International Journal on Teaching and Learning Mathematics
2023, Vol. 6, No. 1, pp. 1-14
P-ISSN: 2621-2188, E-ISSN: 2621-2196

Integration of Islamic values in mathematical modeling through Model Eliciting Activities Based Learning

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A R T I C L E I N F O
Original Article
Received: 17, 01. 2023.
Revised: 22, 01. 2023.
Accepted: 23, 05. 2023
doi: 10.18860/ijtlm.v6i1.19686
Keywords:
Integration, mathematical modeling, MEAs, Islamic values

A B S T R A C T
Mathematics learning integrated with Islamic values needs to be carried out to provide opportunities for students to study various sciences in one scope. Many Islamic schools (madrasah) still need to be taught by integrating mathematics and Islam. This study aims to introduce Islamic integrated mathematical modelling through Model Eliciting Activities based learning. The research method used was qualitative, with a literature review. This research used the Model Eliciting Activities, which guides learning integrated Islamic mathematics. Thus, educaters can apply the learning steps in class and can develop this research more broadly.

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How to cite: Nisa', A. Z., Abdussakir, & Rofiki, I. (2023). Integration of Islamic values in mathematical modeling through Model Eliciting Activities Based Learning. *International Journal on Teaching and Learning Mathematics*, *6*(1), 1-14.

1. INTRODUCTION

The rise of moral degradation in education is a problem that needs attention. The increase in the prevalence rate of drug abuse by children from 2017 to 2019 was 0.03% (Khoirina & Akhmad, 2022). In line with research conducted by Kurniawan et al. (2019), there was a decline in student morale in elementary schools, and students did not meet the indicators of good manners in behaving at school. Thus, the need for an educator to equip students with character education.

Educational goals are prioritized in the academic field and social, emotional, and ethical competencies (Fahrurrozi & Mahmudi, 2014). Likewise, learning mathematics must also impact changing behaviour, not only focusing on academics obtained by conventional techniques (Afandi, 2017). The importance of learning mathematics in forming quality student personality is not only focused on academics, but also moral education is essential to develop. One way to form a noble character in learning mathematics is by designing learning that integrates Islamic values (Kurniati, 2015; Supriadi, 2015; Yusnita, Maskur, & Suherman, 2016).

Mathematics teaching materials integrated with Islamic values can be used in learning mathematics (Fitriza, Putra, & Samad, 2020; Mauluah, Marsigit, & Wangid, 2021; Rachmiati & Mansur, 2021). Integrating Islamic values in learning mathematics benefits students (Abdussakir & Rosimanidar, 2017). Integrating Islamic values in learning is essential to apply as a process/way of forming student morals (Juariah et al., 2020; Kurniati, 2015). Learning designed to foster positive character according to Islamic values can generate students' motivation and positive thinking. This means that learning mathematics integrated with Islamic values can support higher quality learning than conventional learning. The purpose of quality education is education that

not only directs students to have the skills to work on exact questions and understand the material being taught, but students must also have good character. Thus, learning mathematics integrated with Islamic values aims to form good cognitive abilities and raise good student character in accordance with Islamic values.

The learning process that has been carried out so far is still focused on cognitive abilities, and it is still rare to link mathematics learning with Islamic values. Saksono & Sutama (2015) shows a phenomenon that has occurred so far in the Islamic school environment: many students have received mathematics lessons. However, they need help understanding the relationship between mathematics and Islamic values. In addition, teachers experience problems planning and implementing integrated mathematics learning (Susilawati, Amri, Junaidi, & Fernandes, 2020). As a result, learning mathematics has yet to be able to instil positive and Islamic character in students. Thus, it is necessary to have an appropriate learning strategy and model to convey learning in an integrated manner.

Model Eliciting Activities (MEAs) as a strategy that can be applied in Islamic integrated mathematics learning. Students can use mathematical modelling in complex real-life problems, create models, explain, and test a concept through this model (Aguilar, 2021; Dede, Hidiroğlu, & Güzel, 2017; Yildirim, Shuman, & Besterfield-sacre, 2010). With social interaction in groups, students can successfully carry out the learning process (Galbraith & Stillman, 2006; Mousoulides, Pittalis, & Christou, 2006). Students work in groups, so this activity offers many benefits, such as criticizing each other, discussing, and achieving the most relevant results (Zawojewski, Lesh, & English, 2003), using math skills, language, tools, and understanding of the relationship between mathematics and techniques along with other disciplines (Swan, Turner, Yoon, & Muller, 2007). With this model, students are expected to be able to learn more directed mathematical modelling integrated with Islamic values.

