

Islamic Values: Integration in Learning Mathematics and Science at Man 2 Level 2022/2023 Academic Year

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ABSTRACT. Currently, in order to improve the quality of education, learning mathematics needs to undergo innovative changes in accordance with the times and technology. In addition, education must also build the values and character of students through religious values. This research uses a qualitative approach with descriptive methods. The aim of the research is to describe Islamic values and their integration into learning mathematics and science at MAN 2 Langkat in the 2022/2023 academic year. The research was conducted at MAN 2 Langkat, North Sumatra, with the research subjects being math and science teachers. Data was collected through observation, interviews, document studies, and literature. Data analysis was carried out by compiling, connecting, reducing, presenting, drawing conclusions, and verifying. The findings can be explained that Islamic values in their integration into mathematics and science learning have been carried out well where they have been adapted to the curriculum and the school's vision and mission as outlined in the planning of relevant methods and media which are carried out from the beginning to the end of learning. The results of this study are expected to contribute to the development of learning that is integrated with Islamic values.

Keywords: *Islamic values, Mathematics, Science*

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INTRODUCTION

At present technology is developing rapidly, for this reason in order to improve the quality of education, mathematics learning must experience innovative changes and be in accordance with the times and technology (Lubis, Fatmawati, et al., 2022). In addition, education must also build the values and character of each student through religious values. In the context of Islamic education, it states that Islamic education means an education system that provides a person's ability to lead his life in accordance with Islamic ideals and values that have animates and colors his personality (Arifin, 2014). The integralist (integrated) character learning process can be justified because so far there is a belief that students will grow well if they are involved naturally in the learning process (Zubaedi, 2012). For example, the Koran is the holy book of Muslims which is the source of all sources of knowledge, so that views on the Koran are very influential in the development of the field of knowledge. This is in line with the goals of national education stipulated in Law No. 20 of 2003 concerning the National Education System, which emphasizes the importance of educating the nation's life and forming students who are faithful, pious, have noble

character, are healthy, knowledgeable, capable, creative, independent and responsible. answer answer (Abdullah, 2014; Lubis, Nurullah, et al., 2022).

Therefore, the progress of science and technology is one of the means to achieve the development of the Muslim world, and Muslims are encouraged to pursue science. In this context, the integration of Islamic values in Mathematics learning is expected to have a positive influence on developing science and technology, as well as forming students who have faith, have noble characters, and are devoted to God Almighty (Akbar, 2019; Annisa et al., 2020).

It can be explained from the verse above that people who are faithful and knowledgeable will get a higher award compared to people who are mediocre. The integration of Islamic values in mathematics learning is expected to have a positive influence on developing science and technology, as well as forming students who have faith, have a noble character, and are devoted to God Almighty (Adnan, 2022; Haq et al., 2022; Komariah & Nihayah, 2023). The integration of Islamic values in mathematics learning is expected to have a positive influence in developing science and technology, as well as forming students who have faith, have noble characters, and are devoted to God Almighty.

At MAN (Mandarasah Aliyah Negeri) the Science Department or in the 2013 curriculum it is called MIPA (Mathematics and Natural Sciences) is a department with specialization subjects consisting of Mathematics, Physics, Chemistry, and Biology. The author raises the title Integrity of Learning Mathematics and Natural Sciences with Islamic Values at Madrasah Aliyah Negeri (MAN 2) Langkat Year 2022/2023 and focuses on Chemistry lessons. The reason why he took chemistry lessons was because chemistry did a lot of experiments compared to other MIPA majors. In addition, chemistry is an interesting science to study. Because the elements of chemistry are used in everyday life. MIPA is the field of Mathematics and Natural Sciences. Mathematics and Natural Sciences is a college major that houses the exact sciences, aka exact sciences. The MIPA field which was previously known to have majors in Mathematics, Biology, Physics, and Chemistry, now has a broad and up-to-date scope such as Astronomy and Biotechnology (Ciptaningsih & Rofiq, 2022; Fatimah et al., 2022; Qutsiyah et al., 2022).

The integration of science in the madrasah aliyah curriculum and learning is of course highly dependent on the meaning of each lesson on the concept of integration. As we know, the curriculum is a way to achieve one goal, namely the goal of education (Nunzairina et al., 2021). As we all know, KMA 184 of 2019 concerning Guidelines for Curriculum Implementation in Madrasah was issued to encourage and provide rules on how to innovate in the implementation of the madrasa curriculum and provide a legal umbrella in the development of Madrasah characteristics. Development of character strengthening, anti-corruption education and development of religious moderation in madrasahs (Ali, 2019; Ghofur et al., 2021). One of the benchmarks for the success of the learning process in education is the quality of human resources. So at least the achievement of educational goals depends a lot on how the learning process is experienced by students as learners, especially in the teaching and learning process. In the framework of implementing the 2013 curriculum learning which is a thematic learning concept and integrates various fields of knowledge, including general subjects which are integrated with Islamic values so as to form the nation's character. The most basic thing in education is none other than building the character of the students involved in it.

Based on the description above, therefore the writer is interested in conducting research related to this matter with the title: “**Islamic Values: Integration in Learning Mathematics and Science at Man 2 Level 2022/2023 Academic Year**”.

