Development of Peer Teaching based on Differentiation Using QR Code in Islamic Education at SMP IT Al-Ulum Medan

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Abstract

This study aims to analyze the development stage, validity, and effectiveness of differentiation-based peer teaching strategies through QR Code learning media in Islamic Religious Education (PAI) subjects at Al Ulum Terpadu Medan Islamic Middle School. The research method used in this study is the Borg and Gall Research and Development Method which aims to understand the urgent needs to be met by a community group, then studied in depth regarding the causes and theories that support solving the problem and then used as a basis for product development, validation, and effectiveness testing. Product development in this study was carried out directly in the classroom through the process before, during, and after the research involving Islamic religious group teachers and students.Peer tutoring approach has been done to develop students' collaboration ability in differentiated learning for Abbasiyah Dynasty learning achievement in class VIII of SMP Islam Al Ulum Terpadu Medan, there was a significant increase from cycle I and cycle II. This is indicated by an increase in the percentage of learning implementation achievement of 12.50%, collaboration ability of 37.50% and student learning outcomes at the cognitive level of 39.50%. The assessment results from the validator stated that the development of technology-based differentiated learning media for class VII procedural text material was declared valid with an average percentage of 88.43%.Peer tutors can be an alternative solution to problems in differentiated learning because they can help teachers in assisting the process of developing unique and diverse student potentials. Teachers often find it difficult to convey activity steps so they need to empower tutors as message deliverers, help provide repeated explanations, patiently direct friends, and guide friends in learning activities to achieve learning goals.

Keywords: Peer Teaching, Differentiation, QR Code, Islamic Religious Education.

INTRODUCTION

One of the educational institutions that functions to produce educational goals is school. Schools are expected to be able to produce quality individuals who are successful in facing the teaching and learning process. However, there are still many problems that indicate that schools have not been able to optimally form these educational goals. In 2016 UNICEF reported that there were still 2.5 million Indonesian children who could not enjoy education, including 600 thousand elementary school (SD) children and 1.9 million secondary school-aged children. The quality of Indonesian education according to the Human Development Index (HDI) is in 102nd position out of 106 countries, then based on PERC (The Political Economic Risk Consultation) the Indonesian education system is ranked twelfth out of 12 countries surveyed.(Restian, 2015).

Increasing student engagement in school is one of the efforts that can be done by schools to reduce problems that occur in students. Fredricks, Blumenfeld and Paris in their literature study explained that problems such as low student achievement can increase the level of student boredom and increase cases of dropping out of school due to student disengagement in school.(Fredricks, 2004). Appleton, Christensen and Furlong (2008) explained that in addition to students who are involved in

the teaching and learning process, there are also students who are not involved, such as being apathetic, chatting with friends, not enthusiastic, not focused or even sleeping during the learning process.

Student engagement is the manifestation of motivation seen through the actions, cognitive, and emotions displayed by students, which refers to energetic, directed, and persistent actions when encountering difficulties or the quality of students in their interactions.(Skinner, 2009). Therefore, to create good student involvement, a teacher's power is needed to present innovative efforts in the learning process.

In the learning process at school, teachers have many roles including organizer, motivator, director, mentor, disseminator of ideas, facilitator, evaluator, and educator.(Wibowo, 2018). Addressing the various abilities of students often presents challenges in the teaching process. Because of the different responses of students, uniform teaching methods do not always work. Therefore, to overcome this gap, innovative learning methods are needed.

Teachers are not only sources of knowledge but also guide students towards better understanding. They create an environment that encourages students to ask questions, talk, and work together. In this case, it will create student activity in the classroom and the material presented by the teacher can be absorbed well with the stimulus or feedback from students. In addition, teachers also have this responsibility including understanding students' special interests and needs and providing useful feedback to encourage good development. Teachers use various forms of assessment, such as tests, assignments, and projects, to measure how well they understand the material and students' abilities.

With this context in mind, it is important for educators and teachers to create learning environments that encourage student participation and engagement. By providing opportunities for students to actively engage in learning, they can reach their full potential, develop relevant skills, and prepare themselves for real-world challenges.(Harmanto, 2016).