Many studies regarding the integration of mathematics in mathematics learning have been carried out, such as the research conducted by Abdussakir & Rosimanidar (2017). Abdussakir & Rosimanidar (2017) introduce various integrations of mathematics in general, along with several models of internalizing integration into learning. Research by Prihandoko, Anggraito, & Alimah (2021), Ulfaini & Permatasari (2022), Winarso & Wahid (2020) developed Islamic integrated mathematics teaching materials. Another study by Lateh (2022) integrates Islamic values and the context of three southern border provinces of Thailand (Deep South) into learning mathematics for high school students. However, the study which focusses on the integrated Islamic values into mathematical modelling is still rare. In addition, the existing studies did not explain the relationship between integration and the learning model explicitly used. From some of these studies, the integration of learning models with character education is needed to overcome the problem of students' character education values.

The existence of problems with the values of student character education makes the teacher pay attention to the cognitive aspects of students and their character education. One way is to integrate learning based on Islamic values. One material that can be integrated with Islamic values is mathematical modelling. However, applying a model as a guide in the learning process is also necessary, such as MEAs. Therefore, this study aims to introduce Islamic values to mathematical modelling through MEAs.

2. METHOD

This research is qualitative research with a literature review. Literary studies are theoretical studies, references and other scientific literature related to culture, values and norms that develop

in the social situations studied (Sugiyono, 2015). Through literature review, researchers can understand the context and background of the research to be carried out. A literature review lets the researcher know about previously published theories, concepts, methodologies, and results on the topic. This allows researchers to find out what is known and what is not known about the topic under study. In addition, the literature review also helps determine gaps in research that have been done before and provides directions for research that will be carried out. The literature review also helps in data analysis to be carried out in research. By knowing the results that have been published previously, researchers can evaluate the results of the research to be carried out and know what to expect from the research results. Data collection techniques in this study are good documentation of data collected in books, journal articles, proceeding articles, or theses. The data analysis technique used in this study is the content analysis method by combining, comparing, selecting, and sorting various references until the relevant ones are found. The literature review was carried out by examining reading books on the integration of mathematics and Islam, verses of the Qur'an, mathematics learning modules, and research results published in journals. This study modified the mathematical modelling questions presented by integrating Islamic values. In addition, the MEAs is used in learning so that students are expected to understand the integrated mathematical modelling of Islamic values.

3. RESULTS AND DISCUSSION

3.1. Integration of Islamic Values on Mathematical Modelling

3.1.1. Mathematical Modelling of the Battle of Khaibar

Khaibar is a Jewish region conquered by Prophet Muhammad SAW (Abdullah, 2022). In this war, the Prophet SAW was the first party to launch a sudden attack on the Jews living in Khaibar (Nasution, 2013). The reason is that the Prophet wanted to invite the Jews to embrace Islam. In addition, Allah SWT also sent down a verse to fight Khaibar and promised victory in the war. The call for the war of Khaibar in the words of Allah SWT Q.S. Al-Fath verse 20, which means, "*Allah promised you much booty that you can take, so He hastened this booty for you and restrained human hands from (destroying) you (so that you would thank Him) and so that be a proof for the believers and show the straight path.*"

The words of Allah SWT promised a lot of booty or booty to the Muslims in return for their jihad, sincerity, and patience in spreading the actual teachings. The rule of distribution of war booty is to distribute it not less than or equal to 4/5 (four-fifths) of all the war booty to all the entitled people with the ratio: one part for inventory soldiers and three parts for cavalry soldiers.

Based on some of these studies, the division of ghanimah's assets from the story of Khaibar and the explanation of Q.S. Al-Fath verse 20 can be modelled as follows.