METHOD

The type of research used in this paper is qualitative with a descriptive approach. Afrizal (2015) argues that qualitative research is a social science research method that collects and analyzes data in the form of words (oral or written) and human actions and researchers do not try to calculate or quantify the qualitative data that has been obtained and by thus not analyzing the numbers. The

data analyzed in qualitative research are words and human actions. So, it can be understood that the qualitative research collected is not in the form of numbers, but words that are presented descriptively. This is based on the intention to describe the informant's behavior according to the focus of this research study, namely Islamic Values: Integration in Mathematics and Science Learning at Man 2 Langkat Academic Year 2022/2023. In this context, this research was conducted at MAN 2 Langkat Jln. T. Amir Hamzah No 94, Pekan Tanjung Pura, Langkat Regency, North Sumatra, the reasons for selecting the location were: Selection of MAN 2 Langkat Jl. T. Amir Hamzah No 94, Pekan Tanjung Pura, Langkat Regency, and as a subject in this study namely b) Mathematics and Science teacher. The data collection instruments in this study were observation, interviews, document and literature studies. As for data analysis techniques by compiling data, linking data, reducing data, presenting data, drawing conclusions/verification during and after data collection (Salim & Syahrums, 2015) .

RESULT AND DISCUSSION

Integration of Integrated Mathematics Learning by Embedding Islamic Values.

MAN 2 Langkat in an effort to implement the integration of Islamic values in their learning, all elements in the Madrasa contributed, starting from the madrasa principal, field coordinating teacher, class teacher to subject teacher. One of the roles of the head of the madrasa is to try to become the center of example, he is very concerned about cleanliness and order in the madrasa environment.

According to the results of the interview with him, he said that habituation starts from the smallest things, such as when they first enter the school environment, the children will be received by the teacher, greeted with a cheerful face, then shake hands. There is the most important value there instilled in children how to respect elders. Because these values have almost disappeared in people's lives, remembering when we were small there were parents, so we will bow our heads. But today those things have almost faded and even now they are not implanted. So from that the smallest thing is socially the children really have to be given an understanding of habituations because in terms *the habit is power* Habit is a force that gives positive things to children.

The second starting the activity of praying is something that the children sometimes even the parents forget, for example wanting to eat and read prayers often happens, then the smallest things done to the children are habituated to be observed the way they dress, their hair and others that is part of from the training done for the cultivation of the values that exist in Islam. That we see the habit of picking up garbage, how the children are instilled with the value of cleanliness, the environment, meaning that all the small activities that the children do actually have a big effect on their future. The habits of his life to become good children.

This is also supported by Siti Wulandari, S.Pd. She said that the first way to integrate chemistry and natural science learning with Islamic values is usually done by compiling material, and summarizing it in a lesson plan that includes Islamic concepts. Apart from that, in starting and closing lessons, I usually always start with a prayer and motivate students with Islamic figures, especially in the field of chemistry.

Tri Wulan Sari, S.Pd as a mathematics teacher also expressed his opinion regarding the integration of learning mathematics with natural science and Islamic values. itself, for example, when delivering material regarding the mathematical operations themselves, for example addition, subtraction, multiplication, we can insert or explain to students about the concept of alms, for example. We can explain to children the application of the concept of alms through the mathematical operations. Now another example for the upper level when we convey material opportunities or statistics. Now, from the concept of opportunities, we can convey to children that there are Islamic values contained in opportunities, for example, we can integrate the concept of opportunity about the concept of us praying to Allah Swt, so the more we worship and pray to Allah Swt, the more there are many opportunities that we can take from as many prayers as there were many samples from as many populations as we pray. So which sample does Allah allow from

answered prayers, those are some small examples of the integration of mathematics with Islamic values. There are still very many examples that we can apply in learning Islamic values in mathematics. Another example is that there are more and more questions from madrasa science competitions that integrate with Islamic values. Almost the majority of all KSM questions that we encounter are integrated with Islamic values contained in the Koran. For example, they integrated the number of letters in the Koran into a math problem and then contained a verse that functions to find the area of a cylinder. So there are still many examples or the use of Arabic that they include in the KSM questions to understand mathematics itself. Even though the problem is mathematics, they use Arabic and study verses of the Koran and to help children continue to integrate life or math problems into Islamic values. That's only a small part (Tri Wulan Sari Interview, 2021).

Furthermore, the same thing was said by Ihsan Fuadi, M.Pd as a mathematics teacher. He said to integrate mathematics that is integrated with Islamic values, which I usually do at the beginning of learning. To understand to students that mathematics is not just the calculations they always assume. Most students think that mathematics is not important. Even though mathematics is also one of what we say is knowledge from God. For example, an example like this. In the body of every human being, whoever it is, there are comparisons in the size of the body, for example the distance from the tip of his finger to the base of the palm is in comparison to from the tip of his finger to the elbow of any human being, the ratio must be the same as the distance from the tip of his toe to the base of the sole of the foot. Compared with the distance from the fingertips to the knees. And many more. If possible father *searching* to the internet in comparison to the golden ratio of its name. In *google golden* gold is the name, so whoever the human being contains mathematics actually that's extraordinary masyaallah. The smallest example is for example we want to buy pants, when there really is no number or sometimes the size of the pants wants to be different, so for example there is no fitting room or change for every human being we can circle it around the neck. Because the ratio of the neck to the waist of every human being is all the same, right, sir, whether you're fat or thin, the golden ratio is the same. Not just ordinary calculations, even all of our human lives have a calculation like that. In this Quran, why is it odd and this is even, all of my knowledge is still too lacking (Interview with Ihsan Fuadi, 2021).

The example shown by the principal of MAN 2 Langkat is nothing but an example for students who need examples in their growth. In Islam this required example is called *uswatun hasanah* or exemplary. Exemplary makes the principal as a leader as well as a teacher who is a figure and mirror of a human being with a religious personality. The personality of the principal in leading the madrasah is needed by students in order to develop a school environment with an insight into Islamic values through example. As the word of Allah SWT in the letter Al Ahzab verse 21 as follows:

لَقَدْ كَانَ لَكُمْ فِي رَسُولِ اللَّهِ أُسْوَةٌ حَسَنَةٌ لِّمَن كَانَ يَرْجُوا اللَّهَ وَالْيَوْمَ الْآخِرَ وَذَكَرَ اللَّهَ كَثِيرًا (٢١)

Meaning: "Indeed there has been in (self) the Messenger of Allah is a good role model for you (namely) for those who hope (grace) Allah and (the arrival of) the Day of Judgment and He mentions Allah a lot". (Q.S. Al-Ahzab: 21).

