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STUDENTS' HIGHER ORDER THINKING SKILLS THROUGH INTEGRATING LEARNING CYCLE 5E MANAGEMENT WITH ISLAMIC VALUES IN ELEMENTARY SCHOOL

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Abstract:

This study aims to determine the application of learning management learning cycle 5E integrated with Islamic values and how students work in working on HOTS questions after the application of the learning model. The research method used in this research is the descriptive qualitative research method. Observations, interviews, and tests were used in data collection. Observations in the form of teacher observation sheets and student observation sheets. The results of the research at SDN Dungek I showed that the learning process with the 5E learning cycle model consisted of various activities carried out by teachers with stages of engagement, exploration, explanation, elaboration, and evaluation. In the process, the integration of Islamic values in mathematics subjects with integer material is integrated into moral values, including being patient and sincere, not having evil thoughts, being generous, brave, and always doing good deeds. This study has implications for the importance of managing learning design for teachers to optimize students' potential and strengthen Islamic values.

Keywords : *High Order Thinking Skill, Learning Management, 5E Learning Cycle, Islamic Values*

Abstrak:

Penelitian ini bertujuan untuk mengetahui penerapan manajemen pembelajaran *learning cycle 5E* terintegrasi nilai islami dan bagaimana hasil pekerjaan siswa dalam mengerjakan soal HOTS setelah penerapan model pembelajaran tersebut. Metode penelitian yang digunakan dalam penelitian ini adalah metode penelitian kualitatif deskriptif. Observasi, wawancara, dan tes digunakan dalam pengumpulan data. Observasi berupa lembar observasi guru dan lembar observasi siswa. Hasil penelitian di SDN Dungek I menunjukkan bahwa proses pembelajaran dengan model *learning cycle 5E* terdiri dari berbagai kegiatan yang dilakukan guru dengan tahapan *engagement, exploration, explanation, elaboration* dan *evaluation*. Dalam prosesnya, Integrasi nilai islam dalam mata pelajaran matematika materi bilangan bulat diintegrasikan dalam bentuk nilai akhlak diantaranya sabar dan ikhlas, tidak berprasangka buruk, dermawan, berani, dan selalu melakukan perbuatan/amalan baik. Penelitian ini memberikan implikasi tentang pentingnya pengelolaan desain pembelajaran bagi guru untuk mengoptimalkan potensi siswa dan penguatan nilai-nilai islami.

Kata Kunci: *Berpikir Tingkat Tinggi, Manajemen Pembelajaran, Siklus 5e, Nilai-Nilai Islam*

INTRODUCTION

The development of the 21st century requires humans to have skills and abilities in various aspects of life (Silviani et al., 2021). This is necessary so that every human resource can compete globally (Purnomo et al., 2021). All aspects of human life must also follow the flow of the times, including in education (Farisi, 2021; Br & Asiya, 2021). According to Aprilia & Linda (2020), education is a conscious and planned learning atmosphere that aims to develop various potentials within a person. Education is a form of culture that continues to develop in society (Fitri et al., 2020). This is also in line with various changes that are continuously being made, one of which is a continuous curriculum change by the demands of the times; until now, several curricula have been implemented in education. This curriculum was born from the various cultural diversity that exists in society (Baharun, 2017; Adhimiy, 2018). This is a combination of tradition and culture balanced with aspects of local knowledge and wisdom in society as one of the media and learning content in welcoming the 21st century (Ridwan & Wahdian, 2017). Local wisdom is one of the important things in forming the character of students who are wise and civilized, and must be actualized in educating the character of students (Ulum & Azhari, 2018; Husni & Rahman, 2020; Kasdi et al., 2020).

The 2013 curriculum that applies in Indonesia focuses on developing cognitive, affective, and psychomotor abilities. The 2013 curriculum demands the application of 21st century learning-oriented learning according to the times (Fitri et al., 2020). In the field of education, students are required to compete in the 21st century. Students must also possess various skills, one of which is the ability to think. Nurhayati & Lia (2017) states that thinking is a person's intellectual ability obtained through observation, experience, reflection, communication so that in the process, there are activities of forming concepts, analyzing, synthesizing, and focusing on reflective, critical, and creative reasoning activities.

Thinking ability in education cannot be separated from Bloom's Taxonomy. In Bloom's taxonomy, human thinking skills in the learning process are distinguished based on several abilities ranging from C1 to C6, categorized as lower-order thinking skills and higher-order thinking skills. Bloom's taxonomy focuses on lower-order thinking skills at C1 (remembering), C2 (understanding), C3 (applying), while higher-order thinking skills focus on C4 (analyzing), C5 (evaluating), and C6 (creating) (Irawati, 2018). In the 21st century, according to the times, students must have higher-order thinking skills. According to Saraswati & Gusti (2020), think critically, creatively, and the community must own problem-solving as a form of human resource demands in the 21st century. Therefore, a person is said to have higher-order thinking skills if he has C4 (analyzing), C5 (evaluating), and C6 (creating).

