

## Innovation integration of Islamic values in learning environmental themes in biology education

H. Husamah<sup>1)\*</sup>, Hadi Suwono<sup>2)</sup>, Hadi Nur<sup>2,3)</sup>, Agus Dharmawan<sup>2)</sup>

<sup>1</sup> Department of Biology Education, Faculty of Teacher Training and Education, Universitas Muhammadiyah Malang, Jl. Raya Tlogomas 246, East Java, Indonesia

<sup>2</sup> Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Negeri Malang, Jl. Semarang 5, Lowokwaru, Kota Malang, Indonesia

<sup>3</sup> Ibnu Sina Institute, Faculty of Science, Universiti Teknologi Malaysia, Jalan Iman, Johor, Malaysia

[usya\\_bio@umm.ac.id](mailto:usya_bio@umm.ac.id)\*; [hadi.suwono.fmipa@um.ac.id](mailto:hadi.suwono.fmipa@um.ac.id); [hadinur@utm.my](mailto:hadinur@utm.my); [agus.dharmawan.fmipa@um.ac.id](mailto:agus.dharmawan.fmipa@um.ac.id)

\*Penulis Koresponden

### ABSTRAK

Artikel ini bertujuan menganalisis inovasi integrasi nilai-nilai Islam (*Islamic Values*) dalam pembelajaran tema lingkungan di Prodi Pendidikan Biologi di Perguruan Tinggi Muhammadiyah. Penelitian ini merupakan *library research*. Jenis data yang digunakan dalam penelitian ini adalah data kualitatif. Berdasarkan tekniknya, jenis data menggunakan data sekunder. Untuk menguatkan keabsahan data, dalam penelitian ini peneliti menggunakan teknik triangulasi sumber. Pengecekan keabsahan data dilakukan dengan triangulasi sumber. Data yang diperoleh dianalisis menggunakan analisis deskriptif kualitatif, untuk menghasilkan data yang bisa dideskripsikan melalui hasil perilaku dan kalimat yang diamati oleh peneliti. Dalam analisis data model interaktif yang digunakan adalah content analysis. Adapun visualisasi data, khususnya terkait referensi dan kata kunci yang sering muncul, menggunakan software VOSviewer. Berdasarkan hasil ditemukan bahwa terdapat 17 rumusan nilai penting dan urgensi AIK serta terdapat 12 rumusan nilai AIK dan integrasinya dalam pembelajaran tema lingkungan. Hal ini berarti bahwa AIK perlu diintegrasikan dalam pembelajaran tema lingkungan di Program Studi Pendidikan Biologi di Perguruan Tinggi Muhammadiyah. Sejalan dengan itu maka diperlukan model pembelajaran. Model pembelajaran yang memungkinkan digunakan adalah integrasi *Cooperative Learning type STAD* dan *Project-Based Learning*.

**Kata Kunci:** Al-Islam dan Kemuhammadiyah; STAD-PjBL; Lingkungan; Pendidikan Biologi

### ABSTRACT

*This article aims to analyze the innovation of integrating the values of Islamic Values in learning environmental themes in the Biology Education Study Program at Muhammadiyah Higher Education. It is library research with qualitative data based on the secondary data. The source triangulation technique was employed to check the data validity. The obtained data were analyzed using descriptive qualitative analysis using VOSviewer software, which are described through the results of behaviour and sentences observed by the researcher. Content analysis was employed as the analysis technique. the results showed 17 formulations of the importance and urgency of Islamic Values and 12 formulations of Islamic Values and their integration in learning environmental themes. This means that Islamic Values need to be integrated into learning environmental themes in the Biology Education Study Program at Muhammadiyah Higher Education along with the learning model. Among the model that can be used is integrative STAD type Cooperative Learning and Project-Based Learning.*

**Keyword:** Muhammadiyah Values; STAD-PjBL; Environmental, Biology Education

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## INTRUDUCTION

Muhammadiyah is an Islamic community organization founded by K.H. Ahmad Dahlan on the 8th of Dzulhijjah in 1330 H (Nurhayati et al., 2018), coincided on November 18, 1912 AD in Yogyakarta-Indonesia (Burhani, 2020b). The establishment of Muhammadiyah was driven by its struggles in dealing with the realities of life for Muslims and the Indonesian people at that time (Nurholis, 2020). Muhammadiyah is an “Islamic movement” which is organized with its assemblies, following the cycle of the times and based on “shura” led by wisdom in deliberation or congress. All of this is necessary in order to fulfill the obligation to practice Allah's commandments and follow the sunnah of His Messenger, the Prophet Muhammad, in order to receive His grace and pleasure in this world and the hereafter, and to achieve a society that is peaceful and happy, accompanied by the blessings and mercy of Allah Almighty (PP Muhammadiyah, 2010). Muhammadiyah is based on five principles of movement, namely the principle of monotheism, the principle of worship, the principle of congregation or society, the principle of movement and independence of da'wah, and the principle of tajdid movement (Maria, 2012).

The hallmark of Muhammadiyah is that it is an Islamic organization whose work is increasingly dominant in Islamic da'wah in the archipelago and the world. Since its establishment, Muhammadiyah has continued to embody its actions in spreading pure and modern Islam. Pure means that all Islamic da'wah movements are based entirely or "kaffah" on the Qur'an and as-Sunnah. Modern means, the Muhammadiyah da'wah movement continues to adapt to the dynamics and developments of human life but still relies on the Qur'an and follows the guidance of the Prophet Muhammad (Nadlif & Amrullah, 2017).