Exemplary is behavior that sets an example to others in terms of goodness. Rasulullah SAW himself as a prophet and leader was sent to the world to perfect morals by giving his own personal example to mankind. Besides that, the head of the MAN 2 Langkat madrasa tries to translate the vision and mission of the madrasa well to all components in the madrasa. The vision of the madrasa "is the realization of madrasas that are Islamic, competitive in science and technology, globally competitive and uphold local cultural wisdom". Became an integral part of every policy he took in leading the madrasa. With one of the goals of the madrasa "Applying Islamic Values in life in the madrasa environment and society."

We know that the vision of the MAN 2 Langkat Madrasah is a long-term goal to be achieved, while the mission is the actions that must be taken by the school institution to achieve this vision.

As a direction, the vision and mission are translated in detail in the form of planning, one of the most important planning in educational institutions is the curriculum. So that the curriculum must be imbued with the spirit to achieve this vision. Thus the idea of the future curriculum is Dar's hope. *stakeholder* future education.

The curriculum used in each educational institution must be relevant to the goals to be achieved, therefore MAN 2 Langkat seeks to modify the Ministry of National Education curriculum by means of substitution and integration of the Ministry of Religion curriculum. The sources of inspiration from his Islamic integration are the Koran and hadith, the opinions of scholars, words of wisdom, scientific research results, moral messages and spiritual experiences. The combination of various kinds of curricula is the concept of the curriculum applied at MAN 2 Langkat or better known as the integration curriculum of Islamic values.

According to (Muhaimin, 2005) the strategy and process of developing a school environment with an insight into Islamic values can be carried out through three stages, namely: First, the socialization of agreed religious values as the ideal attitude and behavior to be achieved in the future at school. Second, determination *action plan* weekly or monthly as stages and systematic steps that will be carried out by all parties in the school in realizing the agreed religious values, and. Third, giving awards to students as a habituation effort (*habit formation*) that upholds attitudes and behavior that are committed and loyal to agreed religious teachings and values (Rouzi et al., 2020). Appreciation does not always mean material (economic), but also in a social, cultural, psychological or other sense

The role of the curriculum coordinator teacher at MAN 2 Langkat is to compile well-being programs both daily, weekly and monthly programs as well as incidental activities. These programs and activities are aimed at forming the habituation of Islamic values to students. As according to Imam Suprayogo, apart from being exemplary in developing a madrasah environment with an insight into Islamic values, it also takes habituation.

Suprayogo further (Suprayogo, 2014)(González-Calatayud et al., 2021) explains that sociologically, a person's behavior is nothing more than the result of habituation. Therefore, children must get used to it, for example getting used to saying greetings when meeting or parting with other people, reading basmallah before eating and ending it by reading basmallah and getting used to praying in congregation, and increasing friendship, and so on.

According to the Langkat MAN 2 curriculum coordinator teacher, efforts to integrate Islamic values into all subjects are a necessity, especially now that educational institutions are experiencing setbacks in giving birth *output* quality education. The phenomenon of moral deviance that occurs in schools, for example, brawls between students, drug abuse, rampant cases of sexual harassment is an illustration of the ineffectiveness of the educational process that touches all of the child's full and balanced potential both in terms of intellectual (cognition), emotional (affection), and also psychomotor. Thus, efforts to insert values into learning aspects need to be appreciated as an innovative step in modern learning design.

Developing the concept of a school environment with an insight into Islamic values or developing a religious culture is a set of religious values that underlies behavior, traditions, daily habits, and symbols practiced by school principals, teachers, administrative officers, students, and the school community. Koentjaraningrat in Muhaimin said that the strategy for developing religious culture in the school community can be carried out at three levels, namely: (1) the level of adopted values, (2) the level of daily practice, (3) the level of cultural symbols.

From this description it can be concluded that the integration of Islamic values in learning MAN 2 Langkat can be carried out as well as possible. This can be seen from the pattern and spirit of religious activities in schools which are an embodiment of the curriculum in accordance with the school's vision and mission which is carried out through continuous and continuous coaching.

Teacher Preparation and Planning in Making Natural Science Teaching Programs Integrated with Islamic Values

The preparation and planning carried out by MAN 2 Langkat teachers in the integration of Islamic values in learning mathematics and natural sciences (IPA) is carried out to the fullest according to their abilities. As stated in PP No. 74 of 2008 concerning teachers article 3 paragraph 2 and Permendiknas No. 16 of 2007 concerning academic qualification standards and teacher competence in carrying out the tasks of teacher professionalism, namely pedagogic competence, personality competence, social competence and professional competence.

As a professional, in carrying out their duties the teacher must refer to Law No. 14 of 2005 article 20 which states that the teacher is obliged to: (1) Planning lessons, carrying out quality learning processes, and assessing and evaluating learning outcomes. (2) Improving and developing academic qualifications and competencies in a sustainable manner in line with developments in science, technology and art. (3) Act objectively and non-discriminatively on the basis of considerations of gender, religion, ethnicity, race, certain physical conditions or family background and socio-economic status of students in learning. (4) Upholding statutory regulations, laws and teacher ethical codes as well as religious and ethical values. (5) It is. Preserving and fostering the unity and unity of the nation.

Based on the above obligations, it is clear that in practice, the process of integrating science and religion through learning will be largely determined by the teacher's ability to formulate a learning plan, because the formulation of a lesson plan is indeed the principal obligation of a teacher before he or she carries out learning interactions with their students (Nunzairina et al., 2021). Apart from the need for an ideal teacher figure who is able to formulate learning planning based on Islamic values, the support of the school climate and culture will greatly determine the outcome of the integration process. Likewise with the availability of supporting facilities and infrastructure. The leadership role of a school principal will greatly determine this can be realized. In addition to the optimal role of all school officials (Armstrong, 2022; Day et al., 2020).

