

CONTEXTUAL AND INTEGRATED ISLAMIC VALUES IN BIOLOGY LEARNING: PERSPECTIVES OF PROSPECTIVE TEACHERS AT MUHAMMADIYAH UNIVERSITY

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Prospective Biology teachers at Muhammadiyah University of Sukabumi are prepared to become professional teachers who not only good in the science of education and teacher training, but also good in Islamic values. In addition, prospective Biology teachers should also be trained in linking the material with the context in the real world situations, so when became a teacher can used to teach students in the understanding Biology. This research is a preliminary research that aims to reveal the perspective of prospective Biology teachers at Muhammadiyah University of Sukabumi, about context-based learning and integrated Islamic values in the subjects of General Biology. Descriptive research method, with the subject of pre service Biology teachers as much as 25 people. The instruments used are questionnaires and interview guides. Data were analyzed qualitatively and quantitatively. The results obtained will be used as a reference in developing context-based learning model that integrates Islamic values to be applied to prospective Biology teachers.

Key words: Contextual learning, integrated islamic value, pre service teacher.

1. INTRODUCTION

The purpose of the implementation of Muhammadiyah Higher Education or Perguruan Tinggi Muhammadiyah (PTM) which is listed in the Guidelines of Pimpinan Pusat Muhammadiyah No. 02/PED/I.O/B/2012, such as: 1) The development of human potential who believe and piety to Allah SWT, noble, intelligent, skilled, creative and independent to realize the true Islamic society, 2) The realization of the ability of creation, development and dissemination of science technology and art that gives benefit to their society, nations, countries and religious society, and 3) the development of Al-Islam and Kemuhammadiyah (AIK) which build the intellectual and enlightening characteristics for the entire academic community and the wider life. In the first and third objectives, it is disclosed the ideals of

PTM in developing the human potential (student) that emphasizes the strong Islamic values.

Based on the Guidelines of Pimpinan Pusat Muhammadiyah, the purpose of education in Perguruan Tinggi Muhammadiyah (PTM) has been verbally sounded as a Muslim bachelor. As a consequence, each PTM should set its goals into the curriculum. The contents of the PTM curriculum should show two things, first is the intention and direction of Islamization of science and technology. second, curriculum organizations should lead to Islamic integration. With the integration meant the activities of research, scholarship, training, and life, must be a united and will not be perfect if they are implemented separately. Thus the material of Al-Islam and Kemuhammadiyah which is included in the scholarship and life is not only an additional subject but an inseparable part of the activities and experiences that will be accepted by the students in each course.

Integration begins with an integrative mind-set, which unifies the meaning of the life in the world and the hereafter, so it can be meant that all areas of science are the science of religion. The understanding of the integration of Islamic values in learning is implied in Al-Qur'an. Al-Qur'an does not contradict between science and religion. Even in His verse it is emphasized that human should always think of events in nature to reinforce his religious beliefs (Q.S. Al-Anbiyaa, 21:30).

The course that will be integrated with Islamic values in this research is General Biology subject. General biology is a compulsory basic course for first semester Biology Education Department students, which contains the basic of knowledge and understanding for the biology branch courses in the next semesters. The first semester students as a biology prospective teacher need to be equipped with Islamic values in learning process related to the context of daily life as a starting capital for them to be superior, professional and Islamic educators.

Contextual learning is an appropriate approach to be applied in science learning in this case biology. Context is a situation or condition in which learning occurs (Windyarani, 2016). It means that learning is closely related to the real-life nature experience, the materials which being learned are exists in the student's life and is affordable to the student's experience. The knowledge taught should be closely linked to the true student experience. Based on some research, it is found that learning by using contextual approach is able to train ability of thinking (science literacy, critical thinking, and creative thinking) (Windyarani, 2017, Toharudin, 2011; Hoolbrook, 1998; Nentwig et al, 2002) which are needed by prospective teacher.

This research is a preliminary study that aims to examine the perspective along with the initial ability of prospective biology teacher on the ability to integrate Islamic values (Al-Qur'an and hadith) and the ability to connect biological materials in their everyday life. The results of this study will be used as a reference for the development of a context-based integration model that can be expected to be a proven model to create prospective biology teacher who are compatible to the expected character of Muhammadiyah University of Sukabumi in general and PTM in particular.

2. METHOD

This research uses survey method with qualitative and quantitative approach. The quantitative method used through the dissemination of the questionnaire instrument to the respondents then it istabulated and calculated the percentage of total answers given and categorized according to

Kuntjaraningrat (1994). Qualitative methods of interviewing teachers using interview guidelines.

The study involves 25 prospective teachers from Biology Education Department students, Teacher Training and Education Faculty of Muhammadiyah University of Sukabumi conducted in September 2017. The 25 students who involved in the research are come from 3rd and 5th semester's students. Students filled questionnaire on the perspective of integration of Islamic values context-based learning in everyday life. Then proceed by filling in the essay question on examples of context and integration of Islamic values in biological materials.

The questionnaire also contains questions about the respondent's data in the form of gender and semester position which is presented in table 1 below:

Table 1. Data Respondents questionnaire

(N=25)	
Description	N
Gender	
Male	4
Female	21
Semester Position	
3rd semester	16
5th semester	7

Data analysis is done in the form of quantitative and qualitative. Quantitative analysis used a simple percentage calculation of the questionnaire. While quantitative analysis is done on student answers from essay tests on examples of context and integration of Islamic values in biological materials. Simple analysis is done by percentage the acquisition of results and categorized by Kuntjaraningrat (1994).

