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The Urgency of Religion and Culture in STEM (Science, Technology, Engineering, Mathematics) Based Learning Models: Meta Data Analysis

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Abstract: The aims of this research is to synthesize literature studies in order to answer the following questions: How important is religion? knowledge and cultural studies in studying science and the relationship between religion, culture and STEM education. This type of research is a literature study. The research method was to synthesize this literature following several steps to ensure the validity of the results. The results obtained indicate that the development of scientific literacy skills in education needs to be based on ethnographic-religious study-based learning. When students are invited to see the natural surroundings of phenomena including local culture, indirectly students will be invited to think literally about science. Various studies have proven that ethnoscience-based learning can help students to improve students' scientific literacy skills and this is an update in this research. The urgency of religious and cultural studies in education is of concern to educators and researchers.

Keywords: Culture; Learning Models; Religion; STEM

Introduction

Each individual is required to have 21st century skills, namely problem solving, communication, collaboration, teamwork, critical thinking, creative thinking and the use of information and communication technology (Anil, 2019; Tican & Deniz, 2018). These skills are critical and creative thinking skills which are part of the higher-level thinking skills that are being developed in the Indonesian education curriculum. This skill has begun to be given by teachers even though there are still many obstacles in its implementation in class.

Likewise with scientific literacy as well as some significant skills in the 21st century are the results of learning desired by educators, scientific literacy is also the basic to be able to analyze scientific phenomena (Karademir & Ulucinar, 2017; Sumarni et al., 2020). But unfortunately, the level of scientific literacy of students in Indonesia is still relatively low. This can be seen from the scientific literacy ratings of 15-year-old Indonesian students based on PISA, 383, 382, 403, respectively, for 2009, 2012 and 2015. The acquisition of scientific literacy is low. This score indicates that Indonesian students' knowledge of science is still not extensive. Discussion of moral values is not far from culture and religion. Indonesia is a country that adheres to culture and manners, and also uses strong guidelines from religious knowledge

Technological advances that are developing rapidly are actually pushing back the old culture. Cultural knowledge is becoming increasingly distant from the world of education. The dominance of science knowledge and norms in the STEM curriculum is based on western knowledge which makes people alien to their own culture (Abonyi et al, 2014). Therefore, the development of scientific literacy needs to be focused on curriculum content that pays attention to culture and everyday life making it more contextual (Dewi et al, 2019).

In essence, ethnoscience learning helps unite local natural sciences with formal natural sciences in a more balanced process (Abonyi et al, 2014). Ethnoscience-based learning is also able to bring up a scientific attitude (Fasasi, 2017). and student activity during

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learning activities (Rahmawati et al., 2019). The application of ethnoscience makes it easier for students to learn science by associating science from the culture around their homes. Several studies have also shown that ethnoscience can indeed increase students' scientific literacy (Alim et al, 2019; Ariningtyas et al, 2017). Science learning is expected to be an appreciation of nature which is the most important component for scientific literacy (Donohue et al, 2020). The progress of science also shows that general science is increasingly moving away from the natural laws that have been written in every religious guideline that is adhered to by the community. Meanwhile, one of the success factors for teaching in the 21st century is by applying moral values in it (Yusof et al, 2018). Scientific literacy cannot be separated from morals and ethics, especially in the attitude of science. Not only to understand the method of science but also how to be good at every achievement of the method. The best inculcation of morals is through attitudes governed by one's religion. However, people's understanding of science, for example, empirical analysis tends to analyze religion only as a potential driver of rejection of science McPhetres & Zuckerman (2018), so that religion in science is increasingly isolated (Jones et al., 2019). This problem can be overcome by using the suggestions put forward by Jones so that in this study applied science learning is based on religious views about science (Jones et al., 2019).

Religion and culture with STEM are two aspects that seem far apart (Jones et al., 2019). These problems lead to an increase in the quality of educational solutions by integrating cultural and religious sciences into the natural sciences that students learn (Kang and Peters, 2019). The role of religious knowledge in shaping morals and ethics is part of strengthening science in shaping STEM identities (Rodriguez et al, 2019; Scheitle & Ecklund, 2018). However, educators often feel confused about the scope of what must be known in implementing religious and cultural knowledge in learning. So, further knowledge is needed about the research that has been carried out by researchers in implementing religious knowledge into STEM or cultural science into STEM, or both simultaneously. This article aims to describe the technical results of the conceptual and empirical literature review related to the implementation of worship and cultural studies into STEM in education. The formulation of the problem from this discussion is: 1) How important is religious knowledge in studying science? 2) How to integrate cultural and religious knowledge in studying science? 3) What is the relationship between religion and culture and STEM?