Muhammadiyah, as the oldest Islamic organization in Indonesia, never gets tired of doing its best to present the face of Islam that is rahmatan lil'alamin (Masmuh, 2020). Muhammadiyah is now known as the largest socio-religious movement (Khoirudin et al., 2020). Muhammadiyah was founded as a form of response to the conditions of Muslims who experienced various setbacks and were left behind at that time (Baidhawiy, 2015; Kastolani, 2020).

Since its inception, Muhammadiyah has transformed itself as a movement that carries the idea of renewal, change, and is very concerned about various social issues. (Mustakim et al., 2020; Qorib, 2020). This can be seen from the activities that were initiated, namely establishing educational, health and social service institutions (Burhani, 2020a; Suwarno, 2020). Muhammadiyah in carrying out its da'wah has reaped many successes as evidenced by the increasing number of business charities that have been established, but until now Muhammadiyah has been able to survive and continue to struggle in the midst of increasingly complex challenges (Anis, 2019). Muhammadiyah Central Executive once released assets owned by Persyarikatan Muhammadiyah. There are 3,370 kindergartens, 2,901

elementary schools, 1,761 junior high schools, 941 senior high school/vocational schools, and 167 universities in Muhammadiyah. The number of these various charities is expected to continue to grow (Ryandi, 2020). Muhammadiyah is even able to serve elements of the nation and religious communities. This can be seen, for example, in the Eastern Indonesia Region, where Muhammadiyah Educational Institutions serve non-Muslims more (Farihen et al., 2018; Rusydi, 2016).

Muhammadiyah has become a proselytizing movement for amar makruf nahi munkar in various fields, both in the fields of religion, education, health, social, and the environment (Suwarno, 2019). The purpose of the da'wah movement is the creation of a primary, just and prosperous society that is blessed by Allah SWT. This organization has a role as problem solving various national problems (Masmuh, 2020). Muhammadiyah was founded as a means of giving birth to Islamic intellectuals. The Islamic enlightenment movement for intellectuals, especially those who received higher education at Muhammadiyah, is a mandatory thing that must be done. Muhammadiyah's great responsibility is to produce intellectuals who are able to speak amar ma'ruf and nahi munkar, as well as become the successor of the Islamic da'wah movement throughout the nation and society of Indonesia (Nadlif & Amrullah, 2017). With the mission of tajdid through Islamic education (informal, formal and non-formal), Muhammadiyah has received a positive response in society, and has gradually appeared to change the mindset and behavior of Muslims from traditional to progressive behavior, from religious beliefs that are classified as shirk to monotheism. from heresy to worship according to the sunnah (ittiba to the Prophet Muhammad) (Kamaruddin & Idris, 2015).

Various Muhammadiyah charities intensively carry out real work, as mandated by the organization and always carry out consolidation and introspection for the development of a more established organization and contribute (Iman et al., 2018). In Charity Enterprises, especially higher education, Muhammadiyah has special characteristics or markers, namely Al-Islam and Kemuhammadiyahan or Islamic Values (Amien et al., 2021; Nadlif & Amrullah, 2017). There are three reasons Muhammadiyah Values characterize Muhammadiyah universities, among others: so that students are able to become Indonesians who are Muslim and have a modern mindset; students can be touched by their souls and able to practice their values; and foster student ethics in the midst of the Muhammadiyah Higher Education environment (Faridi, 2021).

Islamic values have been an integrated course from the curriculum. The hope is that Islamic values can influence the character of students both during the education process, especially after students leave / graduate (Faridi, 2021). The Muhammadiyah Values Learning Objectives are: (a). Students can learn about life from the real world; (b). Students have experience in designing da'wah with a systematic, programmatic but also civilized approach to empowerment and promoting the dignity of Islamic teachings; and (c) Students understand Muhammadiyah based on reflections on their own experiences in dialogue with the experience of more than a century of Muhammadiyah's da'wah movement (Farihen et al., 2018).

Islamic values must also respond to the latest issues or modernity (Zain et al., 2017). Through Islamic values, Muhammadiyah wants to provide a new perspective that education is holistic in nature, not in a partial dichotomous area, which can also contribute to the development and progress of the nation (Huda & Kusumawati, 2019). Islamic values is an imaginative response from Muhammadiyah universities

to move forward on the currents of change in society, shifts in life orientation, and advances in technology (Rustamadji, 2020). Islamic values are defined as not just an institution, namely a work unit managing Islamic values, but more than that it is a collection of values that are the basis for the ethics and ethos of the academic community. Practically, it is hoped that the implementation of Islamic values can be oriented towards tangible outcomes and achievements, not just a momentary agenda that after being held, then does not have any resonance towards behavior change (Amien et al., 2021).

Learning environmental education materials currently available-including in Muhammadiyah educational institutions-tends to only target the cognitive aspect, not yet touching and accommodating aspects of values and norms that develop in society (Karyadi, 2016), including religious values (Parker, 2017), and Islam is no exception (Abdelzaher et al., 2019; Hancock, 2020). In a more specific context, the contribution of religion in environmental education really needs to be encouraged. In relation to efforts to overcome environmental problems, both in terms of value formulation, implementation in community life, and its relation to the world of education, one of the most intense Islamic mass organizations is *Persyarikatan Muhammadiyah* (Fatah et al., 2014; Mardhiah et al., 2014).