Higher-order thinking skills are described in various categories of each activity, making it easier to know the thinking skills possessed by students (Kholifatus, 2018). Analyzing activity (C4) is an activity to describe the material in parts (framework) and relate the various parts as a whole.

Analyzing activities consist of three categories: distinguishing, organizing, and connecting. Evaluating activity (C5) is an effort to assess something based on a predetermined standard. This activity consists of two categories: the ability to examine and criticize a problem faced. Creating activity (C6) collects material parts into a coherent and functional unit to produce a new idea. This activity consists of three categories, namely generating, planning, and producing (Nurhayati & Lia, 2017).

By the times, if it is associated with the learning process, higher-order thinking skills are essential to developing, even a must to be developed in learning. Higher-order thinking skills are essential abilities that must be possessed in a country's education system because they help promote sustainable learning processes and provide benefits in the future global competition. that higher-order thinking skills are essential abilities that must be possessed in a country's education system because they help promote sustainable learning processes and provide benefits in the future global competition. According to Pratama et al., (2020) various positive impacts of higher-order thinking skills can be felt, reducing weaknesses and maximizing student performance in terms of ability, speed, and accuracy in making a decision. Technically, learning is more meaningful when students are trained to think at a higher level, because experience is one of the sources. The positive impact of higher-order thinking skills is not in line with the ability of human resources to develop or possess these abilities. This is proven from the results of the Program for International Student Assessment (PISA) study, which showed that higher-order thinking skills were still low, so they needed to be developed (Ndiung & Jediut, 2020).

Another thing that needs to be considered and developed following the times is the character of learners, which is also a priority in the 2013 curriculum. Religion has a vital role in realizing this for the achievement of Islamic civilization. This is a solid basis for integrating Islamic values in the learning process at every level. Islam teaches its people to pursue knowledge as ibn Majah narrated as the Prophet Muhammad declared his duty to seek knowledge for every Muslim. The source of science in practice is reflected in the overall behavior of a Muslim guided by the Holy Qur'an (Salim & Hasanah, 2021).

The integration of Islamic values to shape the character of learners in learning can be grown at every level. This integration also aims to develop students' high-level thinking skills. That is, aligning science with Islamic values. One of them is a mathematics subject where students are faced with various problems that must be solved through their thinking skills. Saraswati & Gusti (2020) states that mathematics is a central subject in developing competencies needed in the 21st century because mathematics is a subject that focuses on the readiness of the younger generation to face modern society. Mathematics learned at each level is suitable for training, developing, and familiarizing students with higher-order thinking from an early age. This is important as the instilling initial concepts in students in elementary school as a basis for the next level. Of course, mathematics subject requires direct

guidance and supervision from the teacher to ensure students understand the material (Aini, 2021). Its integration with Islamic values aims to balance the intellectual and spiritual sides and change behavior (Suwidiyanti & Anshori, 2021). For Muslims applicable to remember the success of Muslim mathematicians in the development of science (mathematics) such as Al Khawarizmi as the most significant figure in algebra and arithmetic, Ibn Al-Haytham as one of the leading Muslim physicists as well as an astronomer, philosophy, medicine, and mathematician in the field of geometry and arithmetic, Al-Biruni is a chronologist, mathematical geography, physics, chemistry, mineralogy, history, anthropology, religion, medicine, astrology, poetry, and mathematician in the fields of geometry, arithmetic (including π numbers), trigonometry, Omar Khayyam expert in geometry and algebra, and Al Tusi a geometrician and trigonometrist (Mutijah, 2018). The history of these mathematical figures shows that Muslim mathematicians developed mathematics integrated with religion because, in addition, the scientists are also Islamic religious figures.

At the basic level, namely the elementary school level, it is necessary to inculcate the importance of higher-order thinking skills so that from an early age, students have literacy skills in the field of education because elementary school children are a golden age (Iltiqoyah, 2020; Zamroni et al., 2021). Higher-order thinking skills need to be instilled with the aim of students to compete with future challenges (Rahayu et al., 2020). However, this becomes a challenge when many students think it is difficult to understand mathematical material and the object of study is abstract (Maspupah & Alan, 2020). Teachers as educators are required to instill higher-order thinking skills in mathematics subject that is considered difficult by students but are also required to create attractive classroom conditions so that students are motivated to learn mathematics and do not feel bored to learn it (Cahapay, 2020; Aboagye & Yawson, 2020). Therefore, mastery of various learning models is needed by the teacher to determine the appropriate learning model used in the learning process (Kalsoom et al., 2020). This learning model must also be integrated with Islamic values to be embedded in a vital religion for learners starting at the primary level (Tosun et al., 2021).

