeks to integrate a number of subjects through the interrelation between aims, contents, skills and behavior. Referring to the national policy, the integrative curriculum approach has been included in the development of Curriculum 2013 (Machali, 2015: 42-43).

There is a uniqueness in the design of the curriculum. That is the addition of optional subjects and intensive subjects for Biology, Chemistry, Sociology, and Economy. Each subject has three hours time allocation in a week for grade 10. For the 11^{th} grade, there are intensive time for Geography and English literature and each of them has four hours time allocation in a week. The aim of this is to enrich students' mastery to the material of science. This pattern describes that the structure of *Madrasah* curriculum indicates science is more dominant than religion. The phenomenon is compatible with the mission and the objective of the school that is to make leading *Madrasah*in the field of science to create Islamic scientists. For further explanation, the following table can be examined.

Table 3. Time Allocation of Religious Content of MAN Insan Cendekia Pekalongan

No.	Total of Religious School Subjects		
	Subjects	X	XI
1	al-Qur'an Hadis	2	2
2	Akidah Akhlak	2	2
3	Fiqh	2	2
4	Islamic cultural history	2	2
	Total	8	8

Source: Vice-headmaster of curriculum

Table 4. Number of Hours of Science of MAN Insan Cendekia Pekalongan

No.	Group	Number of Time Allocation of Science					
		Specialization of IPA	X	XI	Specialization of IPS	X	XI
1	Compulsory	Math	4	4	Math	4	4
		History	2	2	History	2	2
2	Specialization	Math	3	4	Geography	3	4
		Biology	3	4	History	3	4
		Physic	3	4	Sociology	3	4
		Chemistry	3	4	Economy	3	4
3	Optional	Sociology	3		Biology	3	
		Economy	3		Chemistry	3	
		Geography		4			
Total			24	26		24	22

Source: Vice-headmaster of Curriculum

From the table 3 and 4 above, it is obtained that the number of time allocation for religion subject for grade 10 and 11 is eight hours in a week in which one hour is around 45 minutes. Thus, there are specifically six hours for religion subject in a week. The number of time allocation for science subjects is approximately 24 hours which means 18 hours a week. Therefore, the difference is 12 hours a week more science than religion subject. For more details, it can be described through the following diagram;

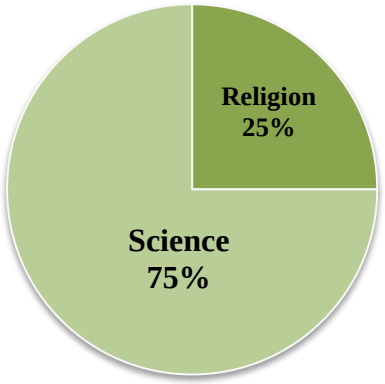

Figure 3. Comparison of Religion and Science

From the figure 3 above, it is known that the structure of curriculum of religious material is 25%, smaller than science with 75%. It means that the integration of science in the structure of curriculum has not been exlplicitely formulated although the model of integration in hidden curriculum has attached to the learning activities in the class. In addition, the implementation of science integration in the structure of the curriculum

uses instrumentalis model (Arif, 2012: 71-81) and Islamic modernization with the assumption that science included in the curriculum structure as a neutral instrument must be studied in order to increase the competence of science of technology in more Islamic *Madrasah* system. By adopting the concept of science integration by Suprayogo, in the form of the tree of science, the model of the curriculum development can be descirbed as follows:

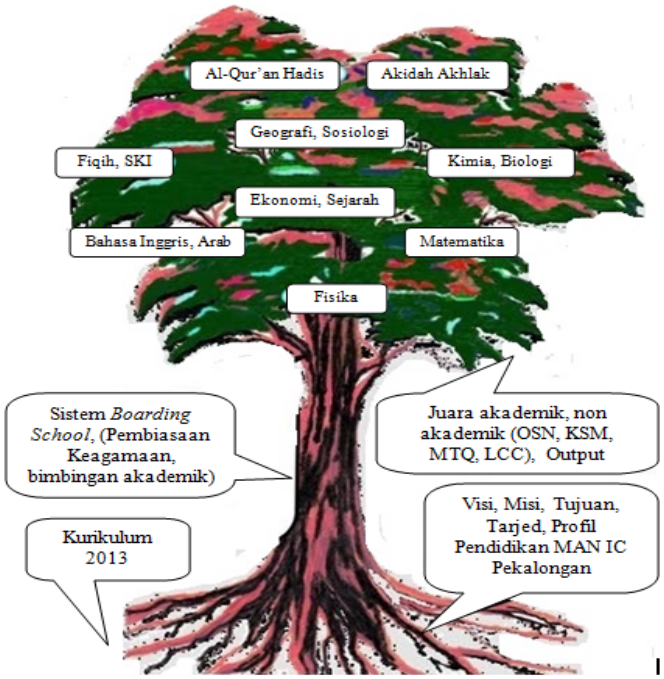

Figure 4. Tree of Science

From the figure 4 above, it can be explained that the implementation program of curriculum development based on the integration of science uses model of Integrated Tree Curriculum (ITC). This model can be illustrated as a big tree with the shady leaves, strong roots, and fruitful. The curriculum 2013 as a reference is like soil and nutrient that provide nutrition and absorbed by the tree roots and the strong brances of the roots. This comparison is the same as the vision, mission, objectives, and targets of the school that have been formulated. The input of the curriculum is then distributed througout the tree. The big trunk as part of the tree that support the brances is like the habit program of *Madrasah*in the form of increasing the quality of the faithfulness through religius habits and intensive program of science subjects under the academic guidance.

MODEL OF LEARNING IMPLEMENTATION

In the syllabus of curriculum 2013, there is a science integration approach in the form of component of core competence which is included in four aspects: spiritual, social, knowledge and skills. Those aspects have represented the field of Islamic studies, science, and technology but still in separated function and the human who integrate it in the form of action and thoughts. From the core components explained become basic competences which are adapted to the subjects. Furthermore, there are several verbs that used in integrating the Islamic studies, science, and technology, for example the verb of to analyze, to examine, and to show in religion subjects. Those verbs are used to integrate Islamic studies and science.

Likewise, in the syllabus of the material of religion, Science, and Technology, it is found the similarities of learning process path that contained in five verbs. The efforts to integrate them in the main activity of learning can use exploration through the activities of collecting, associating, connecting, and analyzing. Besides, based on the learning path, the process of science integration can also be carried out through the use of learning resources.

In addition, the main activities of learning such as introduction, main activity and closing have not been found the efforts to integrate science comprehensively. The implementation of the integration of Islamic studies and science in teaching learning activities can be actualized in hidden curriculum by including elements and values that strengthen each other. The activities can be in the form of religious habituation (say *salam* each other, pray before and after studying and *tadarus*) and providing knowledge about science and technology in real life, so that it can be the things for reflection, motivation for students.

Therefore, the integration of Islamic studies, science and technology in teaching practice in the class can use the model of Integrating Verb (IV). The stages are: teachers make syllabus and lesson plans referring to the curriculum 2013 by applying verbs and sentences that look up the four aspects of competences: spiritual, social, knowledge, and skills. The four aspects then can be developed to be dozens of verbs that represent each aspect of competence. To achieve the integration of science, the separated verbs can be combined and connected in an integrated planning structure in learning (Liu, 2018: 16).

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Model of Making the Material of Religion and Science

The following table 5 shows the material of religion that can be integrated with science and technology is natural science and social material. Similarly, the material of science and technology that can be integrated with Islamic studies is about natural phenomenon and social material.