3. RESULTS AND DISCUSSION

This study aims to reveal the perception of prospective biology teacher to the contextually and integrated Islamic values teaching method. Expected results are shown in the table below:

Table 2. Results of the questionnaire

Statements	%
Prospective teachers need to learn how to link the concept of Biology to the context in everyday life.	98
It is difficult to link Biological concepts to real situations in everyday life.	69
I can learn how to link biology concepts to everyday life by myself.	40

Linking Biology concepts to everyday life should be taught in a course in the classroom	83
I think prospective teachers need to learn how to integrate Islamic values in Biology materials.	88
I find it is very difficult to integrate Islamic values in Biology material.	67
I can learn to integrate Islamic values on Biology materials by myself.	43
Integrating Islamic values in Biology materials should be taught in the classroom.	85

Based on the data presented in Table 2, it shows that almost all prospective teachers (98%) consider that prospective teachers need to learn how to link biological concepts to everyday life and as much as 69% (mostly) suggest that prospective teachers find it difficult to link biological materials in everyday life. As many as 40% (minority) of prospective teachers claim that they are able to learn how to link the material to everyday life by themselves, and as many as 83% or almost all prospective teachers think that to link biological concepts to everyday life need to be trained in lectures.

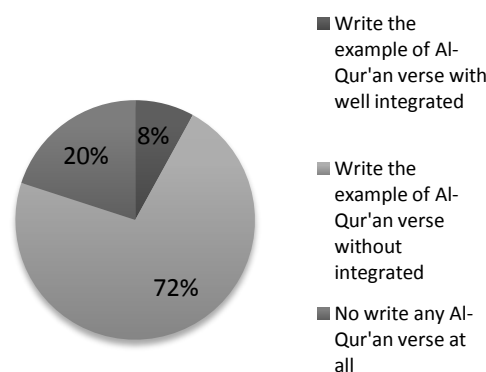
The results revealed is compatible with the results of Wasis research (2006) that teachers (including prospective teachers) still need a lot of practice and many opportunities so they are able to facilitate students to link the knowledge that has been owned with the situation of everyday life. The contextual approach will encourage teachers to connect with students' real-world situations, while also encouraging students to make connections between the knowledge they acquire and the application in their own lives.

Context-based learning idea is not a new thing, based on the theory, contextual learning occurs only when students process information or knowledge in such a way that the information is meaningful to students within their own framework. The framework will relate to the students' memories, experiences and responses. Contextual theory assumes that the brain naturally seeks meaning in context, that is in relation to someone's environment, which then the brain will search by searching for meaningful and useful relationships.

The demand to realize a Muslim bachelor at UMMI based on the results which are expressed by the students seems still so heavy to be realized. Most students find it difficult to integrate the value of Islam especially in this research is Biological material, but they realize that the integration of Islamic values is

important to be implemented and trained. This means that students actually already realize that the integration of Al-Qur'an and Al-Hadith in the course is a matter of *mutlat* to be studied and taught on each course at the university.

In addition to the responses, students are also given a test sheet of the example of the integration of Islamic values to see their ability directly. Percentage of ability to present examples of integration of Islamic values on Biology materials from students' test is presented in graph 1 below:



Graph 1. Percentage of students in the ability to write Al-Quran integration

Based on Graph 1. Only 8% of students are able to integrate Al-Qur'an verses on Biological material appropriately. The few verses that are revealed are Surah Al-Mu'minin (23:14) regarding the process of human creation, Surat Al-Jatsiyah (45: 5) about water. There are only two students in this category where they write the verses of Al-Qur'an as well as they explain the Biological materials precisely although their way to integrate it is still simple (accepted method).

Furthermore, as many as 72% of students are able to write the title of the verse and mention the verse about biological material, but without integrated it. And as many as 20% of students are not able to write verses related to Biological material at all.

The data in graph 1 shows the integration discourse at Muhammadiyah University of Sukabumi (UMMI) can be seen as a common homework for Islamic universities especially Muhammadiyah Higher Education or PTM. Moreover, the the letter of decision of Pimpinan Pusat Muhammadiyah on Tanfiz Decision of 47th Muktamar Muhammadiyah stated that "The development of the function of PTM with Al-Islam and Kemuhammadiyah based, Holistic-Integrative, Good Governance, Competitive And Excellence." So

it is necessary to develop appropriate methods or approaches to make this happen.

Islamic values are not the same as Islamic religious education, Islamic values focus on value building which aimed in helping learners how to experience, live, reflect, choose and internalize values so that all will be integrated in their personality and behaviour (Muspiroh, 2013).

There are 3 ways to integrate Islamic values among others: 1) Integrate general learning with religious subjects through mapping (classification) verses of Al-Qur'an and hadith (integration), 2) Linking each subject by adding Islamic values (Islamization), and 3) find the value that exists in Al-Qur'an and hadith for further scientific evidence of the value of science (science). Most of the students are doing the second way, that is Islamization.

Learning Biology as a part of science, has a great potential to develop Islamic values. In Al-Qur'an, there are at least more than 750 *kauliyah* verses about the universe including biological studies (Purwanto, 2013). For the *kauniyah* verses which spread in the universe is even more and the human task is to find out and understand it. Studying general biology based on Islamic values can increase human faith to his creator as well as gratitude to Allah subhanahuwataala.

4. CONCLUSION

The conclusion of this preliminary study shows that biology teacher candidates consider it important to training method of integrating Islamic values (Al-Qur'an and hadith) and connecting biology material in everyday life. The results of the candidate teacher's ability to integrate Islamic values to biological materials are still low (only 8% or two people are able to integrate Islamic values with biological materials so that research on developing a general biology course model based on context and Islamic values is seen as a necessity for PTM.

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