For example:

$x =$ part of the spoils of war for the infantry

$y =$ share of spoils of war for cavalry soldiers

Because the part of the infantry soldier plus three parts of the cavalry soldier is not less than or equal to 4/5 part, the mathematical modelling that can be made is

$$x + 3y \leq \frac{4}{5} \dots\dots\dots\dots\dots (1)$$

Where $x \geq 0$ and $y \geq 0$.

The coordinates will be found by changing the inequality (1) into an equation. If $x =$

0, then $y = \frac{4}{15} = 0.26666667 \approx 0.27$ is obtained. If $y = 0$, then $x = \frac{4}{5} = 0.8$ is obtained. Thus, the coordinates $(0, 0.27)$ and $(0.8, 0)$ are obtained. The graph that is formed is shown in Figure 1.

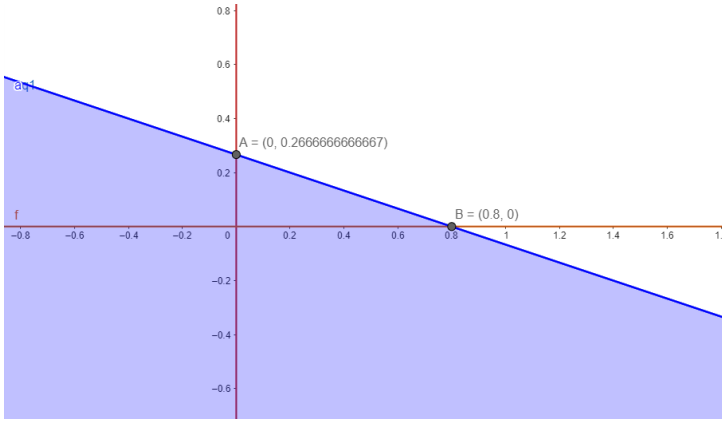

Figure 1: Graph of Mathematical Modeling of the Division of Ghanimah Khaibar War

In this Khaibar war story, some lessons and values can be introduced to students. The Islamic values drawn from the Khaibar war story are enthusiasm to fight for Islam, obedience to Allah's commands, sincerity, and patience. These values must be instilled in students by integrating them into learning, especially mathematics.

3.1.2. Mathematical Modeling from Memorizing Contexts of Short Surahs

Religion is a way of life that has an essential role in human life as a guide and driving force to achieve happiness in the hereafter. For this reason, a procession of religious education is needed to foster religious people. To create religious people, it is necessary to instil a love for the teachings and rituals of worship, one of which is reading the Qur'an and practising it in everyday life (Indra et al., 2019). Studying the Qur'an is essential for all Muslims as a form of religious obligation and aims to preserve the holy book (Damanhouri, 2018). Damanhouri (2018) also explains that the need to practice the science of recitation departs from the importance of preserving the original form of the Qur'an, as revealed to the Prophet Muhammad. Thus, memorizing is one approach to preserving the Qur'an.

Al-Qur'an memorization activities also need to be applied in learning. This can be seen from the curriculum, which also emphasizes the Al-Qur'an, encyclopedic, and ijtihad (higher-level thinking) approaches which allow students to memorize 30 chapters of the Qur'an. With the Al-Qur'an approach, it is hoped that students will become good professionals with a solid religious foundation, capable, credible and caring while maximizing high-level thinking and building relationships with God, fellow human beings and the universe (Kemendiknas, 2016).

The Qur'anic approach can be integrated into the Qur'an, one of which is in mathematical modelling. Educators present mathematical modelling problems related to many verses in the Al-Qur'an juz 30. This leads students to think cognitively and remember surahs in the Al-Qur'an. An example of an integrated mathematical modelling problem with Islamic values is as follows.

Fatimah memorized the Al-Qur'an surah Al-Qari'ah while Aisyah memorized another short sura. If the number of verses of the two short surahs they memorized was at least 17 verses and not more than or equal to 20 verses, then what surahs might Aisyah have memorized?

The mathematical model that can be formed from these problems is as follows.
For example:
$x =$ the sura that Aisha read
Because the number of verses in surah Al-Qari'ah is 11, then

$$20 \geq 11 + x > 17$$
$$9 \geq x > 6$$

From these inequalities, a graph is obtained, as shown in Figure 2.