In learning mathematics in schools, teachers need to pay attention to various things, especially the characteristics of elementary school-age children. The preliminary observations made by researchers at SDN Dungkek I showed that teachers still tended to use the lecture method or direct learning method so that the learning process was still teacher-centered. This causes the learning process to seem monotonous; students tend to feel bored, so they ignore the teacher's explanation. Teachers also tend to provide practice questions without paying attention to the level of difficulty of the questions so that students' higher-order thinking skills cannot be developed as a top priority. Teachers as educators need to create a learning atmosphere by the characteristics of elementary school-age children. Haryanti (2017) state that elementary school-age children are an age where children are more active prefer to play, love to move, and like to feel or do so that teachers are required to be innovative

using learning models that have game elements, allowing students to be actively involved, like to hang out with their peer group (socialization) and allow students to be involved in concrete problems.

Learning needs to pay attention to planning, process, and evaluation (Saddhono et al., 2020). Teachers are required to build and develop students' thinking skills through appropriate learning models. This means that the learning process must involve and allow students to participate actively and provide a stimulus to develop intellectual abilities in learning, one of which is the learning model of the 5E learning cycle. the learning process, students can optimize learning activities and reasoning abilities by using the learning model of the 5E learning cycle (Kartini et al., 2021).

Wena made it clear that the 5E learning cycle involved five stages of engagement (involvement stage), exploration (investigation), explanation (explanation), elaboration (acquiring), and evaluation (evaluation). By going through these stages, students were able to construct knowledge and experiences actively, learn the material given individually or within the group to explore meaningful learning, and positively contribute to the achievement of competencies in learning (Sani et al., 2020). The stages in the 5E learning cycle pushed them to optimal higher-order thinking skills (HOTS). Sani (2020) said that the application of the 5E learning cycle model can improve the high-level thinking skills of students at the junior level to advise teachers to use the 5E learning cycle model in the learning process. Therefore, researchers are interested in applying the 5E learning cycle model and how to think high-level students at the primary education level, precisely at SDN Dungkek I, after the learning process is complete using the 5E learning cycle model. Therefore, researchers are interested in researching on how the application of the integrated learning cycle 5E model of Islamic values and the way of thinking of high-level students at the level of primary education precisely at SDN Dungkek I after the learning process is completed.

RESEARCH METHODS

This research took place at SDN Dungkek I, class VI, whose math was about integers. The school was selected due to some considerations; the 5E learning cycle integrated with Islamic values had never been implemented, the students had no chance to "figure out" the material, teacher only explained them. This research was descriptive qualitative research to describe what was researched. Qualitative research was intended to understand an object in a particular situation according to the researcher's perspective (Huzaimah & Risma, 2021). The data collection methods were from the teacher and student observation sheets, interviews, and tests. The researcher who got company from the other observers observed chose 32 students of class VI at SDN Dungkek I. This teacher observation emphasized implementing the full learning syntax of the 5E learning cycle; on the other hand, the student observation was meant to interpose their activities during the learning process. Meanwhile, the researchers prepared a semi-structured interview

guide to determine students' supporting or inhibiting factors being taught using the 5E learning cycle.

Moreover, the questions were also written down to determine the students' higher-order thinking skills. Furthermore, the researcher administered pre-test and post-test at the beginning and end of the learning process to collect students' 5e order thinking skills. In addition, the researcher also conducted a literature study by seeking various kinds of literature such as books, articles, scientific, websites, and so on that were relevant or by this research. Researchers will analyze Islamic values in the number material contained in the Qur'an that is integrated with moral values for the realization of good character education early on.

In this study, the data analysis used is a descriptive analysis technique with quality standards of data reduction, data display, and verification. It aims to get accurate and reliable research results. In this study, researchers conducted data excavation by taking into account the accuracy of the data focusing on the validity of the data obtained to produce research findings that can be accounted for.

RESULTS AND DISCUSSION

The data from observation sheets, interviews and tests were used to analyze the results. The following are the results obtained by the researchers;

Several observers helped the researcher do the observation due to the number of students being investigated, 32. The observation was done to the teacher and students concerning the implementation of the 5E learning cycle. The researcher at⁴ teacher already composed the Lesson Plan (RPP) beforehand, suited to the stages of the 5E learning cycle adapted from Abell & Volkman and Hanuscin & Lee (Tanfiziyah et al., 2021); it is shown as follows:

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Table : 1 The Learning Stages of 5E learning cycle

Learning Stages	Learning Phase of 5E learning cycle
Explaining the objectives and motivating the students	Engagement
The students were assigned to form study group	Exploration
Doing the worksheet in group	
Guiding the study group	Explanation
Giving reinforcement	
The students did the individual task	Elaboration and Evaluation
Ending the learning process	

According to the results of teacher and student observations, the teacher explained the learning objectives related to everyday life at the initial stage of engagement, which was easy to understand by the pupils. The teacher was found to address the questions to the students several times as a stimulus to encourage them to be active during the learning. The students were able to

recall the material under the positive stimuli given by the teacher. It brought a big help to the students to understand the material given. They also gave feedback on the teacher's questions. The teacher cross-examined the students by asking various questions during his explanation to grasp the concept based on their own experience. They were seen listening, expressing ideas, and taking notes on the material delivered. Some students were seen asking the teacher about the topics they found hard. Conducive classroom and learning atmosphere which comforted the students made them brave to ask questions and express their ideas. The teacher, as a facilitator, tried to understand their ideas, provided more detailed explanations, and if the ideas were inaccurate, the teacher gave the correct explanation to the students.