Based on the basis of thinking to overcome the problem, a solution is needed in implementing learning that is oriented towards exploring each student's potential that arises from various differences in their backgrounds. This effort can be realized by developing strategies in learning.

Differentiated approach is a strategy that is built to help educators better understand students' abilities, interests, learning styles, and learning environments. This is in line with Sopianti's research that differentiated learning is very suitable to be applied to meet the learning needs of students who have different diversities, so that students feel welcomed and appreciated with real justice and collaboration between teachers and students and students' learning needs can be met.(Sopianti, 2022).

Furthermore, Gusteti & Neviyarni stated that in this approach, teachers are expected to have the ability to make modifications and updates to learning objectives , processes, learning environments, and products or results of learning activities carried out.(Neviyarni, 2022)Differentiated learning is learning that is prepared to meet students' learning needs that are focused on developing their potential, by accommodating all their differences and characteristics.

Differentiated learning can provide students with the freedom to express their ideas, concepts and abilities to produce the best learning outcomes according to their own version.(Luthfan, 2024). Kusuma & Alawiyah argue that every student has unique and diverse characteristics according to their respective strengths and weaknesses (Kusuma, 2021). However, the diversity of student characteristics also causes difficulties for teachers in providing assistance to students who need it.

Students who are at the independent level may be easy to control and direct, but on the other hand, students who are at the developing level usually show a dependent attitude towards others, only understand the basic stages, and are slow in taking the initiative and still need to be guided patiently and facilitated by the teacher more. Students at this level will be increasingly passive if not followed

up, or even just keep quiet and do not want to do anything in learning activities. The most extreme thing that is experienced is even prone to not wanting to enter learning in class. This should be followed up immediately by the teacher. One of them is through a peer tutor approach in differentiated learning.

Students who are assigned as peer tutors are taken from students who are at the independent level. The emphasis is given that success in achieving their learning goals is based on their success in mentoring their friends in groups who are still at the beginning of development level. In order for the differentiated learning process to run in a structured manner, supporting methods are needed such as the peer teaching method (peer tutors).

Peer tutoring or Peer teaching is one solution that can be done in learning classes, especially in classes where there are students at an advanced level but there are still students in the developing phase, in addition to being responsible for providing instructions, explanations, guidance or even arranging peer learning activities. Students who are at the developing level usually show slow interactions and depend on or need help from their peers.(Suryani, 2024). Usually, they will find it easier to understand a friend's explanation than a teacher's, so the teacher implements differentiated learning with a peer tutoring approach.

The peer tutoring approach in differentiated learning focuses on the problem of students' inability to collaborate in learning. Students who have a tendency towards above average cognitive levels do not want to help other students, so that a small number of students are less confident when grouped with friends who have very good cognitive levels. Differentiated learning is expected to improve students' collaboration skills and not just improve learning outcomes at the cognitive level as the focus of conventional learning so far.(Luthfan, 2024)

In today's digital era, almost all access to information and materials can be found in cyberspace, either by accessing a page or an application. The Ministry of Education, Culture, Research and Technology is very aware of today's needs, because by utilizing technology, it can reach and distribute policies more widely, as well as optimize the implementation of the Merdeka curriculum through a differentiated learning process.

During differentiated learning, there must be a supportive classroom environment where everyone in the class is welcomed and feels accepted, everyone respects each other, students feel as safe as possible in their classroom. and Teaching for student success.(Isaeni, 2022). There is equality felt in real form by students, teachers and students working together successfully.(Jamoliddinova, 2019). The use of technology can be an option for teachers to implement differentiated learning in the classroom.

Thus, researchers utilize QR Code technology as a learning medium as a form of technological innovation. One of the uses of technology in the world of education, especially in learning media, is the use of QR-Code or Quick Responsive Code. The use of QR Code in learning media makes it easier for educators to apply it and also makes it easier for students to access it. Information that was previously quite a lot (Fajar Anisa Handayani, et al., 2024). With the QR Code can be stored in a simple code form and can be accessed quickly. QR codes can be placed in various media, including textbooks, posters, worksheets, or presentations, allowing learners to quickly access additional information, videos, websites, or other resources that support their learning.