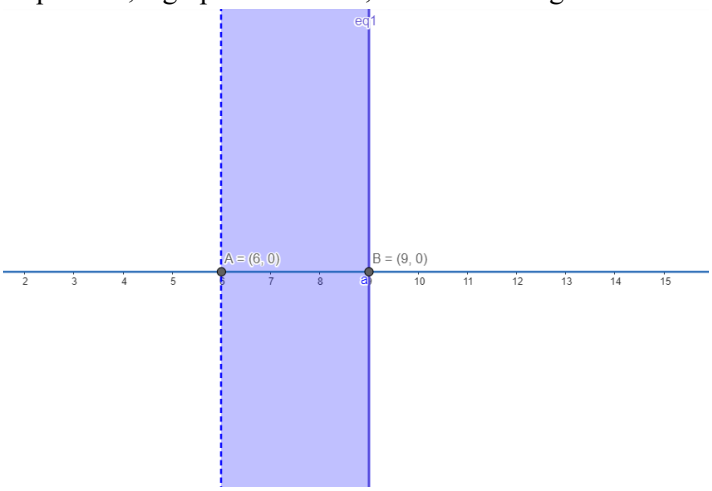

Figure 2: Graph of Inequality of $9 \geq x > 6$

The graph shows the solution area, which is between 6 and 10. So, the set of solutions is as follows:

$$x = \{7, 8, 9\}$$

Surahs with many verses according to the completion set are Al-Ma'un, Al-Humazah, At-Takatsur, Al-Zalzalah, Al-Bayyinah, At-Tin, and Al-Insyirah. In this modelling, students must memorize short Qur'an surahs to solve these problems correctly.

Another example of the integration of the context of memorizing short surahs of the Qur'an is the implementation of the tasbih sunnah prayer. With this modelling, students are expected to be able to remember short surahs in the Qur'an and understand the importance of the Tasbih sunna prayer.

Ahmad performed the sunnah tasbih prayer of two rak'ah and one salam. In the first rak'ah, Ahmad read Surah Al-Zalzalah after Surah Al-Fatihah. If there are many verses of Surah Al-Zalzalah with the surah, read in the second rak'ah after Surah Al-Fatihah no less than many verses in Q.S. At-Tariq and no more than many verses of Q.S. Al-Balad, then the surah that Ahmad may recite in the second rak'ah after Surah Al-Fatihah is...

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2023, Vol. 6, No. 1, pp. 1-14
P-ISSN: 2621-2188, E-ISSN: 2621-2196

The mathematical model that can be formed from the problem is as follows.
For example:
$x =$ the surah read by Ahmad in the second rak'ah of the Tasbih sunnah prayer
Because surah Al-Zalzalah has eight verses and surah At-Tariq has 17 verses, then

$$20 > 8 + x > 17$$

$$12 > x > 9$$

From these inequalities, a graph is obtained, as shown in Figure 3.

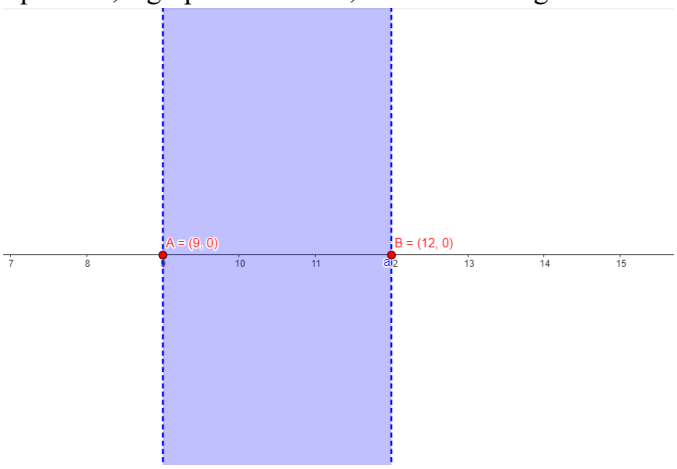

Figure 3: Graph of Inequality of $12 > x > 9$

The graph shows the solution area, which is between 9 and 12. So, the set of solutions is as follows:

$$x = \{10, 11\}$$

So, the sura that Ahmad might read in the second rak'ah of the Sunnah Tasbih prayer is the surah Al-Qari'ah, Al-'Adiyat, or Ad-Duha.