The teacher asked the students to form a study group at the exploration stage. As many as 32 students of class VI at SDN Dungkek, I formed 8 study groups, consisting of 4. The teacher helped decide the group members, and the students were disallowed from choosing their own. In the end, each group represented heterogeneous abilities. Before the learning process, the teacher listed students' names in groups consisting of 2 high-ability students, one medium-ability student, and one low-ability student. This heterogeneous grouping of students was based on their scores recapitulated by the teacher on the assignments of the previous meeting. This heterogeneous was grouped to maximize the discussion towards the problem (Wandira et al., 2017). Next, they worked on the worksheet. Every member seemed to be actively involved. 2 high-ability students in each group explained to their friends if they thought the material was challenging. Low-ability students were seen actively asking each other. This brought the low-ability students to the surface. This result was in line with Wali et al., (2020) claimed that student activity and learning outcomes were raised by the peer tutor method.

At the explanation stage, the teacher as a facilitator guided the students in finding or analyzing answers to the problems given. The teacher assigned several groups to present their finished works in turn; the other groups focused on it and stated opinions if the answers they had were different. At this stage, the students looked enthusiastic about commenting on their friends who had presentations in turn. If the groups had different answers, the teacher showed the correct answer and explained the answer to the students. He was required to give positive motivation when the students misdid the questions; blaming was not a point, but explaining and stimuli were so that they understood and thought what made them wrong in doing the assignment. Through this way, the teacher appreciated those who finally solved the problem, even though they were incorrect; it aimed at helping them instill and find their learning concepts according to their experience. Meaningful learning was achieved if they felt or experienced the things they got as a basis for strengthening the material delivered by the teacher (Baharuddin, 2020).

At the elaboration and evaluation stages, each individual should answer questions of post-test administered by the teacher. It was for determining their higher-order thinking skills. The teacher gave time to work on five description questions given individually. The teacher kept prompting

them to be honest in working on particular questions and prohibiting them from cheating, discussing with their peers. The teacher put his eyes on the students doing individual assignments. Next, the teacher asked them to submit the individual assignments according to a predetermined time limit. Therefore, scoring the work results was more accessible. Next, the teacher ended the learning process by concluding the material studied and providing positive motivation. In general, the teacher and student observation done by the researcher and six other observers through the 5E learning cycle showed 91% classified into an outstanding category. The results of student observations obtained 84% classified into very active in the learning process.

A semi-structured interview consisting of several open-ended questions was conducted by the researcher in which the questions were more developed according to the answers given by respondents so that interview was in-depth to obtain information. The researcher prepared an interview guide sheet to be used. The results of the interviews were presented in interview transcripts followed by analysis in description form. As many as three students of 1 high-ability student (Subject 1), one medium-ability student (Subject 2), and one low-ability student (Subject 3) were randomly selected as the interviewee. The interview was conducted to determine students' supporting and inhibiting factors in following the learning process and knowing the students' higher-order thinking skills in solving individual questions given by the teacher.

The researcher carried out the first interview to determine the supporting factors and inhibiting factors during the learning process. The following were the answers of the three respondents to the researcher's researcher's questions given after the results were collected, analyzed summarized the respondents' respondents' answers in general.

The first question proposed by the researcher to the respondents was, "Did you like the learning process presented last time?". The respondents' answers were as follows.

Subject 1 : It was the first time for me. I enjoyed it so much and the meeting was fun.

Subject 2 : I liked it because I can understand more about the material.

Subject 3 : I liked it because it encouraged me to ask my friends if I have something I did not understand.

From the answers, it can be known that the students were much desired toward the learning process because the learning model allowed them to learn while playing based on the elementary students' characteristics and possibly made them active in the learning process.

The second question proposed by the researcher to the respondents was, "Did you face any difficulties in following the learning process presented last time?". The respondents' answers were as follows.

Subject 1 : Nothing. I rather enjoyed it because I can understand more about the material.

Subject 2 : Nothing. I like it because it gave me variations.

Subject 3 : No, I do not. I enjoyed it because there was a group work to do with friends.

4 From the answers, it seemed that the students liked the learning model of the 5E learning cycle, and the students in the learning process faced no difficulties. It also affected them in understanding the material and then became enthusiastic in learning mathematics.