Table 5. Learning Material Integrated with Other Fields of Sciences

No.	Subjects	Materials
1	Al-Qur'an Hadith	Main content of al-Qur'an, humans as servants of God and *khalifah*, avoid promiscuity, maintain tolerance and social etiquette, live easier with science, halal food and haram
2	*Fiqh*	The concepts of *Fiqh* and worship, management of bodies, zakat and wisdom, hajj and *umrah*, *qurban* and *aqiqah*, Islamic economy, usury, banks, insurance, Islamic justice, marriage in Islam and inheritance law
3	Geography	The earth's life space, the dynamics of the lithosphere, the atmosphere and hydrosphere and their impact on life, flora and fauna, natural resource management, food security, population dynamics, cultural diversity and natural disaster mitigation
4	Physics	Measurement, Newton's laws and gravity, vibration, rotation, temperature, heat, sound waves and light, and global warming

Source: Teachers of Al-Qur'an Hadith, *Fiqh*, Geography and Physics

Furthermore, regarding to the distribution of religion material that related to science and vice versa, teachers are expected to be able to deepen and to broaden their scientific multidiscipline insights. One of the ways that can be undertaken is by communicating and interacting with other teachers related the subjects to collaborate the material in integrative. The efforts that carried out to synchronize the material of teachers of Religion, Science, and Technology are informative and brainstorming in the way of enriching the insights to the material which can be integrated. By doing so, the integration science developed uses the model of dialogic integration (Riyanto, 2014: 125-126) interdisciplinary (Drake, 2013: 15-17), as the following figure.

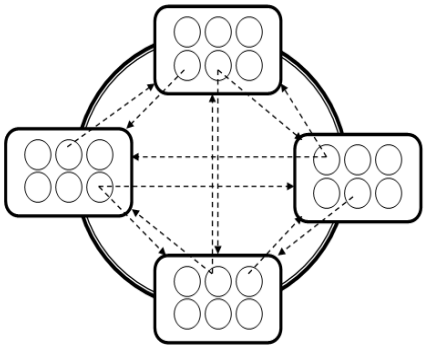

Figure 5. Model of Science Integration

Figure 5 constitutes the model of interdiciplinary dialogic integration occurred among different subjects but can be synchronized at specific point. The integration happens because there is a relationship between certain materials which are insigthful and enriching the knowledge of fellow teachers. However, this model has not included in the category of combining in a whole and systematic way in the form of the design of integrative lesson theme. The implementation of the integration of religion, science, and technology material includes the Interdisciplinary Dialogic Integration (IDI) (Komariah, & Kurniady, 2017: 295).

The Process of Implementation

Based on the interviews and observations, the implementation of science integration within the learning process in the class can be described in Table 6 and 7:

Table 6. Implementation of Science Integration in Religion Learning

No.	Activity	al-Qur'an and Hadith	*Fiqh*
1	Introduction	Motivation of Science	Life contemplation
2	Learning Medium	LCD projector, laptop that has internet access, picture and videos from Harun Yahya	LCD projector, laptop that has internet access
3	Presentation	*Power point*, qur'an hadith digital application, writing in the board	*Power point*, writing in the board
4	Learning Model	*Active learning* with discussion group, assignment, question and answer and *drill*	*Active Learning* with discussion group, *problem solving*, inquiry and *discovery learning*, observation tasks
5	Other Subjects	sociology, biology, chemistry, geography	biology, economy
6	Other Subjects	The reality of daily life, provides the latest knowledge of science in	Material related to daily life, provides insight into why it

No.	Activity	al-Qur'an and Hadith	*Fiqh*
		the form of illustration pictures and videos, scientific facts, natural and social phenomena	occurs and is associated with other sciences
7	Integration Process	Explain the *qur'an* material of the hadith first then allude to the facts / scientific studies	Explaining *fiqh* material then alludes to his scientific study
8	Integration Function	Qur'an hadith-science-knowledge	*Fiqh*-science-wisdom

Source: Teachers of Al-Qur'an Hadith, *Fiqh* and Student of Class X

Table 7. Implementation of Science Integration in Science Learning

No.	Activity	Geography	Physics
1	Introduction	Prayers, always maintain the balance & preservation of nature by being a good *khalifah* and learning and being grateful for all the blessings of Allah in this world	Prayer, always grateful for all the blessings of Allah in this world
2	Learning medium	LCD projector, laptop, Internet,	LCD projector, laptop, Internet,
3	Presentation	*Power point*, picture and video	*Power point*, picture and video, animation *flash*
4	Learning model	Quizzes, discussions, experiments, drama, task groups and presentations	Discussion and experimentation
5	Other subject	Islamic studies	Islamic studies
6	Integrating process	Spontaneously, if there is geo-graphic material related to religion, it will be briefly stated on the basis of knowledge / just provide guidance on the religious values contained in the material.	If there is any physical material that is in contact with religious values to be presented modestly, then it provides an opportunity for students to search deeper on the internet
7	Integration function	geography-religious values	Physics-religious values