The values that can be taken from the integrated mathematical modelling of memorizing the Al-Qur'an surah include motivation, enthusiasm, hard work, obeying Allah's commands, and preserving and maintaining the Al-Qur'an by memorizing and understanding its meaning. This is in line with Abdullah, Sabbri, & Isa (2021), there are two elements in memorizing the Qur'an, namely understanding and motivation, so memorization becomes a meaningful endeavour. Repeat learning is the foundation of knowledge (Entwistle & Entwistle, 2003). However, students tend to get bored when they memorize for too long, so they need the motivation to continue memorizing (Brophy, 2004; Hashim, 2015; Hashim, Tamuri, Noh, & Aderi, 2014). With motivation, students can understand lessons better to increase retention and more meaningful learning. This is very important in memorizing the Qur'an because students can memorize it faster and understand the verses better.

3.1.3. Mathematical Modeling from the Alms (Sadaqah) Context

Sadaqah comes from the Arabic word صدقة which means a gift that is given by one person to another spontaneously and voluntarily without being limited by time and a certain amount. Alms also means a gift given by someone as a virtue that hopes for the pleasure of Allah SWT and only reward. According to Syara', alms is giving ownership to someone at the time of life with no reward for something given, and there is a purpose of taqorrub to Allah SWT. Alms is also interpreted as giving something helpful to others

who need help (poor) to get a reward (Saripudin, Djamil, & Rodoni, 2020). Thus, it can be concluded that charity is given to get closer to Allah SWT.

Alms Mathematics is Mathematics which makes the Al-Qur'an, Hadith and Sunnah of the Prophet the proposition related to alms issues contained in Mathematics. Research by Sasmita, Mariana, Ekawati, & Yani (2020) shows that the context of alms blending with mathematical concepts is beneficial in learning basic mathematics in class. This is relevant to the opinion that mathematics has two roles, namely practical and spiritual, especially in the context of being a Muslim.

An example of an integrated mathematical modelling problem with Islamic values in the context of alms is as follows.

> Mrs Maryam bought 16 boxes of food to distribute to the poor. As the word of Allah SWT in Q.S. Al-Insan verse 8 means, "*And they give the food they like to the poor, orphans and those who are captive*".
> The food that Mrs Maryam bought was taken equally by two low-income families. The leftover food that Mrs Maryam brought was less than or equal to the number of verses in Q.S. Quraysh. If the low-income family is modelled by x, then the set of solutions to the problem is ...

The mathematical model that can be formed from these problems is as follows.
For example:
$x =$ low-income family
Because Surah Quraysh has four verses, then

$$16 - 2x \leq 4$$
$$x \geq 6$$

From these inequalities, a graph is obtained, as shown in Figure 4.

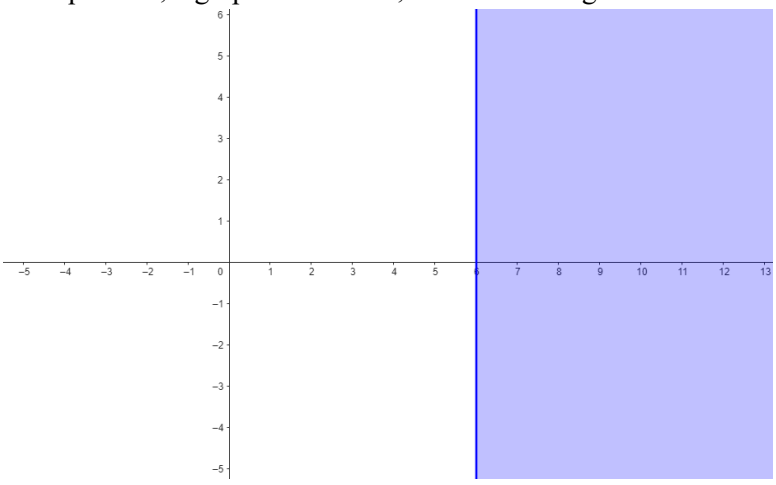

Figure 4: Inequality Graph

The graph shows that the solution area, namely x, is greater than or equal to 6. So, the set of solutions is as follows:

$$x = \{6, 7, 8, 9, \dots\}$$

The values drawn from the integration of this alms context are that students can understand the importance of giving alms, sincerity, and helping others in need.