The researcher then interviewed the students' higher-order thinking skills in solving the given problems individually. The first question proposed by the researcher to the respondents was, "What was the first thing that came to your mind when reading the question?". The following were the students' answers to the first question.

Subject 1 : Trying to think of a solution to the given problem, because the problem given was a story problem, I had to think of a way to translate the story problem into mathematical form. For example, wrote down what is known and what is asked.

Subject 2 : Because story questions had to be translated into numbers to be solved, I wrote down what I know and asked questions

Subject 3 : I was a little confused at first, but I tried to do it by writing down what I know and asking questions.

From the answers, it can be known that the students thought about solving the problems by analyzing the problems individually. The interview result showed that the students began to conduct analysis (C4), which is one of the activities in higher-order thinking skills.

The second question proposed by the researcher to the respondents was "How did you implement the strategy to solve the problems?". The students' answers were presented as follows.

Subject 1 : From what is known and asked, I started making solutions based on the material given by the teacher.

Subject 2 : Based on the concept of the material that I understood before.

Subject 3 : When writing down what is known and asked in mathematical form, it can be done like the material described.

From the respondents' answers, it seemed that the students checked and evaluated whether or not there were wrong answers and then revised them. They checked and criticized their answers individually. The interview result showed that the students conducted an evaluation (C5) toward the problem solved.

The fourth question proposed by the researcher to the respondents was "How did you get the final answer for a problem?". The students' responses to this question were presented as follows.

Subject 1 : Checking the results of the answers then drawing conclusion.

Subject 2 : Concluding the results that had been done.

Subject 3 : After completing the work, then drawing conclusion.

From the answers, it can be known that the students drew the final result of their work based on the steps of problem-solving given before. The result of the interview showed that the students conducted creation (C6) on the new thought due to the problem solving that had been done.

Generally, the interview result showed that the students preferred implementing the 5E learning cycle model because it made them active and

understand the material so as enthusiastic in learning mathematics. The interview result also showed that the students finished the individual work by maximizing their higher-order thinking skills.

The test is given in an integrated Student Worksheet of Islamic values. The Student Worksheet presents verses of the Qur'an about the numbers and moral values contained in it. This aims to instill character in learners from an early age while still paying attention to the achievement of high-level thinking skills of students following the times. Based on the pretest and posttest results, there was a difference in each student's score, and there was an improvement between the pretest and posttest scores. The pretest result showed a mean score of 52.34, while the posttest was 89.06. It revealed that the students understood the material and were able to solve the posttest questions, which were higher-order thinking skills questions, after implementing the 5E learning cycle.

Integration of Islamic Values in the Model of Learning Cycle 5E

Researchers conducted data analysis in Qur'an verses relating to integers. Here are the results of the analysis conducted by researchers:

1. Let's As-Sajdah Verse 5

The word of Allah (SWT) in synth As-Sajdah verse 5, which means: He regulates all affairs in heaven and on earth, then it rises to him in one day whose rate (length) is a thousand years according to your calculations. (QS. As-Sajdah:5). The above verse is the verse contained in the 32nd surah in the Qur'an. The number of integers contained in the above verse is one. The verse reveals the ratio of the number 1:1000. The value of each is contained in it is patience and sincerity. Patience with all the decrees of God who has arranged the affairs of heaven and earth, making man sincere and always grateful. In addition, the above verse also contains morals (freeing all dependence on other than Allah) on all problems faced.

2. Surah Al-Maidah verse 73

Allah says in Surah Al-Maidah verse 73: "Truly, there have been disbelievers who say that Allah is one of the three when there is no God (who is entitled to worship) other than the One God. If they do not cease from what they say, those who disbelieve among them will be subjected to a painful punishment. (QS. Al-Maidah: 73).

The above verse describes the integer number of three. The number three is an integer with its predecessors, the numbers one and two. The number three in the above verse reveals about the disbelievers who say that Allah became one of the three gods worshipped. The value of morals in verse is always to keep the words starting with no prejudice whatsoever for things that are not yet known certainty.

3. Surah Al-Baqarah verse 261

Allah's Word in Surah Al-Baqarah verse 261, which means: "The parable of those who provide for their wealth in the way of Allah is like a seed that grows seven grains, in each one hundred seeds. God is rewarded for whom He wants. Moreover, Allah is all-knowing (QS. Al-Baqarah:261).

Based on the above translation, there are integers seven and one hundred. The meaning of the integers seven and one hundred in verse is the sum of a parable of a part that can be seven to one hundred parts of a seed. The verse contains meaning; a seed becomes 700 seeds. When associated with mathematics, the concept is the same as multiplication commonly taught by elementary school teachers. The concept of multiplication has been taught in the Qur'an. The concept of multiplication is repeated summation. God exemplifies with a seed that grows seven grains, in each grain a hundred seeds. This means one item becomes seven; in mathematics, one is interpreted as one, and becomes seven bulbs means seven, so that $1 \times 7 = 7$. Besides that it is added to each bulb there are a hundred seeds, so that $7 \times 100 = 100 + 100 + 100 + 100 + 100 + 100 + 100 = 700$. That is, God multiplied one alms to 700 times. The moral value in verse is the value of generosity to share with others, give kindness to anyone by extending his hand sincerely, and not expecting the slightest reward.