This study is a synthesis of literature studies to answer the following questions: How important is religion? knowledge and cultural studies in studying science and the relationship between religion, culture and STEM education. Collectively this question tries to describe new technical results from the interrelationships between the sciences of religion and culture in the implementation of STEM education and recommends new research to integrate them into the classroom. The first and second questions identify the urgency of the science of religion and culture in the current development of science and how to apply them. The third question identifies the relationship between religious and cultural studies and STEM education.

Method

This type of research is a literature study. The research method was to synthesize this literature following several steps to ensure the validity of the results. Some of the questions that arise are explained in detail to help understand the results that can be presented.

Development Model

Article identification

This library research identified a number of articles that had been published in several journals which described the urgency of religion and culture in science learning and their relevance to STEM education. Journal articles were selected through an initial search stage using ERIC and Tandfonline. The NS search terms used were religion, religion, STEM and culture, but the search results were too broad so the keywords were more specific to the words religious sciences, science and religion, culture and religion in education, ethnoscience, scientific literacy, and limited STEM education from 2016 until 2021. Hundreds to thousands of articles are obtained, but articles are sorted based on the relationship between the three keywords; 1) religious knowledge, 2) ethnicity, and 3) STEM. Articles are viewed by reading the abstract relationships displayed and articles that meet the criteria of the first 100 articles are taken first based on their relevance. the selected articles must meet the criteria of 1) focus on discussing the relevance or urgency of religious knowledge in science education, 2) the urgency of ethnoscience in increasing scientific literacy, 3) the relationship between ethnoscience and STEM, and 4) the relationship between religious studies and STEM education. Article screening according to the criteria obtained 75 relevant articles from more than 20,000 related articles in the period 2016 to 2021.

Analysis procedure

Article analysis is organized into three stages; 1) stages I and II, namely part of the articles to develop category schemes and article keyword criteria to take important variations in article searches, 2) stage III, namely implementing category schemes and criteria on

the specified article search site, and 3) Phase III includes checking the selected journal articles in the top 100 of relevance order in each search word used and retrieval according to the set criteria. Collectively these questions try to describe the new technical results of the linkages between the sciences of religion and culture in the application of STEM education today. The first and second questions identify the urgency of the science of religion and culture in the current development of science. The third question identifies the relationship between religion and the culture of STEM science and education.

Result and Discussion

Ethnoscience and its relation to religious sciences

Morals and ethics are undeniably important in the world of science. Both are important aspects for the success of teaching in this century (Yusof et al., 2018). Moral and ethics itself cannot be separated from religious guidance. Ethics is an important factor in the relationship between religion and science Kaden et al. (2018), while both are believed to influence the state of education in several countries (Jochman et al., 2018). Religion is the essence of the history of scientific knowledge which is in stark contrast to social life (Manson, 2017). Religious knowledge is an important factor that influences the perception and understanding of science and information science (Akbar, 2019). The results of research in the United States show that only a few scientists consider religion and science to be contradictory, even individuals who are religious tend to have a high level of fish education. However, people's understanding of science, for example, empirical analysis tends to analyze religion only as a potential driver of law enforcement science (Schwadel, 2016). and tend to avoid associating the contents of their religious books with science (Ariningtyas et al., 2017; O'Brien and Noy, 2016). Results should be clear and concise. The discussion should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

The relationship between religion and science is explained by three possibilities (Black, 2017). First, religion and science are independent aspects, with each having its own explanation of the world. Second, the possibility that religion and science can actually complement each other, just as religion can answer questions that science cannot. Third, the possibility that science and religion are contradictory. The relationship between religion and science becomes four, where the fourth relationship is conditional (Science and religion can stand alone without being related, but on the other hand both have a relationship) (Glass, 2016). However, around 50% of scientists in both the fields of biology and physics support science and religion being independent. Some scientists from several countries consider that religion and science are in conflict.

This conflict between religion and science occurs where religion and science compete in providing moral guidance and explaining world history. If we look at the principles of these two aspects, it can be seen that the conflict between science and religion occurs with a conflict between the two where religion is the law that uses the principle of belief. Religious knowledge is absolute, while science runs on the principle of disbelief. Another contradiction is that many religious scientists, but there are still many scientists in the world who conduct research by integrating religion, feel discriminated against by most non-religious scientists (Kelley and Knowles, 2016). Religious individuals have high education, but religious scientists rarely carry out their religious obligations and tend not to rely on scriptures and worship as their knowledge (Schwadel, 2016; Ecklund et al., 2018).