3.1.4. Mathematical Modeling of the Agricultural Zakat Concept

Zakat has a powerful, strategic position and determines both from a teaching standpoint and in terms of developing the welfare of the people. One type of zakat is agricultural zakat, as in the word of Allah SWT in QS. Al-Baqarah: 267, which means, "*O you who believe, spend (in the way of Allah) some of the results of your good efforts and some of what We remove from the earth for you. Moreover, please do not choose the bad and then spend from it, even though you do not want to take it but by squinting at it. Furthermore, know that Allah is Rich, Most Praised.*"

Not all agricultural products are subject to zakat, but only certain types with a certain level. Rice is a type of agricultural product that is subject to zakat, where the payment of zakat does not wait for the haul, but every time there is a harvest, there is zakat with the following criteria:

a) If the plants are filled with rainwater or river water without any costs being incurred, or the plants do not even need water, zakat is subject to 10%.
b) If the plants are irrigated with water that requires a fee for irrigation, for example, using a pump to draw water from the source, zakat is subject to 5%.
c) Calculating 10% and 5% of the harvest is not deducted from the cost of working the land from other operational costs.

An example of an integrated mathematical modelling problem with Islamic values in the context of alms is as follows.

> Bu Ani is known as a prosperous farmer who is generous and pious in her district. Among the many types of agricultural businesses, Mrs Ani has at most 70 plots of rice fields in village A and 84 plots of rice fields in village B. Two plots of rice fields are fed by rainwater without requiring irrigation costs, and four plots of rice fields that require irrigation costs are located in the village. A. While in village B, he has five rice fields that are irrigated with rainwater without paying for irrigation and three rice fields that are irrigated with water that requires irrigation costs. All of these fields produce quality rice. Each paddy field produces ready-to-sell rice with a selling price of Rp. 10,000.00 per kilogram of 2.5 tons for fields irrigated by rainwater and 5 tons for fields requiring irrigation costs. As a form of gratitude and obedience to God's commands, he always pays zakat from the harvest, which is done every time the harvest is finished. If Mrs Ani wants maximum income from her rice fields, then:
> How many paddy fields are irrigated by rainwater, and how many paddy fields need irrigation costs that he has to manage optimally? How much total zakat should he spend for one harvest?

The mathematical model that can be formed from these problems is as follows.
For example:
$x =$ rice fields in A village
$y =$ rice fields in B village
To simplify it, modelling can be presented in Table 1.

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2023, Vol. 6, No. 1, pp. 1-14
P-ISSN: 2621-2188, E-ISSN: 2621-2196

Table 1: Mathematical modelling

	A	B	Production
The rice fields are irrigated by rainwater (x)	2	5	2.5
Irrigating paddy fields with irrigation costs (y)	4	3	5
Stock	70	84	

From Table 1, it can be seen that the mathematical modelling that is formed is:

$2x + 4y \leq 70$ ... ... (1)

$5x + 3y \leq 84$ ... ... (2)

$x \geq 0$

$y \geq 0$

With the optimum function $f(x, y) = 2.5x + 5y$.

From this modelling, a graph is formed in Figure 5.