One of the manifestations is the need for the integration of Muhammadiyah Values in learning environmental themes, which has been taught in the Biology Education Study Program at Muhammadiyah Higher Education. Through Islamic values, Muhammadiyah universities need to show a pattern of environmental awareness and environmental management approaches that involve religious (theological) elements. According to Mawardi (2018), Muhammadiyah is called to respond and involve itself in every effort to prevent and resolve environmental problems that occur globally. The integration of Islamic values in learning is very important because now is the millennial era and the era of the industrial revolution 4.0 is also marked by extraordinary disruptions in various fields, especially in the millennial generation. They are psychologically very vulnerable, so many think that the millennial generation is actually a generation that cannot think deeply. They tend to think superficially in dealing with problems (Anshori et al., 2020). This article aims to analyze the innovation of integrating the Islamic values in learning environmental themes in the Biology Education Study Program at Muhammadiyah Higher Education. This innovation will be a reference for the integration of Islamic values in learning, especially as an effort to realize "Islamic values" which have been listed in the vision and mission of study programs at Muhammadiyah Higher Education.

## **METHOD**

### **Study Type**

This research is library research. Library research limits its activities to library collection materials without the need for field research (Sari & Asmendri, 2020). Library research is a data collection technique by conducting a review study of books, literatures, notes, and reports that have to do with the problem being solved or discussed. Library sources can be obtained from: books, journals, magazines, research results (thesis, theses, and dissertations), and other appropriate sources (internet, newspapers, and so on). If we have obtained the relevant literature, it is immediately compiled regularly for use in research. Therefore,

library research includes general processes such as: systematically identifying theories, finding literature, and analyzing documents that contain information related to the research topic. In connection with this research, considering that today is a digital world and almost all reference sources are available online (there are e-catalogs), the research uses a reference search tool, namely Google. Researchers also use the world's leading indexer, namely Scopus to ensure that the references used are of high quality.

### Data type and data validity

The data in this study were obtained using the Google search engine and the Scopus indexer. The type of data used in this research is qualitative data. Qualitative data is the type of data that describes several opinions, concepts or theories that describe or present problems related to the problem being studied. Based on the technique, the type of data using secondary data. The use of secondary data can be accounted for as long as it is related to the topic in question.

To strengthen the validity of the data, in this study the researcher used the source triangulation technique. According to Sugiyono (2011), checking the validity of the data is done by utilizing various reference sources as comparison material.

### Data analysis technique

The data obtained were then analyzed using qualitative descriptive analysis, to produce data that could be described through the results of the behavior and sentences observed by the researcher. In data analysis, the interactive model used is content analysis which refers to Miles et al (2019), as shown in Figure 1.

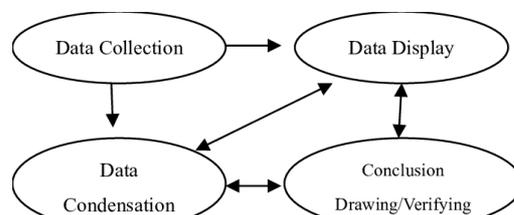


Figure 1. Content analysis (Miles et al., 2019)

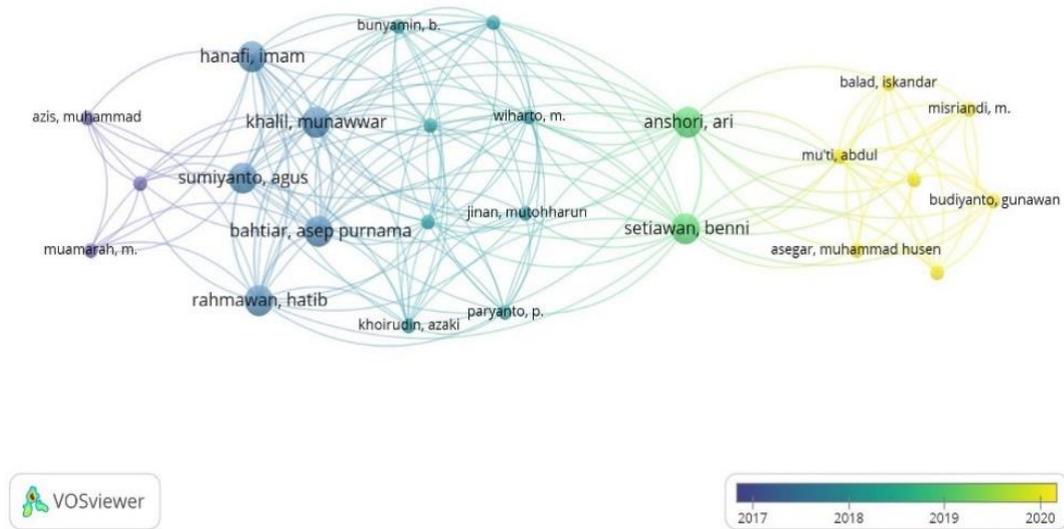
Based on Figure 1, in general the data analysis in this study was carried out through the following stages; (1) record all data findings in the library; (2) reviewing data records, and separating data that are considered important and unimportant, this work is repeated to check for possible misclassification; (3) describe the data that has been classified by taking into account the focus and objectives of the research; and (4) make a final analysis in the form of a research report.