Young people who believe in science in a way that does not meet the requirements do not believe in religion more (Fortus and Daphna, 2017). Students in religious schools have different views of science from students in national schools (Francis, 2019). The weakness of applying this religion-science relationship is that some scientists still regard religion as only a human relationship with God, so that religion cannot be seen broadly scientifically as the creation of the universe written in the Qur'an or the Bible. Teaching and learning activities also rarely link religion and science (Walker, 2019), so students' perceptions of both are still very narrow. This problem still creates a gap between religion and science. (Harvie, 2018). Therefore, it is important for teachers to facilitate space for prospective scientists to get to know how religion relates to science and its boundaries.

Apart from the conflict between religion and science, in fact the two of them have a close relationship because they have to (Peters, 2017). The two seem to be separate, but science cannot be separated from religious knowledge forever, such as the pros and cons of biotechnology or the use of stem cell therapy which is rife today, which is still dependent on religion. The interesting connection to how Islam views science is amazing. Science can also be implemented as learning to glorify God's greatness in creating the universe.

Contemporary Islamic scientists have linked their religious knowledge to their discoveries and research. One contemporary scientist named Gulen provides a harmonious relationship between religion and science (Arslan, 2019). It explains the history of knowledge originating from Islamic sciences and other beliefs of the time. In fact, when the science of religion was tried to be applied to science learning in schools, students found lessons that were memorable, were challenged to think differently, and appreciated that science can have

religious perceptions. Students with science-religion who have the most positive perspective on Darwinian evolution (Aechtner and Buchanan, 2019). Opinions of students about science-religion and found that students are interested in exploring both, but do not have the intellectual tools to do so. Learning that links religion with science must be involved in every moral, affective and spiritual dimension of students to reject conflicts between science and religion. Scientists must live up to the value of religious cognitive science. Limiting the study of religion and science, let alone separating the two basically releases human intelligence from three dimensions. Learning that conveys the relationship between science and religion supports students' higher-order thinking skills. Individuals who can link scientific knowledge with religious knowledge are individuals who have high literacy skills. Contemporary scientists have also exemplified how science is explained by holy books owned by religious people. The relationship between religion and science can be realized in school education by applying knowledge from a religious perspective, or vice versa. Currently, students in religious schools have low knowledge of science and students in secular schools have low knowledge of religion. there is still much concern in many countries that students do not have a good understanding of the scope of science and religion or how the two are related. However, students in religious schools feel more challenged when discussing knowledge because it is considered contrary to their religion. Students in secular schools are also more challenged when discussing religion because it is considered contrary to knowledge and their actions do not believe in religion. This situation provides an opportunity for teachers to make connections between the two by: taking advantage of students' interest in religion-based and public schools. Learning that applies the religion of science helps students to develop an understanding and appreciation of the relationship between religion and science. Religion teachers with teachers of general subjects such as mathematics, natural sciences, and social studies can work together to insert faith into each subject.

The insertion of religious knowledge into science subjects seems to be the right middle ground. Although science without religious knowledge does not seem problematic, scientific thinking that is far from religious knowledge will paralyze science. Science teachers need to be encouraged to broaden the science-religion perspective in order to be able to explain appropriate science-religion topics. Do not let the teacher give the wrong understanding that causes misconceptions in students. The question of the nature of knowledge needs to be raised if students can develop a better understanding of religious knowledge and students understand how to present their understanding. Teachers must first understand the history of science and religion to be able to teach the philosophy of science and religion and their attachments. In a school environment where there are students who are religious minorities, teachers need to carry out tolerant and friendly learning for all students of different cultures and religions. Teachers must have a set of skills used to manage classrooms in conditions of cultural and religious diversity in order to properly convey the relationship between science and religion.