The same thing was also conveyed by Tri Wulan Sari, S.Pd. He said that the extent to which the integration of learning was carried out, thank God, that it had been carried out in the field, so it was not only limited to knowledge but had influenced the child's mindset and almost some of the children had already implemented it and also felt the effect. . An example of the problem of the benefits of almsgiving at dawn, that is the integration of mathematical values in broadness so that the effect is very good alhamdulillah when we talk to students indirectly we also slap or pinch ourselves. Have we done it or not. So, of course, when we convey this to students, we have proven that we have done this to ourselves, thank God, this has already had an effect on ourselves, of course, it will improve more, because we convey, of course, we will do what we convey first. So far, I myself have not coordinated with PAI teachers regarding the integration of mathematical values, because what was conveyed was self-motivated (Tri Wulan Interview, 2021).

Some of the plans and programs that have been made by the mathematics and natural sciences (IPA) teacher at MAN 2 Langkat include: (1) an effective week plan; (2) semester program recapitulation; (3) annual program; (4) semester program; (5) syllabus and assessment system; (6) lesson plans; (7) test questions and student learning outcomes. In this case the researcher believes that the planning/learning program that has been made by the mathematics and natural sciences (IPA) teacher is good enough.

According to Chairini's opinion (Firdaus et al., 2023; Ilmi et al., 2021), which said that for the purposes of developing and compiling a learning program, the tasks carried out by the teacher included: (1) analyzing effective days; (2) compiling an annual program: (3) compiling a semester program; (4) compiling a billing program; (5) compiling syllabus; (6) preparing lesson plans, and; (7) make a design assessment of student learning outcomes.

Basically, learning planning in schools/madrasas is a process of preparing subject matter, using teaching media, using teaching approaches and methods, and assessing an allocation of time

which is carried out at certain times to achieve predetermined goals. And as written in the lesson plan/RPP (in the attachment) in general, namely before the initial activities of the lesson begin, reading prayers together, the teacher takes attendance and conditions students with an integration strategy of Islamic values (Halomoan et al., 2023; Sitepu & Amelia, 2021). Furthermore, the teacher opens the lesson by reading the verses of the Koran that are in accordance with the subject matter and then briefly explaining the contents contained in the verse. From activities like this it shows that in opening learning the teacher has created an atmosphere of mental readiness for his students. In this case Mulyasa argues that in opening or starting learning the activities carried out by the teacher are to create an atmosphere of mental readiness and cause students' attention to be centered on the things to be learned (Muahaimin, 2012).

The activities carried out by the teacher in the core activities consist of three processes, namely exploration, elaboration, and confirmation. The exploratory activities carried out are by involving students in solving problems related to the material being taught. And also the teacher tries to incorporate Islamic values in accordance with the teaching material (Zakariyah et al., 2022). In closing the lesson, the teacher reflects on the material that has been taught, sometimes the teacher gives assignments that must be done by students and ends by reading hamdallah together. Activities like this apart from being an evaluation for teachers are also to find out how far students are in absorbing lessons and will also better understand students about the material that has been discussed.

According to Mulyasa (Mulyasa, 2003), the skill of closing a lesson is the teacher's activity to end the lesson together and restate the learning points so that students get a complete picture of the subject matter and learning outcomes that have been learned. Closing the lesson is the teacher's attempt to provide a comprehensive picture of what has been learned, wanting to know how students absorb learning, and determining the starting point for the next lesson.

In preparing the lesson plan this is quite good, this can be seen in the syllabus and scenario plans/learning plans made by the mathematics and natural sciences (IPA) teacher which include several components, namely: for the syllabus consists of competency standards, basic competencies, indicators, material subject matter, material description, learning experience, time allocation, assessment/evaluation and learning resources. For lesson plans, namely: competency standards, basic competencies, indicators, subject matter, student learning activities, learning methods, learning media and other components, namely learning evaluation (Adetoro & Okike, 2022; Pollitt et al., 2020).

The methods used by teachers have varied. Some of the methods that have been planned include: lecture method, demonstration, question and answer, discussion, simulation, and giving assignments. The implementation of learning approaches and methods is in accordance with the lesson plans (varied) made by mathematics and natural sciences (IPA) teachers, but of the various methods used there are some methods that are quite effective and efficient, namely methods of giving assignments and discussions. The use of this method aims to make students more communicative, and more quickly understand the subject matter independently, and make students not bored during teaching and learning activities.

This is Majid in (Madkan & Mumtahana, 2022), suggests that the method of giving assignments can be done: (1) When the teacher expects that all the knowledge that has been received is more solid. (2) To enable children to study a problem on their own, read on their own, do their own questions and try on their own. (3) So that the children are more diligent.

The implementation of this method is by the teacher forming students into several groups and naming each group with the names of Islamic terms, and giving assignments to each group, then each group presents in front of the class according to the subject matter that has been discussed. planned in the lesson plan that has been made by the teacher (Arifin et al., 2022).

The media and learning resources used include: mathematics and natural science (IPA) books, the Koran, tables of natural problems, and natural phenomena. In other words, the tools

used by teachers of mathematics and natural sciences (IPA) in learning have varied and teachers have tried to instill Islamic values, including in the selection of media and learning resources.

This is in accordance with some of the benefits of learning planning as according to Hamalik, namely: (1) As a guide to the direction of learning activities in achieving goals. (2) As an archetype in managing the duties and authorities for each element involved in the activity. (3) As a work guideline for each element, both teacher and student elements. (4) As a tool to measure the effectiveness of a job, so that at any time the accuracy and slowness of work can be known. (5) It is. For materials for compiling data so that there is a balance of work. (6) To save time, effort, tools and costs.