Content Analysis is used to obtain valid inferences and can be re-examined based on the context. In this analysis, the process of selecting, comparing, combining and sorting various definitions will be carried out until the relevant ones are found. The data visualization, especially related to references and keywords that often appear, uses VOSviewer software. VOSviewer is used to visualize the collected data in the form of maps of authors, keywords, and so on. These visualizations are a valuable source of insight that can be used in writing a paper.

## RESULTS AND DISCUSSION

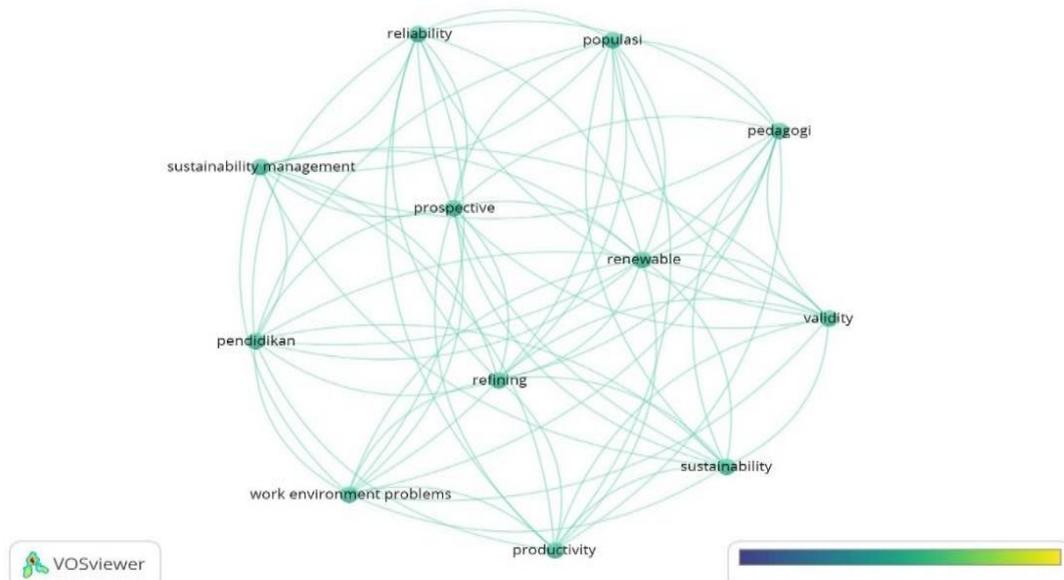
### Frequently appearing references and keywords

These references and keywords were obtained based on data from books, journal articles, and websites related to Islamic values through Google. The data obtained is entered into the Mendeley software and then exported in the form of a \*RIS file. The next file is processed using the VOSviewer software. The output for the type of analysis “Co-authorship → authors” is presented in Figure 2.



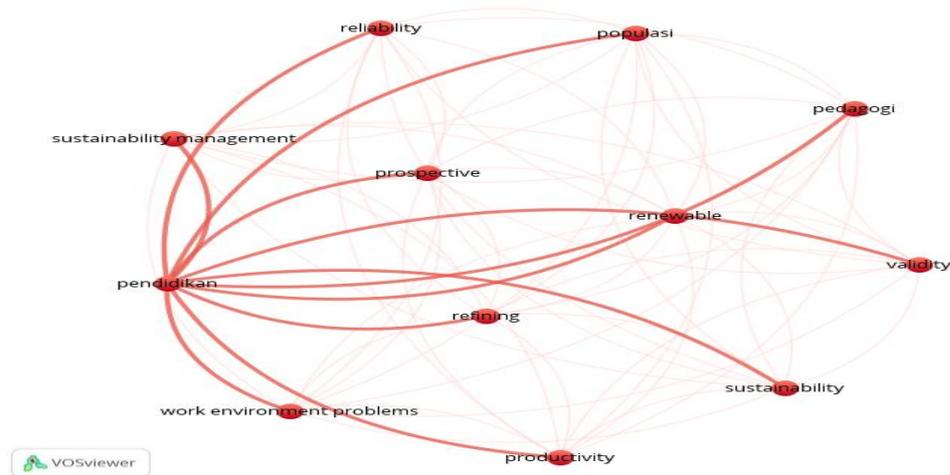
**Figure 2. Display of VOS-viewer Output for type of analysis “Co-authorship → authors” based on Google sources**

Meanwhile, the output for the type of analysis “Co-occurrence → keywords” is presented in Figure 3. In addition, Figure 4 shows the relationship between the keyword “Education” and other keywords.



**Figure 3. VOS-viewer display for type of analysis “Co-occurrence → keywords”**

Based on Figure 2, it can be seen that there are authors who are dominant or tend to make references in the discussion of the theme "Muhammadiyah" or "Islam and the Environment" in, namely, Munawwar Khalil, Agus Sumiyanto, Asep Purnama Bahtiar, Hatib Rahmawan, Ari Anshori, and Benni Setiawan. The works of these authors tend to be widely cited by other writers related to Muhammadiyah. Munawwar Khalil has written several times about his relationship with Muhammadiyah, as have Agus Sumiyanto, Asep Purnama Bahtiar, Hatib Rahmawan, Ari Anshori, and Benni Setiawan (Anshori et al., 2018; Khalil et al., 2017).