Ethnoscience and its relationship with religious sciences

Ethnoscience is scientific knowledge from the perspective of native knowledge in a particular area of language and culture. Ethnoscience translates knowledge from community knowledge obtained from experiences and beliefs that have scientific facts (Livingston, 2016). Efforts to create learning that integrates the environment with local culture, compose things that serve as knowledge for others, ways to protect themselves and the community's previous botanical knowledge as part of learning science are called ethnographic approaches (Ramdani et al., 2021). Ethnoscience learning is very important to know the phenomena that exist, consider and organize the student learning process and bring students' prior knowledge into concrete concepts. The Indonesian nation will not lose its identity if teachers can integrate ethnoscience in a unique cultural form in their area into learning, this helps teachers to improve students' scientific thinking abilities. The integration of ethnoscience into learning also increases students' cultural awareness, and students' scientific literacy skills. The ethnoscience integrated science module is also effective in learning science in order to improve student achievement (Sudarmin, et al, 2017). The application of ethnoscience is believed to be an effective learning for science classes. Therefore, teachers need to be equipped with original knowledge in their respective fields with the support of institutions and the government so that students get a cultural relationship between knowledge and scientific knowledge.

Science and culture have a close relationship, as well as culture and religion. Religion is considered a cultural system (Cohen et al., 2016). Religion is seen in some circles as an integral part of culture, with the two being closely related. The religious norms that apply in society usually become habits that are repeated, so that religious and cultural knowledge is integrated into their social life. The aim of religious and cultural education is to cultivate local wisdom by bringing the values of traditional beliefs and religion (Vallerand, 2018). Examples of the application of religion and ethnoscience incorporation using local cultural themes for teaching that can explain the concept of science. One of them is the manufacture of Canna Noodles, which is a typical food of Majasari Village, Bukateja District, Purbalingga

Regency. Minyong are noodles made from traditional canna starch. Minyong has long been produced for generations, but its production has continued to decline. Cannabis is a local root that is increasingly scarce due to its less-than-optimal utilization. Cannabis has a higher fiber and mineral content than other tubers. The nutritional composition of macronutrein canna starch consists of amylose, amylopectin, crude fat, high crude fiber, crude protein, starch, ash, and water.

The micronutrient components of canna starch include high calcium, phosphorus and vitamin C. Canna flour has about 3% fiber which is commonly used as transparent noodle preparations. Majasari village community also produces canna starch into transparent noodles called minyong. The process of making Minyong involves heating the canna starch pulp using fire so that you can study the process of transferring heat energy from the fire to the cannabis dregs mixture through conduction and convection. Next, the process is printing noodles by rolling them on banana leaves and then drying them. This process shows the utilization of heat radiation that students can learn.

The teacher's role is very important in preserving this special food, where the role of the teacher is as a facilitator of cultural preservation for the next generation. Teachers must recognize and preserve culture in life through learning. Another culture that can be taken as a source of student learning is a water barrel or water jug which has the property of being able to lower the water temperature and keep the water temperature fresh. The process of making dung dung ice can also be used for prerequisite activities for students. Minyong are noodles made from canna starch. Marijuana originating from Indonesia is a species of Canna discolor Lindl or Canna edulis from the Cannaceae family. Cannabis is a plant that grows in tropical Asia which is starting to have little presence because few people consume it. Canna has the beauty of flowers and disease resistance. Cannabis plants supplement their food reserves in rhizomes. Canna or Canna indica L. has a classification as shown in Table 1.

Table 1. Classification of canna plants

Kingdom	Plantae
Sub Kingdom	Viridiplantae
Infra Kingdom	Sterotophyta
Super Division	Embryophyta
Division	Tracheophyta
Sub Division	Spermatophyta
Class	Magnoliopsida
Super Ordo	Lilianae
Ordo	Zingiberales
Famili	Cannaceae
Genus	Canna L
Spesies	Canna indica L.

Cannabis tubers are harvested and made into canna flour as the basic ingredient for Ganja Noodles. The process for making canna starch is by grating the canna which has been cleaned and peeled, then squeezed using water and then filtered between the starch and bagasse. The cannabis flour is allowed to stand until it gets a precipitate of starch and is then dried using solar thermal energy. This process can be taken as a study of ethnicity in integrated science learning class 7 on heat. Canna flour that is ready to use has become canna porridge with vegetable oil and salt. The resulting cannabis porridge is still processed in the traditional way using a stove. After the cannabis dregs have thickened, they are digitized and ready to be printed using banana leaves. All the dough is completely printed and immediately dried in the hot sun. The drying process takes approximately 7-8 hours in sunny weather conditions. The process of making canna noodles can be studied scientific concepts and the implementation of religiosity as shown in Table 2.