The teacher is the main exhibition in the learning process so that the learning system still places the teacher in an important place (Wijayanto, 2020). Teaching is a very complex activity, it is difficult to determine how professional teachers are, because each teacher has his own way of achieving his teaching goals. Teachers are said to be professionals in teaching in general must have special skills that can be applied in the learning process. Specific skills that must be possessed are preparing learning plans/programs or teaching preparation, implementing lesson plans properly and evaluating the results of lesson plans (Hayyanul, 2023).

Efforts to integrate values in learning mathematics and natural sciences (IPA) are very important, especially in Islamic teachings. Students must be introduced from an early age to Islamic values in every educational process without exception even with general subjects, they need to get a spiritual touch that can develop values so that they grow well. In Islam, every human being is born in a state of purity and the determining factor for the quality of the child's religion itself is largely determined by the conditions and role of parents as well as the school. School is the second stage after parents in giving basic meaning and color to children's Islamic values.

From this description it can be concluded that good planning and learning can make it easier for teachers to apply math and natural science (IPA) learning strategies based on Islamic values at MAN 2 Langkat.

Implementation of Learning Natural Sciences (IPA) that Integrated Islamic Values at Madrasah MAN 2 Langkat

Learning strategies for mathematics and natural sciences (IPA) at MAN 2 Langkat use multiple methods and media according to the teaching materials and teacher abilities. To find out the learning outcomes used an orderly, continuous and accurate evaluation. Also using a combination of relevant methods and media (multi-method and multi-media) in an effort to integrate values and norms with Islamic materials (with reference to the Koran and hadith). The process of implementing the learning strategy of mathematics and natural sciences (IPA) based on Islamic values at MAN 2 Langkat has been carried out as disclosed by Yasri, namely always mentioning the name of Allah, using terms, visual illustrations, applications or examples, inserting verses or relevant hadiths, and symbols of kauniah verses (Mahmudi, 2011).

The stages of implementing the integration of Islamic values in learning mathematics and natural sciences (IPA) at MAN 2 Langkat are carried out from preparing learning programs based on K13, formulating lesson plans, evaluating programs, preparing teaching materials, media, integrating techniques both in making lesson plans and approaches that carried out in the process and learning activities both at the beginning of the activity, core and closing. Ha this is like in Permendiknas No. 41 of 2007 also explained that the implementation of learning is an implementation of the lesson plans. According to Abdul Majid that the implementation of learning includes preliminary activities, core activities and closing activities (Majid, 2013).

In line with this, Tri Wulan Sari, S.Pd said that the first step should be based on the mathematics curriculum. Then we compare it with the arguments that might affect this learning. For example, the example of the opportunity earlier, after we have seen the learning curriculum and the opportunity, we are looking for the arguments, both the Koran and the sunnah, that can be paired with learning opportunities. So we compare it with the alms concept earlier, the more we

give, the more opportunities we will certainly get. So maybe it's the preparation and implementation. The first is to look for the basic mathematics curriculum, the second is to look for the arguments that we can relate to or relate to. Not even that it is the Koran but the hadith or maybe its moral or ethical application which is a development of this proposition. The implementation is simpler, simpler or relaxed, why? Because learning mathematics is not absolutely standard with the formulas in mathematics. but it is enough for us to implement or exemplify with examples in the field which are in accordance with our faith (Majid, 2013).

In the view of natural science teachers (IPA) that the ideal learning according to the concept of Islamic teachings is learning that originates from the Koran, namely learning that combines and integrates the values of faith with science and technology. The popular term is the balance between IMTAK and IPTEK. This term concept has been heard for a long time but the context is still rarely seen. Allah SWT says in the letter Al Mujadilah verse 11 which reads:

يَا أَيُّهَا الَّذِينَ ءَامَنُوا إِذَا قِيلَ لَكُمْ تَفَسَّحُوا فِي الْمَجَالِسِ فَافْسَحُوا يَفْسَحِ اللَّهُ لَكُمْ وَإِذَا قِيلَ أَنْشُرُوا فَأَنْشُرُوا يَرْفَعِ اللَّهُ الَّذِينَ ءَامَنُوا مِنْكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ وَاللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ (١١)

Meaning: "O you who believe, when it is said to you: "Be spacious in the assembly", then be spacious and Allah will surely give you space. and when it is said: "Stand up", then stand up, surely God will elevate those who believe among you and those who are given knowledge to several degrees. and Allah knows best what you do". (Q.S Al-Mujadilah: 11).

Based on the verse above, Allah SWT clearly promises that someone will be elevated in rank, honor, or knowledge. If that person has strong faith and great knowledge. Even according to the verse above, the value of faith is a top priority before science. Therefore, in the process of learning mathematics and natural sciences (IPA) at MAN 2 Langkat, a teacher collaborating the values of faith with science basically belongs to Allah SWT, only Allah SWT is the Almighty. Who created everything on earth and in the heavens. Thus, the teacher has implemented an integral and Islamic learning model.

The application of learning strategies by integrating Islamic values in mathematics and natural sciences (IPA) lessons at MAN 2 Langkat was difficult at first, difficulties that were still visible and became a reflection of the mathematics and natural sciences (IPA) teacher, let alone finding and abolishing qanuniah verses to emphasize the concepts of mathematics and natural science (IPA) being taught. And also because mathematics and natural sciences (IPA) have a lot to do with memorizing the heavens and the creation of humans. This condition generally tends to be caused by the teaching of science in which the paradigm framework of thinking is still fragmental.