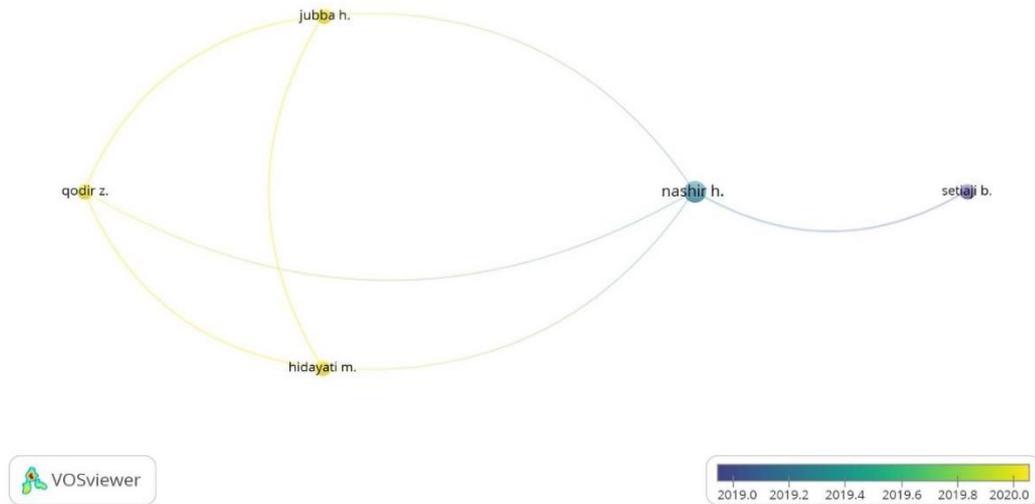


**Figure 4. Display of the VOS-viewer related keywords “Education” with other keywords**

Based on Figure 4, it can be seen that there are 12 keywords that often appear, namely, "population, pedagogy, validity sustainability, productivity, work environmental problems, education, sustainability management, reliability, prospective, refining, and renewable". Meanwhile, based on Figure 4, there is a relationship line between "Education" and keywords in the environmental field, namely renewable, sustainability management, work environment problems, population, and productivity". This shows that education has a relationship with environmental problems. Experts have revealed that education is a forum to respond to environmental problems and is a tool for the success of aspects of environmental sustainability (Ardoin et al., 2020a).

Today there are demands/contemporary trends regarding the need for adaptation of learning/education. Students in higher education should also need to have good environmental awareness/care and environmental risks (Ardoin et al., 2020b; Handoyo et al., 2021). The community and also students should also need to have a good environmental attitude (protection and utilization) (Shafiei & Maleksaeidi, 2020; Zerinou et al., 2020). In addition, environmental issues should be approached holistically/complex, including at the university level. On the other hand, conditions demand that “religious” materials or courses in universities need to be brought closer to practice problem solving that is contextual/real and specific to the field of science, and on the other hand environmental education tends to be accommodative of religious values.

The output for the type of analysis “Co-authorship → authors” is presented in Figure 5, while the output for the type of analysis “Co-authorship→ country” is presented in Figure 6. Based on the keywords, the output is presented in Figure 7.



**Figure 5. VOS-viewer output display for type of analysis “Co-authorship→ authors” based on Scopus source**

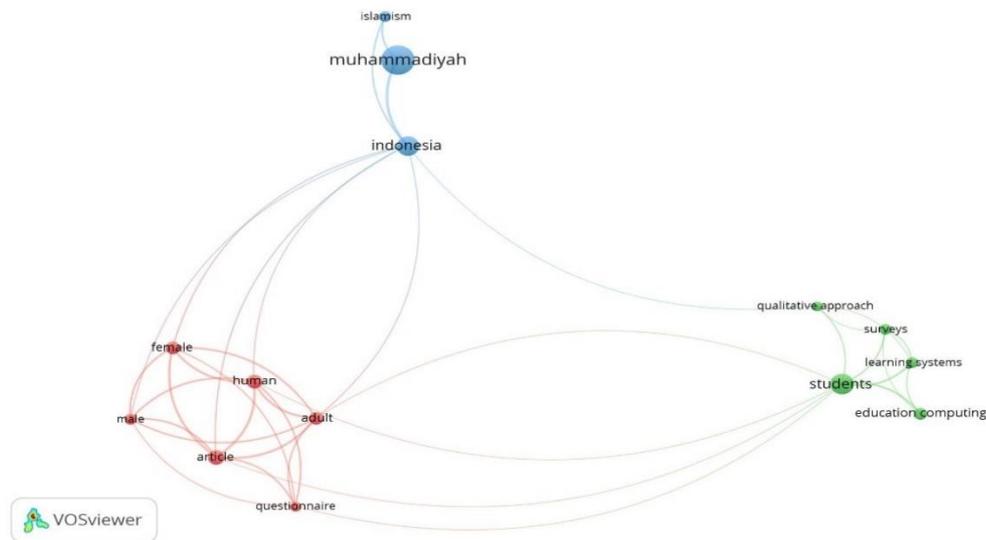
Based on Figure 5, it can be seen that one of the most prominent authors and tends to be a reference in the last four years is Haedar Nasir. If we look at the data in Scopus, there are 8 articles that have been written by Haedar Nashir both as the first author, as well as member and correspondence author. As the General Chair of the Muhammadiyah Central Executive, Haedar Nasir is active in writing and researching so that he has become a reference for many other writers, both on the theme of "Muhammadiyah" and on social themes.



**Figure 6. VOS-viewer display for type of analysis “Co-authorship→ country” based on Scopus source**

Based on Figure 6, it can be seen that "Indonesia" is the origin of the most dominant authors. In addition, many writers also come from three countries, namely Malaysia, Singapore, and Australia. This is in accordance with the fact that Indonesia is the country where Muhammadiyah was founded. In addition,

Muhammadiyah scholars have spread to 3 Singapore, Malaysia, and Australia. Even now, the fact is that Muhammadiyah already has international branches or educational institutions in Malaysia and Australia.