4. Surah Al-Anfaal verse 65

Allah's Word (SWT) in Surah Al-Anfaal verse 65 which means: "O Prophet, spread the spirit of the believers to fight. If there are twenty patient people among you, they will be able to defeat two hundred enemies. And if there are a hundred patient people among you, they will be able to defeat a thousand of the disbelievers, for the disbelievers are unbelievers who do not understand." (QS. Al-Anfaal:65)

Based on the translation above, there are integers contained in the above verse, namely integers 20, 100, 200, and 1000. The meaning of the integer is the number of the armies of the believers and the army of the disbelievers. The comparison of fighting with the patient strength promised by Allah SWT is one in ten (1:10). The moral value that can be taken from the above verse is the value of *syaja'ah* or dare. Courage can be interpreted as the stability of the heart in the face of problems or dangers.

5. Surah Al-An'aam verse 160

The Word of Allah (SWT) in Surah Al-An'aam verse 160, which means: "Whoever brings good deeds, then for him (reward) ten times his deeds; And whoever brings evil deeds, he is not rewarded but balanced with his evil, while they are not persecuted." (QS. Al-An'aam:160).

Based on the translation of the verse above, I found the integer ten. The meaning of the integer ten in the above translation is to state the number of multiples promised by Allah SWT for believers who do good deeds or practices. The number 10 is the highest integer of the natural number count before the repetition of the repeating number (11,12,13, ...). The number 10 is the highest in human calculations because, adjusted to the number of human fingers in general, which numbers ten. When associated with the meaning of the above verse, God multiplies good practices ten times, the amount of reward by the most significant number. The moral value contained in the above verse is that Allah commands Muslims to do good deeds or practices.

The five letters describe numbers in math subjects. Various values are contained in the Qur'an. This research focuses on the moral value contained in

the Quran, including patience and sincerity, not prejudice, generosity, bravery, and always doing good deeds/practices. These Islamic values aim to instill good character in learners from an early age. In the learning process, learning cycle 5E is integrated into the form of adding verses of the Qur'an in the five letters above; this is a form of students' initial understanding in elementary school of numbers in the Qur'an. This integration will be given to learners in the pre-test and post-test Student Worksheet, so it is expected that these problems can also measure students' high-level thinking skills. This is in line with the research of Hanif (2019) the development of teaching materials must have a major component in supporting the values of the attitude, character, and knowledge of learners, the results obtained against the use of teaching materials with the addition of Qur'anic verses that increase understanding of concepts with positive achievements to learners' learning achievements. This has a positive impact on child-friendly education by creating a conducive learning environment (Alfina & Anwar, 2020) to learn mathematics with the learning cycle 5E model, instilling children's character through Islamic values, and positively impacting students' high-level thinking skills according to the demands of the times.

CONCLUSION

Based on the research, it can be concluded that the learning process using the 5E learning cycle model consisted of various activities carried out by the teacher who covered some stages of engagement, exploration, explanation, elaboration, and evaluation. In the process, the integration of Islamic values in the subjects of integer material mathematics is integrated into moral values, including patience and sincerity, not prejudiced, generous, courageous, and always doing good deeds/practices. The results of teacher and student observations using the 5E learning cycle model carried out by the researcher and assisted by six observers showed a percentage of 91% with an excellent category. At the same time, the results of student observations showed a percentage of 84%, which were very active in the learning process. The interviews showed that the students liked using the 5E learning cycle model because it provided space for them to be more active in the learning. The test results with integration of Islamic values on Student Worksheets showed that the students had been able to work on questions with higher-order thinking skills after the learning process by applying the 5E learning cycle, which was proved by higher scores in the post-test.