The choice of the frame of mind of a scientific discipline with other disciplines allows for a huge opportunity to separate this knowledge from the values of everyday life, such as ancient values in learning mathematics and natural sciences (IPA) at MAN 2 Langkat. Even though currently thematic learning models (especially the basic level) or integrated curricula have been developed which try to collaborate between fields of knowledge with each other so that there is integration of theoretical and applicable knowledge. This is according to Al Faruqi (Faruqi, 1981), so that the knowledge obtained is not dichotomous, meaning that knowledge is produced from a combination of faith (transcendence of God who created everything) and tools that will make it an integrated and whole science (Chande, 2023) .

The integration of Islamic values is a must for every teacher in applying them in class in all aspects and types of learning. For mathematics and natural sciences (IPA) subjects to integrate these Islamic values there is no problem, maybe even in principle there are many materials on mathematics and natural sciences (IPA) that are in line with and in accordance with Islamic teachings. With a pattern of integrating Islamic values, it will bring us closer to doing better in producing graduates who have complete and integral abilities and personalities, they know their

rights and obligations, they also know the relationship between Allah SWT and creatures through their daily life which is based on worship values.

Ancok (Ancok, 1995), says that: in Islamic teachings religious activity does not only occur when a person performs ritual behavior (worship) and is related to activities that are visible and can be seen with the eye, but also activities that are not visible that only occur in someone's heart.

By trying to integrate these Islamic values, it is time for generations of Muslims to start multiplying their views to get to know and idolize figures in the fields of mathematics and natural science (IPA) such as Ibn Khaldun, Al Masudi, Abul Hasan Ali al-Mas'udi, Al Biruni and other Islamic figures.

Learning mathematics and natural sciences (IPA) is a teaching and learning process that contains two types of activities that are inseparable. These activities are learning and teaching. These two aspects will collaborate in an integrated manner to become an activity when there is interaction between students and students with their environment. by always trying to implement a strategy of instilling Islamic values while learning is in progress. The strategy in determining Islamic values in the daily practice of learning, values are embodied in the form of attitudes and behavior, both students and teachers during the learning process. This is none other than in the context of forming a religious culture in the school environment.

The same thing was also conveyed by Ihsan Fuadi, M.Pd, who said that the preparations had already been made from the preparation of lesson plans, so we can make curriculum materials from KD there, we have planned anything where we can integrate mathematics with Islamic values. Sometimes it can also be self-taught, suddenly when learning directly you get an idea like that. Sometimes it can be prepared for the material. Thank God, we have conveyed the implementation, hopefully you understand what we are conveying. So that students can understand that mathematics is not only a number symbol but can also be associated with Islamic values (Interview with Ihsan Fuadi, 2021).

According to (Tafsir, 1992), strategies that can be carried out by educational practitioners to shape religious culture in the school environment include: (a) providing exemplary examples; (b) get used to good things; (c) enforce discipline; (d) providing motivation and encouragement, and (e) cultivating religion which influences children's growth.

In the process of learning mathematics and natural sciences (IPA), both teachers and students together become actors in implementing learning objectives. The purpose of this learning will achieve maximum results if learning runs effectively. The quality of learning can be seen in terms of process and in terms of results. In terms of process, learning is said to be successful and of good quality if all or most of the students are seen to be active, both physically, mentally and socially in the learning process, in addition to showing a high enthusiasm for learning and self-confidence. In terms of results, learning is said to be effective if the behavior is in a positive direction, and the learning objectives that have been set are achieved. According to Wragg, effective learning is learning that makes it easier for students to learn something useful such as facts, skills, values, concepts and how to live in harmony with others, or a desired learning outcome.

It is the duty of a teacher to develop several learning strategies and open horizons of thinking starting from oneself so that they are more enthusiastic about creating and studying ways to develop science and technology learning that integrates with Islamic values. Development of learning can be done, among others, by means of efforts to provide Islamic values in each translation of competency standards and basic competencies and apply them in the learning process. Learning mathematics and natural sciences (IPA) integrated with Islamic values is only one of the alternatives that teachers hope to develop. However, it should be noted that the integration of Islamic values into a competency standard or basic competence should not be something that is forced or given excessively.

In the context of implementing the K13 curriculum which requires thematic learning and integration of various fields of knowledge including Islamic values into subjects, it is necessary to have breakthroughs and enlightenment for teachers, especially subject teachers at MAN 2 Langkat,

including mathematics and science subject teachers natural knowledge (IPA). One of the significant breakthroughs in improving the quality of learning mathematics and natural sciences (IPA) is the need for learning strategies developed by teachers of mathematics and natural sciences (IPA). The learning strategies needed now tend to be more towards improving scientific fields by not giving up on improving the quality of faith and piety which are applied to religious experiences in everyday life. The breakthrough is the integration of Islamic values into learning strategies for mathematics and natural sciences (IPA).

Table 1. Summary results of the research conducted

No.	Sub-Sub-Title research results	Summary of Findings
1.	Integration of Integrated Mathematics Learning by Embedding Islamic Values.	<p>Habituation of Islamic values in students' daily lives through outreach, action plans, and giving awards to students. The curriculum coordinator teacher is responsible for compiling Islamic programs and incidental activities to shape the habituation of Islamic values to students.</p> <p>Overall, the integration of Islamic values in learning at MAN 2 Langkat has been carried out well. Religious activities carried out in the school environment are a manifestation of the curriculum in accordance with the school's vision and mission</p>
2.	Teacher Preparation and Planning in Making Natural Science Teaching Programs Integrated with Islamic Values	<p>Teacher preparation and planning at MAN 2 Langkat in integrating Islamic values in learning mathematics and science. Teachers carry out planning with the maximum ability they have and refer to the rules and laws that regulate the duties and obligations of teachers. The process of integrating science and religion is influenced by the ability of teachers, the support of the school climate and culture, as well as the availability of supporting facilities and infrastructure. The teacher has made a fairly good learning plan and program, using various methods, media, and learning resources, as well as carrying out evaluations to measure student learning outcomes. Good planning and learning facilitate the implementation of learning strategies based on Islamic values at MAN 2 Langkat.</p>
3.	Implementation of Learning Natural Sciences (IPA) that Integrated Islamic Values at Madrasah MAN 2 Langkat	<p>The stages of implementing the integration of Islamic values in mathematics and science learning at MAN 2 Langkat include preparation of learning programs, preparation of lesson plans, program evaluations, preparation of teaching materials, media, and integration techniques which are carried out at the beginning, core, and closing of learning activities.</p> <p>Overall, this study describes learning strategies that integrate Islamic values at MAN 2 Langkat, including the objectives, stages of implementation, difficulties, and the importance of developing these strategies.</p>