Sources: Teachers of Geography, Physics and student of class X

Table 6 and Table 7 expose that the model of science integration uses the justification model (Arif, 2016: 71-81) or the Bucaillism integration model which is popular used in Al-Qur'an studies with *tafsir ilmi* (Syamsudin, 2012: 44-45) by providing the insights of scinec and technology as adapters, justification and reinforcement of the religion material. The learning process of the integration of religion material with science material is informative and confirmative by enriching the

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metrial of religion with the information of natural phenomenon, social, and reality of life as well as providing the point of its relevance.

While, in science learning, the integration used is the model of instrumentalistic (Arif, 2012: 71-81), it means that the science material is considered as a neutral science field so that everyone can examine it, including the Islamic approach. The science learning with the approach of science Islamization is putting Islam as an axiology of science learning and inserting Islamic values into the science learning (Nata, 2005: 419-428). Therefore, the integration between Isalmic studies, sicence, and technology in the learning process take place in a dialogic interdisciplinary with the model of Instrumentalist Justification Integration (IJI). In practice, the teachers attempt to meet the religion material with science and technology as well as justifying the science and technology or by tranforming the Islamic values into the science and technology.

Learning Evaluation

The learning evaluation on the process of implementation of science integration is conducted by giving opportunities to the students to contemplate and to reflect what have been got during learning then delivered it in the form of messages, impressions, suggestions, and critics in the beginning, in the middle, and in the end of learning activity. This evaluation is used as a consideration to improve the quality of the next learning (Saebani, 2013: 50).

The post learning evaluation which oriented to the scoring has not represented the integration of science as it should. It is proven that the form of assesment instruments used by the religion and science teachers still refers to the system of evaluation of current curriculum standard (Sfakianaki, 2019: 127). The instrument of spiritual and social assesment uses sheet of observation, slef-evaluation, assesment among students and journals. The assesment of aspect of knowledge uses witten tests, oral tests, and assignment through certain relevant instrument. Moreover, daily assesment, midterm assesment, final semester assesment, and portfolio still measure the level of understanding teaching materials stated in the curriculum.

CONCLUSION

Even though the model of integration has not been implemented comprehensively, the academic community of MAN Insan Cendekia Pekalongan has tried to integrate Islamic studies, science and technology in the system of boarding school with the following conclusions: First, MAN Insan Cendekia Pekalongan has implemented Islamic education based on the integration of Islamic studies, science, and technology with the target to reach achievements in various academic and non-academic competitions. The achievements achieved then can promote the popularity and the quality of MAN Insan Cendekia Pekalongan as a leading *Madrasah* model.

Second, the implementation model of student activities based on the integration of Islamic studies, science, and technology uses the model of Separated Integration System (SIS). By using boarding school system, the objectives that have been formulated can effectively support the integration process of Islamic studies, science and technology. Referring to the post-traditionalist thinking, the model of dialogic integration is effectively proven in applying student activities.

Third, looking at the curriculum 2013, the implementation of the curriculum development based on Islamic studies, science, and technology uses the model of Integrated Tree Curriculum (ITC). The habituation of religious values through improving the faithful of the students has also synergized in the program of science and technology reinforcement so that it is proven can make many academic and non-academic achievements.

Fourth, the model of learning implementation based on the integration of Islamic studies, science, and technology is designed from the planning to the learning evaluation. The planning of learning design uses the model of Integrating Verb (IV). The process of making teaching materials uses the model of the interdisciplinary Dialogic Integration (IDI). While the implementation of learning process in the class uses the model of Instrumentalist Justification Integration (IJI). Then, the evaluation of learning process applies the technique of reflection. And the last, the learning evaluation that oriented to the scoring refers to the instruments determined in the curriculum 2013.

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