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REFERENCES

- Aboagye, E., & Yawson, J. A. (2020). Teachers' Perception of The New Educational Curriculum in Ghana. *African Educational Research Journal*, 8(1), 6-12.
- Adhimiy, S. (2018). Curriculum Development Trought Creative Lesson Plan. *Jurnal Cendikia*, 16(1), 41-62.
- Aini, K. (2021). Analisis Proses Pembelajaran Daring pada Masa Pandemi. *Jurnal Studi Guru Dan Pembelajaran*, 4(1), 218-228.
- Alfina, A., & Anwar, R. N. (2020). Manajemen Sekolah Ramah Anak Paud Inklusi. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam*, 4(1), 36-47. <https://doi.org/10.33650/al-tanzim.v4i1.975>
- Aprilia, H., & Linda, I. P. (2020). Penggunaan Media Diorama: Solusi Pembelajaran Matematika Materi Skala Terhadap Kemampuan Berpikir Tingkat Tinggi Jenjang Dasar. *Teorema: Teori Dan Riset Matematika*, 5(2), 143-155. <https://doi.org/10.25157/teorema.v5i2.3402>
- Baharuddin, I. (2020). Pembelajaran bermakna berbasis daring di tengah pandemi covid-19. *Kelola: Journal of Islamic Education Management*, 5(2), 79-88.
- Baharun, H. (2017). *Pengembangan Kurikulum; Teori dan Praktik (Konsep, Prinsip, Pendekatan dan Langkah-langkah Pengembangan Kurikulum PAI*. Yogyakarta: CV Cantrik Pustaka.
- Br, R., & Asiya, D. (2021). Inclusive Education Management in the Development of Cognitive Intelligence of Children. *Al-Ishlah: Jurnal Pendidikan*, 13(2), 1057-1067.
- Cahapay, M. B. (2020). A Case Study of Curriculum Unpacking Practices of a Kindergarten Teacher. *Journal of Curriculum and Teaching*, 9(2), 1-8. <https://doi.org/10.5430/jct.v9n2p1>
- Farisi, Y. Al. (2021). Improving The Quality of Human Resources In Madrasah. *Managere: Indonesian Journal of Educational*, 3(2), 75-83.
- Fitri, M., Yuanita, P., & Maimunah. (2020). Pengembangan Perangkat Pembelajaran Matematika Terintegrasi Keterampilan Abad 21 melalui Penerapan Model Problem Based Learning (PBL). *Jurnal Gantang*, 5(1), 77-85. <https://doi.org/10.31629/jg.v5i1.1609>
- Haryanti, Y. D. (2017). Model Problem Based Learning Membangun Kemampuan Berpikir Kritis Siswa Sekolah Dasar. *Cakrawala Pendas*, 3(2), 57-63.
- Husni, Z. M., & Rahman, I. (2020). Islam, Kearifan Lokal, Komunikasi Dakwah: Menakar Konsep Islam Nusantara. *Jurnal Islam Nusantara*, 4(1), 92-102.
- Iltiqoiyah, L. (2020). Manajemen Pembelajaran melalui Pendekatan BCCT dalam Meningkatkan Multiple intelligences Anak. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 5(2), 1368-1381.
- Irawati, T. N. (2018). Analisis Kemampuan Berpikir Tingkat Tinggi Siswa SMP dalam Menyelesaikan Soal Pemecahan Masalah Matematika pada Materi Bilangan Bulat. *Jurnal Gammath*, 3(2), 1-7.

- Kalsoom, T., Mujahid, A. H., & Zulfqar, A. (2020). Dyslexia as a Learning Disability: Teachers' Perceptions and Practices at School Level. *Bulletin of Education and Research*, 42(1), 155-166.
- Kartini, P., Bahar, A., & Elvinawati. (2021). Studi Perbandingan Model Pembelajaran Learning Cycle 5E dan Guided Discovery Learning Menggunakan Media Video Pembelajaran Terhadap Hasil Belajar Kimia Siswa. *Alotrop*, 5(1), 11-18.
- Kasdi, A., Farida, U., & Mahfud, C. (2020). Islamic Studies and Local Wisdom at PTKIN in Central Java: Opportunities, Challenges, and Prospects of Pioneering Religious Moderation in Indonesia. *Hikmatuna*, 6(1), 51-62.
- Kholifat, S. (2018). Penilaian Berbasis Kelas Berorientasi HOTS Berdasarkan Taksonomi Bloom Pada Pembelajaran PAI. *Jurnal Pendidikan Islam*, 7(2), 187-204.
- Maspupah, A., & Alan, P. (2020). Analisis Kesulitan Siswa MTs Kelas VIII dalam Menyelesaikan Soal Cerita Sistem Persamaan Linear Dua Variabel (SPLDV) Ditinjau dari Perbedaan Gender. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, 4(1), 237-246.
- Mutijah. (2018). Model Integrasi Matematika dengan Nilai-Nilai Islam dan Kearifan Lokal Budaya dalam Pembelajaran Matematika. *Jurnal Pendidikan Matematika (Kudus)*, 1(2), 51-75.
- Ndiung, S., & Jediut, M. (2020). Pengembangan Instrumen Tes Hasil Belajar Matematika Peserta Didik Sekolah Dasar Berorientasi pada Berpikir Tingkat Tinggi. *Premiere Educandum: Jurnal Pendidikan Dasar Dan Pembelajaran*, 10(1), 94-111. <https://doi.org/10.25273/pe.v10i1.6274>
- Nurhayati, & Lia, A. (2017). Analisis Kemampuan Berpikir Tingkat Tinggi Mahasiswa (Higher Order Thinking) dalam Menyelesaikan Soal Konsep Optika melalui Model Problem Based Learning. *JPPPF - Jurnal Penelitian & Pengembangan Pendidikan Fisika*, 3(2), 119-126.
- Pratama, Y. A., Sopandi, W., Hidayah, Y., & Trihastuti, M. (2020). Pengaruh Model Pembelajaran RADEC terhadap Keterampilan Berpikir Tingkat Tinggi Siswa Sekolah Dasar. *JINoP (Jurnal Inovasi Pembelajaran)*, 6(2), 191-203. <https://doi.org/10.22219/jinop.v1i1.2441>
- Purnomo, H., Chaer, M. T., & Mansir, F. (2021). Humanistic Public Service Education in Government Gamping Sub-District Yogyakarta. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam*, 5(2), 52-61.
- Rahayu, D., Sabar, N., Achmad, F., Laili, E. R., & Choiriyah, W. (2020). Pembentukan Karakter Siswa Berorientasi Higher Order Thinking Skills (HOTS) di Sekolah Dasar. *ELSE (Elementary School Education Journal)*, 4(1), 109-118.
- Ridwan, M., & Wahdian, A. (2017). Structure, function and value the tradition of oral literature in sumenep madura. *ISLLAC: Journal of Intensive Studies on Language, Literature, Art, and Culture*, 1(1), 252-273.
- Saddhono, K. (2020). The Development of Interactive E-book of Teaching Indonesian for Speaker of Other Language (TISOL) Containing Local Wisdom with Scientific-Thematic Approach. *Journal of Physics: Conference Series*, 1573, 12002.