CONCLUSION

Based on the findings, it can be concluded that at MAN 2 Langkat in the 2022/2023 academic year, Islamic values have been integrated into learning mathematics and science. Teachers at MAN 2 Langkat have made efforts to integrate Islamic values in learning and this has been carried out properly according to the curriculum and the school's vision and mission. This is done by paying attention to planning, learning methods, using relevant media and learning resources, as well as carrying out learning evaluations so as to facilitate the application of learning strategies based on Islamic values. Through the stages of implementing the integration of Islamic values in learning which are carried out at the beginning, core, and closing in learning activities describe learning strategies that integrate Islamic values in MAN 2 Langkat. However, the research is certainly not perfect, it still needs to be studied more broadly and in depth. As for suggestions that can be submitted based on the conclusions of the findings that the integration of Islamic values in mathematics and science learning needs to be continuously developed and maintained for continuity and it is expected that the integration of Islamic values in mathematics and science learning at MAN 2 Langkat can be more effective and sustainable, so as to provide positive impact on students' understanding of the relationship between religion and science, as well as forming a personality that is based on Islamic values.

BIBLIOGRAPHY

- Abdullah, M. A. (2014). Religion, Science, and Culture: An Integrated, Interconnected Paradigm of Science. *Al-Jami'ah: Journal of Islamic Studies*, 52(1), Art. 1. <https://doi.org/10.14421/ajis.2014.521.175-203>
- Adetoro, 'Niran, & Okike, B. (2022). Assessing Undergraduates Social competence on Social Media in Nigeria. *Library Philosophy and Practice (e-Journal)*. <https://digitalcommons.unl.edu/libphilprac/6788>
- Adnan, M. (2022). Islamic Education and Character Building in The 4.0 Industrial Revolution. *Nazhruna: Jurnal Pendidikan Islam*, 5(1), Art. 1. <https://doi.org/10.31538/nzh.v5i1.1771>
- Afrizal. (2015). *Metode Penelitian Kualitatif: Sebuah Upaya Mendukung Penggunaan Penelitian Kualitatif Dalam Berbagai Disiplin Ilmu*. Rajawali Pers.
- Akbar, A. (2019). Islam–science relation from the perspective of post-revolutionary Iranian religious intellectuals. *British Journal of Middle Eastern Studies*, 46(1), 104–122. <https://doi.org/10.1080/13530194.2017.1383882>
- Ali, N. (2019). Integrative Curriculum of Religion and Science at Special Pesantren for University Students. *ULUL ALBAB Jurnal Studi Islam*, 20(1), Art. 1. <https://doi.org/10.18860/ua.v20i1.6353>
- Annisa, N., Akrim, A., & Manurung, A. A. (2020). Development Of Teacher's Professional Competency In Realizing Quality Of Human Resources In The Basic School. *IJEMS: Indonesian Journal of Education and Mathematical Science*, 1(2), Art. 2. <https://doi.org/10.30596/ijems.v1i2.4590>
- Arifin. (2014). *Ilmu Pendidikan Islam (Tinjauan Teoritis dan Praktis)*. Bumi Aksara.
- Arifin, M., Rofiq, A., & Aliani, S. O. (2022). Pengaruh Kecerdasan Intelektual (Intellectual Quotient) Dan Kecerdasan Emosional (Emotional Quotient) Terhadap Pembentukan Karakter Religius. *Kharisma: Jurnal Administrasi Dan Manajemen Pendidikan*, 1(1), Art. 1. <https://doi.org/10.59373/kharisma.v1i1.3>