**Figure 7. VOS-viewer display for type of analysis “Co-occurrence→ keywords” based on Scopus sources**

Based on Figure 7, it can be seen that the keyword “Muhammadiyah” is dominant. This keyword has an indirect relationship with education and the environment, namely human, female, male, adult, and students. This means that Muhammadiyah has a relationship with education and the environment. Da'wah in the field of education is the hallmark of Muhammadiyah, which makes it superior compared to other organizations (Chung & Li, 2020). In addition, Muhammadiyah also has concern for environmental issues and sustainable development (Mawardi & Supangkat, 2020).

### Islamic Values and Its Integration in the Learning Environment

#### *Important values and information obtained related to the position and Urgency of Islamic Values*

Based on the literature search, important values and information related to the position of Muhammadiyah, the urgency of Islamic Values, and its integration into the curriculum were obtained, as presented in Table 1.

**Table 1. Important values and urgency of Islamic Values**

No	Important values	References
1	<ul style="list-style-type: none"> <li>a. The religion of Islam brought by the Prophet Muhammad, is the teachings revealed by Allah which are listed in the Al-Quran and as-Sunnah in the form of commands, prohibitions, and instructions for the good of human life in this world and the hereafter.</li> <li>b. Islamic teachings are comprehensive and cannot be separated from one another, covering the fields of aqidah, morality, worship, and muamalah.</li> </ul>	(Anshori et al., 2018)
2	The purity of faith is a very important first step to prepare a solid building of life, culture and generation.	(Hakim, 2015)
3	The Muhammadiyah movement is carried out to uphold and uphold Islam so that a true Islamic society can be realized.	(Hazmi et al., 2020)

No	Important values	References
4	Every Islamic teaching that is implemented must be sourced from the Qur'an and as-Sunnah.	(Anis, 2019)
5	KH Ahmad Dahlan's awareness was the main factor in the birth of Muhammadiyah, especially after studying the contents of the Qur'an, surah Ali Imran verse 104.	(Iman et al., 2018)
6	The purpose and objective of Muhammadiyah is to uphold and uphold Islam so that a true Islamic society can be realized.	(Nurhayati et al., 2018)
7	Muhammadiyah ideology <ol style="list-style-type: none"> <li>a. Muhammadiyah is an Islamic movement that aspires and works to create a true Islamic society.</li> <li>b. Muhammadiyah believes that Islam is the Religion of Allah revealed to His Apostles, as Allah's guidance and mercy to mankind.</li> <li>c. Muhammadiyah's religious ideology is to practice Islam based on the Qur'an and AS-Sunnah and work for the implementation of Islamic teachings which include: aqidah, morals, worship, and muamalah muamalah.</li> <li>d. Muhammadiyah's national ideology is actively fighting for and filling Indonesia's independence, actively maintaining the integrity and building Indonesia with a spirit of gratitude in order to get the pleasure of Allah.</li> </ol>	(Hazmi et al., 2020)
8	One of the main activities of Muhammadiyah's da'wah is schooling (education).	(Suwarno, 2019)
9	Educational institutions in Muhammadiyah are directed to understand and practice Islam properly and correctly. Therefore, in educational institutions Muhammadiyah Values are taught which are characteristics and advantages.	(Amien et al., 2021; Huda & Kusumawati, 2019)
10	Higher Education Muhammadiyah is Muhammadiyah's charity work in the field of higher education inspired and based on Muhammadiyah Values at the ideological-philosophical as well as practical-applicative level and becomes one of the strengths for the continuity and continuity of Muhammadiyah in achieving its goals as a da'wah and tajdid movement that crosses the ages.	(PP Muhammadiyah, 2012)
11	AIK is an integral part of the curriculum and learning	(Faridi, 2021)
12	The development of the function and quality of systemic Muhammadiyah Values cultivation will in time produce a militant, competent generation. The logical consequence is that efforts to inculcate AIK values need to be carried out continuously and simultaneously.	(Khalil et al., 2017)
13	The cadres' weak understanding of Muhammadiyah Values causes the cadres to be unable to communicate and read the needs of the community.	(Kamaruddin & Idris, 2015; Zain et al., 2017)
14	Muhammadiyah Cadrement Minutes: <ol style="list-style-type: none"> <li>a. a. The Industrial Revolution 4.0 and Society 5.0 have become a necessity, so Muhammadiyah needs to prepare systems and resources to stay at the forefront of being a reform movement.</li> <li>b. b. Readiness of human resources (HR) through independent and civilized education while still guided by the values of the Koran and as-Sunnah.</li> <li>c. c. Muhammadiyah is a progressive harakah washatiyyah and is characterized by: i'tidal, tawazun, tasamuh, shura, islah, qudwah, and muwathonah.</li> </ol>	(Anshori et al., 2020)
15	At the Universitas Muhammadiyah Malang (UMM), Muhammadiyah Values ideologically-philosophically is: <ol style="list-style-type: none"> <li>a. a. The value base that underlies the vision, mission and goals of Muhammadiyah education at UMM;</li> <li>b. b. Practically-applicatively, Muhammadiyah Values is an ethical framework for organizing Muhammadiyah Higher Education</li> <li>c. c. Reference for daily behavior for the academic community both inside (academic behaviours) and outside campus (non-academic behaviours); and</li> <li>d. d. Curricularly, Muhammadiyah Values is an educational content/program that is intentionally conditioned to students.</li> </ol>	(Amien et al., 2021)
16	AIK needs to be taught or undergo a learning process.	(Majelis Pendidikan Kader, 2018)
17	The approach used in AIK learning must be eclectic, combining student-centered learning and teacher-centered learning in "one breath".	(Amien et al., 2021)

**Islamic values and their integration in environmental theme learning**

Based on the literature search, it was found important values and information related to the position of Islamic Values and their integration in learning environmental themes in the Biology Education Study Program of Muhammadiyah Higher Education, as presented in Table 2.