- Salim, S., & Hasanah, E. (2021). Principal Leadership in Developing Al-Qur'an Learning Management. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam*, 5(1), 83-94. <https://doi.org/10.33650/al-tanzim.v5i1.1673>
- Sani, M. M. R., Meha, A. M., & Nenotek, S. A. (2020). Penerapan Model Siklus Belajar 5E untuk Meningkatkan Kemampuan Berpikir Tingkat Tinggi (HOTS) Siswa. *Jurnal Sains Dan Edukasi Sains*, 3(1), 15-23.
- Saraswati, P. M. S., & Gusti, N. S. A. (2020). Kemampuan Berpikir Tingkat Tinggi dalam Menyelesaikan Soal HOTS Mata Pelajaran Matematika. *Jurnal Ilmiah Sekolah Dasar*, 4(2), 257-269.
- Silviani, S., Maarif, M. A., & Wibowo, A. (2021). Knowledge Sharing Management: Strategy for Improving the Quality of Human Resources. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam*, 5(1), 129-139. <https://doi.org/10.33650/al-tanzim.v5i1.1831>
- Suwidiyanti, & Anshori, I. (2021). School Strategy to Build Students' Social Solidarity During Online Learning. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam*, 5(1), 28-41.
- Tanfiziyah, R., Khasanah, M., & Supriatno, B. (2021). Inovasi Pembelajaran Berbasis Teknologi Informasi: Model Learning Cycle 5E Menggunakan Gather Town pada Materi Protista. *Biodik*, 7(3), 1-10.
- Tosun, D., Arikan, S., & Babur, N. (2021). Teachers' Knowledge and Perception about Dyslexia: Developing and Validating a Scale. *International Journal of Assessment Tools in Education*, 8(2), 342-356.
- Ulum, M. B., & Azhari, A. N. (2018). Nilai-nilai Pendidikan Islam dalam Tradisi Ngejot: Konsep Edukasi dalam Membangun Keharmonisan dan Kerukunan Antarumat Beragama Berbasis Kearifan Lokal. *FENOMENA: Jurnal Penelitian*, 10(1), 1-26.
- Utama, N. G., Rahmatan, H., & Azhar, A. (2019). Penerapan LKPD Berbasis Learning Cycle 5E Terintegrasi Nilai Islami Terhadap Hasil Belajar Peserta Didik di SMP. *Jurnal Pendidikan Sains Indonesia*, 7(1), 47-54. <https://doi.org/10.24815/jpsi.v7i1.13550>
- Wali, G. N. K., Winarko, W., & Murniasih, T. R. (2020). Peningkatan Keaktifan dan Hasil Belajar Siswa dengan Penerapan Metode Tutor Sebaya. *RAINSTEK : Jurnal Terapan Sains & Teknologi*, 2(2), 164-173.
- Wandira, S. M. A., Asih, I. V. ., & Pamungkas, A. S. (2017). Efektivitas Model Pembelajaran Kooperatif Tipe Think Pair Share dan the Power of Two Ditinjau dari Kemampuan Pemecahan Masalah Matematis. *Prima: Jurnal Pendidikan Matematika*, 1(1), 1-18.
- Zamroni, Amir, & Saleha, L. (2021). Pengelolaan APE Berbahan Limbah untuk Meningkatkan Kecerdasan Kognitif Anak. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 5(2), 1382-1395.

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