Table 2. The concept of science based on religious-ethonoscience

Indicators	Religious Implementation	Science Concepts
Understanding the prosedure af classifying biotic and abiotic as part of scientific work, and classifying various biotic things based on observed characteristics	وَنَزَّلْنَا مِنَ السَّمَاءِ مَاءً مُّبٰرَكًا فَاَنْۢبَتْنَا بِهٖ جَنّٰتٍ وَّحَبَّ الْحَصِيْدِۙ Ministry of Religion Translation 2002 9. And from the sky We send down water that gives blessings and then We grow with (the water) shady trees and seeds that can be harvested (QS : Qof: 9). هُوَ الَّذِيْٓ اَنْزَلَ مِنَ السَّمَاۤءِ مَاۤءً لَّكُمْ مِّنْهُ شَرَابٌ وَّمِنْهُ شَجَرٌ فِيْهِ تُسِيْمُوْنَ يُنْۢبِتُ لَكُمْ بِهِ الزَّرْعَ وَالزَّيْتُوْنَ وَالنَّخِيْلَ وَالْاَعْنَابَ وَمِنْ كُلِّ الثَّمَرٰتِۗ اِنَّ فِيْ ذٰلِكَ لَاٰيَةً لِّقَوْمٍ يَّتَفَكَّرُوْنَ Ministry of Religion Translation 2002 10. He is the one who has sent down water (rain) from the sky for you, some of it for drink and some of it (fertilizes) plants, for you to feed your livestock.	Canna plants can be studied for classification and morphology. Classification of canna plants as shown in Table 1. Morphology of canna plants that have tubers with a diameter of about 5-8.75 cm and 10-15 cm in legth or can reach 60 cm. Branched rhizomes and books and fleshy. Canna bulbs have characteristics in the fibrous and white. Canna stems are slightly waxy and have an average height of 0,9 – 1.8 m. Elongated elliptical leaves are elongated and wide in green with purple edges. Canna left bones are parallel and the left length reaches 15-60 cm. Canna plants have orenge flowers eith yellowish roots consisting if 3 petals

Indicators	Religious Implementation	Science Concepts
Understanding the characteristics of substnces, as well as physical and chemical changes in substances that can be used for daily life (for example mixed mixture)	11. With (the rainwater) He grows for you plants, olives, dates, grapes and all kinds of fruits. Indeed, in that there is truly a sign (of Allah's greatness) for those who think. (QS : An-Nahl: 10-11). Allah has grown platns to be used as food and also to be studied scientifically and its benefit. وَاَوْحٰى رَبُّكَ اِلَى النَّحْلِ اَنِ اتَّخِذِيْ مِنَ الْجِبَالِ بُيُوْتًا وَّمِنَ الشَّجَرِ وَمِمَّا يَعْرِشُوْنَ ثُمَّ كُلِيْ مِنْ كُلِّ الثَّمَرٰتِ فَاسْلُكِيْ سُبُلَ رَبِّكِ ذُلُلًاۗ يَخْرُجُ مِنْۢ بُطُوْنِهَا شَرَابٌ مُّخْتَلِفٌ اَلْوَانُهٗ فِيْهِ شِفَاۤءٌ لِّلنَّاسِۗ اِنَّ فِيْ ذٰلِكَ لَاٰيَةً لِّقَوْمٍ يَّتَفَكَّرُوْنَ Ministry of Religion Translation 2002 68. And your Lord inspired the bees, "Build nests in the mountains, in the trees, and in places made by humans, 69. then eat of all (kinds of) fruits and then follow the path of your Lord which has been made easy (for you)." From the belly of the bee comes a drink (honey) of various colors, in which there is a medicine that heals humans. Indeed, in that there is truly a sign (of Allah's greatness) for those who think. (QS : An-Nahl: 68-69). For chemists, this is crytal clear that a mixture of certain elements can produce new eements that are completely unrelated to the original elements in terms of their properties, subtances, or effect.	In the process of making canna starch, there is a mixture of canna starch, extract, which is a mixture of water and canna starch. The mixture is a homogeneous mixture because the mixing paticles are large and can be separated again with the solvent.

The implementation of religion-ethnoscience as a source of science learning using this theme is sufficient to be used as a topic in some science learning materials. There are still many other cultures that can be used as learning resources such as the use of water barrels, angklung musical instruments and also making bricks. The development of ethnographic learning like this must have a link between curriculum systematics, informal, and general knowledge from the community about existing natural or cultural phenomena.