**Table 2. Islamic values and their integration in learning environmental themes**

No	Important values	References
1	<ul style="list-style-type: none"> <li>a. Islam is the most eco-friendly religion.</li> <li>b. There are 750 verses or about one-eighth of all the verses of the Qur'an that encourage believers to study, contemplate, and investigate nature.</li> <li>c. Naming the letters of the Qur'an with various names of plant and animal species, soil, water, air, and natural resources such as mining are symbols that lead to instructions for humans to be friendly and maintain harmonization with the environment.</li> </ul>	(Murthadha, 2007; Quddus, 2012)
2	The Muhammadiyah Environmental Council has strengthened its main program, namely Environmental Education	(Anonim, 2021)
3	According to the Islamic view, human life is not separate from its ecosystem, but integral. Humans are the bearers of Allah's mandate to protect and preserve nature for the benefit of humanity.	(Musthofa et al., 2017)
4	Partisanship and concern for the environment are based on efforts to fulfill obligations as khalifatullah fil ardl as well as part of self-servitude to Him. Humans and nature are creatures that depend on each other to both prostrate to Allah SWT. The existence and survival of humans and their natural environment are interrelated and need each other. Humans have an obligation to be able to manage and prosper nature properly, taking into account the principles of balance and sustainability.	(Mawardi & Supangkat, 2020)
5	<p>The Pillars of Islamic Sharia Related to the Environment</p> <ul style="list-style-type: none"> <li>a. Tawhid (Oneness of God).</li> <li>b. Khilafah (Guardianship/representative) Begins</li> <li>c. Amanah (Trust) As</li> <li>d. Fair ('adl)</li> <li>e. Benefit (Istishlah)</li> <li>f. Law of Equilibrium (Itidal or Qist)</li> <li>g. Signs: Halal and Haram Sustainability</li> </ul> <p>The relationship between humans and the natural environment according to the Qur'an and the Hadith of the Prophet:</p> <ul style="list-style-type: none"> <li>a. The relationship of faith and worship;</li> <li>b. Sustainable use relationship;</li> <li>c. The relationship of care for all beings. Man</li> </ul> <p>This method of growing environmental morality can be done with the following stages:</p> <ul style="list-style-type: none"> <li>a. Teach.</li> <li>b. Exemplary.</li> <li>c. habituation.</li> <li>d. Reflection.</li> </ul>	(Mawardi & Supangkat, 2011)
7	<ul style="list-style-type: none"> <li>1. Patterns of Relationships between Humans and the Environment</li> <li>As the word of Allah in QS Al An'am (6): 73; Sad (38): 27; and Ad Dukhan (44): 38.</li> <li>2. Basic Values of Environmental Management</li> <li>a. Tawhid</li> <li>b. I'm grateful</li> <li>c. Justice (Al 'Adl)</li> <li>d. Moderation and Balance (Al Wasatiyyah wa At Tawazun)</li> <li>e. Leaving the Unbeneficial/Efficiency (Al Fa'aaliyyah)</li> </ul>	(PP Muhammadiyah, 2018)

No	Important values	References
	Concern (Al 'Inaayah)	
8	Nature Conservation Principle a. Principles of Utilizing Natural Resources b. Conservation and Protection of Natural Resources 1) Water (Al Ma') 2) Air (Al Rih) 3) Land and Land (Al Ardh) 4) Land Ownership and Right to Use 5) Plants and Animals	(Mawardi et al., 2011)
9	Instilling Islamic values really needs to be done in educational institutions. Assistance in the internalization of Islamic values related to love for the environment can be done by involving educators.	(Husamah, 2016)
10	Al-Islam & Kemuhammadiyah values at UMM: Ikhlas, Ihsan, Itqan, Ma'iyah, Amanah, and Nazahah (IIIMAN) which need to be integrated in learning.	(Amien et al., 2021)
11	Islamic Deep Ecology Principles a. Integration Principle b. Principle of Proportionality c. Principles of Realism	(Hudha et al., 2019)
12	Six legal principles of environmental protection and management", namely: a. Allah SWT is the only owner of the universe; humans only have the right to use it while guaranteeing its sustainability. Private control over public resources is forbidden according to religious teachings. b. Abuse of these rights is strictly prohibited and punishable. c. There is a right to use public resources, but it must be in accordance with the rules made/agreed to by the general public. d. Rare resources are fully controlled and managed by the state. e. The benefit of the ummah (general public) is the main spirit. e. Temporary benefits that can actually trigger resource damage should be avoided or minimized.	(Hudha et al., 2019)

### Forms of integration in learning

Environmental problems have become a serious social risk that needs to be addressed worldwide (Zeng et al., 2020). Environmental problems are even now the most vital problems (Pereira, 2015). Environmental problems with broad or complex dimensions (Burke et al., 2017). Environmental problems arise as a result of industrialization, overpopulation, increasing consumption, and globalization (Karataş, 2016).