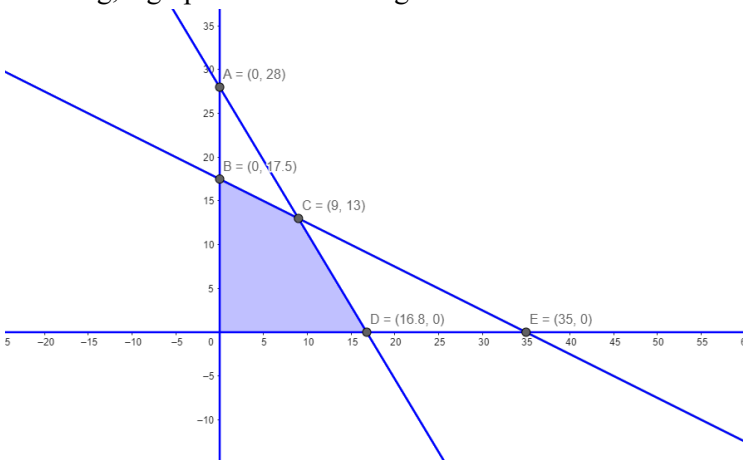

Figure 5: Optimum function graph

Figure 5 shows the completion points, which are B (0, 17.5), C (9, 13), and D (16.8, 0). These three points are substituted into the optimum function, as shown in Table 2.

Table 2: Optimum function

Point	Coordinate	Optimum Function $f(x, y) = 2.5x + 5y$	Profit
B	(0, 17.5)	$f(0, 17.5) = 2.5(0) + 5(17.5) = 87.5$	Rp875.000.000,00
C	(9, 13)	$f(9, 13) = 2.5(9) + 5(13) = 87.5$	Rp875.000.000,00
D	(16.8, 0)	$f(16.8, 0) = 2.5(16.8) + 5(0) = 42$	Rp420.000.000,00

Table 2 shows that the optimum values are located at coordinates B (0, 17.5) and C (9, 13). However, since coordinates represent the quantity of an object, they must be natural numbers. Thus, the optimum value taken is 87.5 at coordinates (9, 13). This means that Mrs Ani will earn a maximum income of 87.5 tons by managing a maximum of 9 fields that are irrigated by rainwater and 13 fields that require irrigation costs.

The zakat that Mrs Ani must pay if she earns a maximum income of 87.5 tons, namely:

Zakat on rainwater irrigated agriculture: $10\% \times 9(2500 \times 10.000) = 22.500.000$

Agricultural zakat with irrigation costs: $5\% \times 13(5000 \times 10.000) = 32.500.000$

The Islamic values that can be drawn from the integration of this modelling are an

understanding of the importance of paying zakat on assets such as agriculture, giving part of one's assets through zakat, knowledge of the meaning of zakat, sincerity to share, and the enthusiasm to seek sustenance to strive in Allah's way.

3.2. Islamic Integrated Modeling Concept Learning Based on MEAs

MEAs are a learning model that explores students' thinking skills in understanding concepts by communicating their mathematical thinking through mathematical modeling and problem-solving abilities (Lesh & Doerr, 2003). This is in line with Martil (2015) which shows that the Eliciting Activities Model influences students' understanding of mathematical concepts. Thus, MEAs are one of the appropriate learning models to provide students with an understanding of the integration of Islamic values in mathematical modeling.

MEAs was formed in the early 1970s by a mathematics professor and educator, Lesh. Lesh hopes teachers use this approach to form a mathematical model as a conceptual system that makes students feel various mathematical experiences. So, students are not only able to produce mathematical models but are also expected to understand the concepts used in forming mathematical models of the problems given.

Based on research by Chamberlin & Moon (2005) and S. Chamberlin, Payne, & Kettler (2022), there are six principles in MEAs, namely: 1) The principle of reality. This principle is called the significance principle, which states that the problems presented should be natural and can occur or be understood in students' lives. This principle aims to increase students' interest in simulating actual activities. Real problems allow more creative solutions from students. 2) The principle of model construction, namely, an excellent response to the demands of the problem, is creating a relevant model. A model consists of elements, relationships among elements, operations that describe interactions between elements, and patterns or rules that apply to relationships and operations. 3) The principle of self-assessment, namely, students should be able to measure the feasibility and usefulness of their solutions without the teacher's help. The principle of self-assessment occurs when groups search for the correct answer. 4) The principle of documentation construction is that students should be able to state their thoughts while working in MEAs, and their thought processes must be well documented. The demand for documenting solutions involves technical writing. 5) The principle of an effective prototype, namely the resulting model, should be able to be interpreted by others. This principle helps students understand that the resulting creative solutions are helpful (beneficial) and can be generalized. The best solution to a mathematical problem should apply to different situations and be easy to understand. 6) The principle of shareability and reusability construction, namely the model, should be used in similar situations. The student's response is said to be successful when the developed model can be generalized to similar situations.