Religion and ethnoscience with science, technology, ethnoscience and mathematics (RES-STEM)

Science, technology, engineering, and mathematics are the four disciplines commonly referred to as STEM. The first use of the term is often credited to Judith Ramalay at the US National Science Foundation (NSF) in 2001 who reused the term, later used by the NSF as SMET (Zintgraff, 2016). However, the early history of SMET or STEM is unclear about its origins. STEM education in several countries has been included in special departments that are of concern at this time, even the number of graduates has increased. Secondary education in Indonesia is starting to take part in developing STM education. STEM education has an important contribution to school institutions. Global demands bring educational curricula to enhance the application of STEM-based learning as a 21st century skill (Kelley and Knowles, 2016). The success of the STEM curriculum is influenced by the teacher's interest in STEM education itself. Many teachers agree about STEM but do not have the confidence to implement it (Shernoff et al., 2017). Teachers are still confused about implementing STEM, while there are still many people who start implementing STEM and do not understand how STEM is properly implemented. Teachers and administrators also suggest that preparing for STEM integration will require rethinking and redesigning the curriculum (Shernoff et al., 2017). Students' interest in STEM is influenced by several things, including the closeness and trust of parents with children (Peters, 2017), gender, career, student motivation and confidence. STEM education is believed to be able to increase students' scientific understanding (Aechtner and Buchanan, 2018). STEM-based learning shows a higher level of scores in problem solving, but its success requires a relationship between science and real-world problems (Stanford et al, 2016). Learning without the

real world, learning in isolation and apart from most existing learning makes students not interested in science and mathematics (Kelley and Knowles, 2016). Specific learning designs in integrated STEM learning can make students more motivated in connecting science concepts with the real world. Through the integration of STEM, the learning environment of students becomes better so that it can help teachers improve their conceptions of science and mathematics, showing that teachers' perceptions of STEM, personal knowledge, and understanding of STEM bring effectiveness in their own classrooms. Integrated STEM education programs present a pedagogical approach based on collaboration, direct and inquiry (Baran et al., 2018). STEM education motivates the learning environment and directs students to play games that support student problem solving.

STEM makes learning more interesting and increases attention and fun for students (Baran et al., 2016). It creates a pleasant learning atmosphere that supports scientific literacy, creativity and problem solving. There are several cases, such as in one of the Catholic schools studied, showing a gap between culture, religion and STEM. This case brings the urgency of applying religious and cultural sciences to be applied in science learning, especially STEM education. The application of STEM by using religion as an ethnic learning resource is expected to increase knowledge in the context of knowledge that maintains culture and religion. Religious knowledge has an important role in shaping STEM identity, both of which reinforce each other (Rodriguez et al., 2019). STEM identity needs to be developed based on the differences between students' religious beliefs and their learning concepts in the classroom (Rodriguez et al., 2019). Students who have confidence in being taught about the relationship between religion and culture tend to have a higher interest in STEM than non-religious groups (Scheitle and Ecklund, 2018). The incorporation of religion and culture into science learning will be an interesting combination that will be applied in the future. This can be a solution for educators who can overcome gaps and conflicts between religious, cultural and scientific knowledge by teaching students about the meaning of attachment between these three aspects. Kang & Peters formed an integrated ethnoscience and STEM to become ethno-STEM (Kang and Peters, 2019). A solution in line with combining integrated learning is ethno-STEM, so we add religious values so that it becomes RE-STEM (Religious-Ethno-STEM) integrated learning.

Conclusion

This research shows that the development of scientific literacy skills in education needs to be based on religious-ethnographic study-based learning. When students are invited to see the natural surroundings of phenomena including local culture, indirectly students will be invited to think literally about science. Various studies have proven that ethnoscience-based learning can help students to improve students' scientific literacy skills (Stones et al., 2020). The urgency of religious and cultural studies in education is of concern to educators and researchers. The relationship between religion and science may have its own independent, or interrelated on the other. Theology is closely related to culture. Religion is seen as an integral part of culture, both of which are closely related. The religious norms that apply in society usually become habits that are repeated, so that religious and cultural knowledge is integrated into their social life. Several cases show the gap between culture, religion and STEM. This case brings the urgency of applying religious and cultural knowledge to be applied in science learning, especially STEM education. The application of STEM by using religious and ethnic learning resources is expected to be learning that can increase knowledge in the framework of knowledge that maintains culture and religion. Theology has an important part to play in shaping the STEM identity in which the two aspects reinforce each other. STEM identity must be developed based on differences in students' religious beliefs with their learning concepts in class. The incorporation of religious and cultural knowledge into STEM (RE-STEM) learning seems interesting to be applied in science education today.

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