- Armstrong, M. (2022). *Armstrong's Handbook of Performance Management: An Evidence-Based Guide to Performance Leadership*. Kogan Page Publishers.
- Chande, A. (2023). Global Politics of Knowledge Production: The Challenges of Islamization of Knowledge in The Light of Tradition Vs Secular Modernity Debate. *Nazhruna: Jurnal Pendidikan Islam*, 6(2), Art. 2. <https://doi.org/10.31538/nzh.v6i2.3502>
- Ciptaningsih, Y., & Rofiq, M. H. (2022). Participatory Learning With Game Method For Learning Completeness In Islamic Religious Education. *Fikroh: Jurnal Pemikiran Dan Pendidikan Islam*, 15(1), Art. 1. <https://doi.org/10.37812/fikroh.v15i1.361>
- Day, C., Sammons, P., & Gorgen, K. (2020). Successful School Leadership. In *Education Development Trust*. Education Development Trust. <https://eric.ed.gov/?id=ED614324>
- Fatimah, S., Supangat, S., & Sinensis, A. R. (2022). Pengembangan Media Belajar Pop Up Book Berbasis Literasi Qur'an Pada Materi Tata Surya Kelas VI. *Attadrib: Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, 5(2), Art. 2. <https://doi.org/10.54069/attadrib.v5i2.278>
- Firdaus, M. A., Jamal, M. Y. S., & Arifin, B. S. (2023). Improving Student Learning Outcomes Through Project-Based Learning in Islamic Religion Lessons. *Tafkir: Interdisciplinary Journal of Islamic Education*, 4(2), Art. 2. <https://doi.org/10.31538/tijie.v4i2.400>
- Ghofur, A., Kuipers, J. C., & Askuri, A. (2021). Instructional Design: Multi-Site Study of the Integration of Islam in Science Teaching in Java, Indonesia. *Indonesian Journal of Islamic Education Studies (IJIES)*, 4(1), Art. 1. <https://doi.org/10.33367/ijies.v4i1.1652>
- González-Calatayud, V., Prendes-Espinosa, P., & Roig-Vila, R. (2021). Artificial Intelligence for Student Assessment: A Systematic Review. *Applied Sciences*, 11(12), Art. 12. <https://doi.org/10.3390/app11125467>
- Halomoan, I. S., Moeis, I., & Yakubu, A. (2023). An overview of the Strength of Implementing Democratic Values in an Islamic Boarding School Atmosphere. *Nazhruna: Jurnal Pendidikan Islam*, 6(2), Art. 2. <https://doi.org/10.31538/nzh.v6i2.2865>
- Haq, E. A., Wasliman, I., Sauri, R. S., Fatkhullah, F. K., & Khori, A. (2022). Management of Character Education Based on Local Wisdom. *Nidbomul Haq : Jurnal Manajemen Pendidikan Islam*, 7(1), Art. 1. <https://doi.org/10.31538/ndh.v7i1.1998>
- Ilmi, M. U., Setiawan, F., Hikmah, M. N., Kharisma, A., Feryawan, D., & Hanafie, A. A. (2021). The Basic Concepts of Evaluation and Its Implementation in IRE Lessons in The Pandemic Era. *Tafkir: Interdisciplinary Journal of Islamic Education*, 2(2), Art. 2. <https://doi.org/10.31538/tijie.v2i2.50>
- Komariah, N., & Nihayah, I. (2023). Improving The Personality Character of Students Through Learning Islamic Religious Education. *At-Tadzkir: Islamic Education Journal*, 2(1), Art. 1. <https://doi.org/10.59373/attadzkir.v2i1.15>
- Lubis, M. S. A., Fatmawati, E., Pratiwi, E. Y. R., Sabtohadhi, J., & Damayanto, A. (2022). Understanding Curriculum Transformation Towards Educational Innovation in The Era of All-Digital Technology. *Nazhruna: Jurnal Pendidikan Islam*, 5(2), Art. 2. <https://doi.org/10.31538/nzh.v5i2.2110>
- Lubis, M. S. A., Nurullah, A., Handayani, E. S., & Sofyan, W. (2022). Integrated Quality Improvement Strategy in International Standard Madrasah. *Nidbomul Haq : Jurnal Manajemen Pendidikan Islam*, 7(2), Art. 2. <https://doi.org/10.31538/ndh.v7i2.2326>
- Madkan, & Mumtahana, L. (2022). Islam dan Tradisi Perspektif Al-Qur'an dan As-Sunnah. *At-Tadzkir: Islamic Education Journal*, 1(1), Art. 1. <https://doi.org/10.59373/attadzkir.v1i1.5>

- Muhaimin. (2005). *Pengembangan kurikulum pendidikan agama Islam: Di sekolah, madrasah, dan perguruan tinggi*. RajaGrafindo Persada.
- Mulyasa, E. (2003). *Menjadi kepala sekolah profesional: Dalam konteks menyukseskan MBS dan KBK*. Remaja Rosdakarya.
- Nunzairina, Sampoerno, Mohd. N., Damanik, M. H., & Iskandar, W. (2021). *Integration of Religious Values in learning at MI Bustanul Ulum Batu City*. 8(1), 49–64. <https://doi.org/10.35931/am.v6i1.669>
- Pollitt, R., Cohnsen, C., & Seah, W. T. (2020). Assessing spatial reasoning during play: Educator observations, assessment and curriculum planning. *Mathematics Education Research Journal*, 32(2), 331–363. <https://doi.org/10.1007/s13394-020-00337-8>
- Qutsiyah, D. A., Asy'ari, H., Fadhillah, F., Sirojuddin, A., & Nasucha, J. A. (2022). Analisis Materi Ajar Pendidikan Agama Islam dan Budi Pekerti SMP Kelas VIII Perspektif Hots. *Attadrib: Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, 5(2), Art. 2. <https://doi.org/10.54069/attadrib.v5i2.287>
- Rouzi, K. S., Afifah, N., Hendrianto, C., & Desmita, D. (2020). Establishing an Islamic Learning Habituation Through the Prophets' Parenting Styles in the New Normal Era. *International Journal of Islamic Educational Psychology*, 1(2), Art. 2. <https://doi.org/10.18196/ijiep.v1i2.9638>
- Salim, & Syahrums. (2015). *Metodologi Penelitian Kualitatif*. Citapustaka Media.
- Sitepu, M. S., & Amelia, C. (2021). Development of Islamic Values Civics Module on Rights and Obligations for Elementary High School Students. *Nazhruna: Jurnal Pendidikan Islam*, 4(3), Art. 3. <https://doi.org/10.31538/nzh.v4i3.1690>
- Tafsir, A. (1992). *Ilmu pendidikan dalam perspektif Islam*. Remaja Rosdakarya.
- Zakariyah, Z., Fauziyah, U., & Kholis, M. M. N. (2022). Strengthening the Value of Religious Moderation in Islamic Boarding Schools. *Tafkir: Interdisciplinary Journal of Islamic Education*, 3(1), Art. 1. <https://doi.org/10.31538/tijic.v3i1.104>
- Zubaedi. (2012). *Desain Pendidikan Karakter (Konsepsi dan Aplikasinya dalam Lembaga Pendidikan)*. Kecana Prenada Group.