Six principles must be considered while developing and implementing MEAs (Bukova Güzel, Tekin Dede, Hıdıroğlu, Kula Ünver, & Özaltun Çelik, 2016). To benefit from MEAs, mathematics teachers or teacher candidates must develop appropriate MEAs for their students by considering these six principles. Research by Yu & Chang (2009), the MEAs model was developed by the participants and examined for the suitability of these MEAs with these principles. The MEAs steps modified in this study are 1) Submission of problems. 2) Respond to problems. 3) Understand the problem. The learning activities

for integrated mathematical modeling of Islamic values based on MEAs are presented in Table 3.

Table 3: Learning activities based on the MEAs model

Learning Stage	Learning Activities		Time Allocation
	Teacher Activity	Student Activity	
PRELIMINARY ACTIVITIES			
	The teacher opens the lesson by greeting.	Students answer the teacher's greeting.	± 10 minutes
	Classroom conditioning: The teacher prepares the physical, mental, and learning tools and checks student attendance.	Students prepare physical, mental, and learning tools.	
	The teacher gives apperception by giving examples of amaliyah worship, namely the history of the Khaibar war and the context of many verses in short surahs of the Qur'an related to linear inequalities of two variables. Then, the teacher instructs students to name the solutions and graphic images.	Students respond to the apperception conveyed by the teacher by mentioning solutions or describing graphs of the inequality of two variables.	± 5 minutes
	The teacher conveys the learning objectives to be achieved.	Students listen to the learning objectives to be achieved.	
	The teacher divides the students into groups of 3-4 students per group.	Students are in groups, each consisting of 3-4 students.	±2 minutes
	The teacher explains the outline of the material to be taught.	Students pay attention to the teacher's explanation.	±15 minutes
	The teacher distributes LKS 1 to each group of students.	Students receive LKS 1, which the teacher distributes.	±3 minutes
CORE ACTIVITIES			
MEAs Stage 1: Problem Submission	The teacher asks students to observe the illustrations of alms and the problems presented in LKS 1. (Exploration)	Students understand the illustrations of alms and the problems presented in LKS 1. (Exploration)	±2 minutes
MEAs Stage 2: Responding to Problems	The teacher allows students to ask questions that need to be clarified in LKS 1. (Exploration)	Students ask the teacher about things that are unclear in LKS 1. (Exploration)	±2 minutes
MEAs Stage 3: Understanding the Problem	The teacher invites students to reread the alms illustration problem and ensures each group understands what problems must be solved. (Exploration)	Students in their groups understand the alms problems that must be solved in LKS 1. (Exploration)	±3 minutes
CLOSING ACTIVITIES			

	The teacher directs students to conclude the results of learning that have been done.	Students are expected to conclude the learning that has been done.	±5 minutes
	The teacher instructs students to study the material at the next meeting, namely a linear programming.	Students listen to the teacher's instructions.	±8 minutes

Based on the results of this study, it is known that integrating Islamic values in mathematical modeling can be an alternative for fostering character education in students. This is in line with Abdussakir (2007), there is a very close relationship between the religious traditions of Muslims with mathematics and familiarity with the Qur'an. In addition, mathematics can be used as a "way" to achieve happiness in this world and the hereafter. The integration of mathematics with Islam can provide insight and be a driving force to regain the glory of Muslims in the future development of science and technology, especially in the field of mathematics (Abdussakir & Rosimanidar, 2017). Several studies have also integrated Islam into learning by developing teaching materials, such as the research of Prihandoko, Anggraito, & Alimah (2021), Ulfaini & Permatasari (2022), and Winarso & Wahid (2020). By integrating Islamic values, it is hoped that good student character will be created. Thus, the importance of learning that integrates teaching content from teaching materials, methods, and evaluation to support student character education.

4. CONCLUSION

Each lesson should benefit students cognitively, affectively, and psychometrically and can provide noble values to form a national character. Integrating mathematical concepts with Islamic values is very important to be applied to form national character. Thus, it is necessary to continuously develop the analysis of mathematical material by linking the verses in the Al-Quran, which are the source of all sources of knowledge that every human being can take wisdom and lessons through mathematics.

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