Accordingly, based on Table 1, 17 important values and urgency of Islamic values have been formulated and based on Table 2, 12 values of Islamic values have been formulated and their integration in learning environmental themes. This means that Islamic values needs to be integrated in learning environmental themes in the Biology Education Study Program at Muhammadiyah Higher Education.

The rationale for this view is that the integration of Islamic values in environmental learning needs to be mainstreamed considering the current environmental education learning materials tend to only target cognitive aspects, have not touched and accommodated aspects of values and norms that develop in society (Karyadi, 2016), including religious values (Parker, 2017), and Islamic values are no exception (Abdelzاهر et al., 2019). In a more specific context, the contribution of religion in environmental education really needs to be encouraged. In relation to efforts to overcome environmental problems, both in terms of value formulation, implementation in community life, and its relation to the world of education, one of the most intense Islamic mass organizations is Muhammadiyah (PP Muhammadiyah, 2011a, 2011b).

The question is what form of integration? In line with that, a learning model is needed that accommodates the integration of Islamic values in environmental learning. The learning model comes from the combination of the word's "model" and "learning". Model means "example, variety, reference" (KBBI, 2015). The term "model" can also be interpreted as "a conceptual framework used as a guide in carrying out activities" (Rohaeti, 2018). Conceptual learning is a process of intentionally managing the environment that allows a person's behavior to be involved and change in special or certain conditions or produce a response to certain situations (Afandi et al., 2013). A learning model (models of teaching) is a plan or pattern that can be used to design face-to-face classes or additional learning outside the classroom, or otherwise and to develop learning materials. Thus, the learning model can be interpreted as a conceptual framework that describes a systematic procedure in organizing learning experiences to achieve certain learning goals (Rohaeti, 2018).

The learning model that allows it to be used is the integration of STAD type Cooperative Learning and Project-Based Learning. The STAD-type cooperative was developed by Robert Slavin and colleagues from Johns Hopkin University, US (Lubis, 2020; Tiantong & Teemuangsai, 2013). STAD cooperative is the division of small groups based on achievement by emphasizing to practice and learn information (Barus et al., 2020; Ibrahim & Adnan, 2019). The basic idea of the STAD Cooperative is how to motivate students in groups so that they can encourage and help each other in mastering the material presented, and foster an awareness that learning is important, meaningful, and fun (Esminarto et al., 2016).

Project-based learning (PjBL) is based on John Dewey's idea of learning by doing (Alibraheim & El-Sayed, 2021). In addition, Dewey also argues that experience is the best way for students to acquire knowledge. John Dewey's theory has been widely developed in various learning concepts; one of them is PjBL which was initiated by William Kilpatrick (1871-1965) (Hamidah et al., 2019). PjBL is a model, method of instruction, or a systematic, student-centred instructional approach (Krajcik & Shin, 2014).

The implementation of PjBL is very appropriate because it exposes students to learning experiences so that they "experience and feel" and are involved in activities (Yam & Rossini, 2010). PjBL is understood as an approach that promises to improve the quality of participant learning. PjBL refers to systematic inquiry-based learning, involving students in knowledge construction (Guo et al., 2020).

STAD cooperative learning emphasizes the existence of explanations or presentations by educators, the existence of students to work together in groups to practice solving problems, quizzes, and awards. While PjBL emphasizes determining fundamental questions, designing project plans, compiling schedules, monitoring students and project progress, testing results, and evaluating experiences. The integration of PjBL and STAD syntax has been carried out by several researchers (Husamah, 2013), with the syntax as shown in Table 3.

**Table 3. STAD Cooperative General Syntax combined with PjBL**

No	STAD-PjBL integrated Steps
1.	Delivery of goals and motivation (STAD)
2.	Group Division (STAD)
3.	Educator Presentation (STAD)
4.	Determination of Fundamental Questions (PjBL) and Teamwork (STAD)
5.	Designing Project Planning (PjBL) and Teamwork (STAD)

No	STAD-PjBL integrated Steps
6.	Prepare Schedule (PjBL) and Team Work (STAD)
7.	Project Plan Design Presentation (STAD)
8.	Awarding (STAD)
9.	Project Implementation and Monitoring students and project progress (PjBL)
10.	Testing Results (PjBL)
11.	Evaluating Experience (PjBL)
12.	Quiz or Test (STAD)
13.	Awarding (STAD)

Based on Table 3, a search is carried out by collaborating and modifying the various syntaxes of the learning models presented to obtain a new syntax for the learning model developed through research and development as stated by Joyce et al. (2009) that a learning model is developed based on traceability of learning approaches.

## CONCLUSION

Based on the results, it was found that there were 17 formulations of the importance and urgency of Islamic values and there were 12 formulations of Islamic values and their integration in learning environmental themes. This means that Islamic values needs to be integrated in learning environmental themes in the Biology Education Study Program at Muhammadiyah Higher Education. In line with that, a learning model is needed. The learning model that allows it to be used is the integration of STAD type Cooperative Learning and Project-Based Learning. In connection with the innovation of implementing the integration of Islamic values in learning environmental themes in the Biology Education Study Program, Muhammadiyah Higher Education, it is necessary to develop a new learning model. Therefore, Research and Development to develop the model needs to be carried out by further researchers.

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