Based on the background of the problems above, researchers need to study student involvement activities through peer teaching methods to create good differentiated learning using the use of QR Code Media. This research was conducted at the secondary level and is expected to form active participation learning in the learning process, especially in Islamic Religious Education subjects.

METODE PENELITIAN

The research method used in this study is the Research and Development Method (Research and Development), Sugiono (2016). According to Borg and Gall in (Sugiyono, 2016), educational research and development is a process used to develop and validate educational product or it can be interpreted that educational development research is a process used to develop and validate educational products. Sumarni (2019) said that research and development is research aimed at understanding urgent needs to be met by a community group, then studied in depth regarding the causes and theories that support solving the problem and then used as a basis for product development, validation, and effectiveness testing.

Data Engineering Analysis

The steps for developing learning media according to Sugiono (2016) are, (1) potential and problems, (2) data collection, (3) product design, (4) design validation, (5) design improvement, (6) product trial, (7) product revision, (8) final product. The potential possessed by grade VII junior high school students is the need for learning media in differentiated classes based on learning style types (auditory, visual, kinesthetic) of the Independent Curriculum. Teachers have not used technology-based media due to the lack of awareness regarding the use of innovative learning media. The media used are still traditional and makeshift. Therefore, it is necessary to develop technology-based learning media so that students' abilities in differentiated class procedural text material are further improved.

Data Collection Analysis

Data collection stage, researchers collect data by analyzing the curriculum and reviewing several references. The curriculum used is the Independent Curriculum. At this stage, the analysis is carried out on Learning Achievements, Learning Objective Flow and the material to be developed. The results of the analysis show a relationship between the components in the curriculum and the procedural text learning material. In product design, researchers determine the material to be developed by adjusting the character of students based on the type of learning style, scope of learning materials, learning achievements, and learning objective flow.

The product design stage was validated by experts like (1) material expert, (2) media expert, and (3) language expert. The suggestion from the material expert was that the material displayed in the video be adjusted to the flow of learning objectives. Meanwhile, the suggestion from the media expert was that an attractive design should be added for the beginning or cover of the media.

Data Participation

The learning media product was tested on students and 3 Islamic Religious Education teachers as colleagues. The school where the research was conducted was SMP Islam Al Ulum Terpadu Medan. After the learning media product was tested, the product was revised according to suggestions in order to create learning media that was suitable for use.

RESULTS

The characteristics in developing this differentiation-based peer teaching strategy cannot be separated from student involvement or learning participation. Students are required to carry out interactive learning to create a pleasant atmosphere and this atmosphere will encourage the effectiveness of learning. The more senses (visual, auditory, kinesthetic) involved in the learning process, the faster the acquisition of competence occurs. To maximize these activities, learning is carried out by following the role of technology using gadgets(Sudjana, 2016).

Based on the final results of validation at the research design stage, the following research results can be shown:

1. Feasibility Analysis

Based on the feasibility analysis of material experts, media experts, and experts in differentiated learning media practitioners, the results are as follows:

a. The percentage of analysis results from media experts shows a figure of 82%. This result is obtained from the assessment of appearance, color selection, image selection, and writing form. Advice from the validator, the position of the image and writing must be appropriate to look attractive.

Table 1. Media Expert Validation Results

No	Aspect	Results	
		Percentage Score	Characteristics
1	Presentation Eligibility	84.6	Very worthy
2	Graphic Eligibility	79.4	Worthy
Total		**82**	**Worthy**

b. The results of the material analysis obtained a presentation of 90.8% which means very feasible. The aspects assessed were the suitability of the material and the flow of learning objectives, the suitability of the video display with the teaching material, and TTS questions.

Table 2. Results of Material Expert Validation

No	Aspect	Results	
		Percentage Score	Characteristics
1	Content Eligibility	90.3	Very worthy
2	Material Eligibility	85.4	Very worthy
3	Presentation Eligibility	91.3	Very worthy
4	Graphic Eligibility	96.2	Very worthy
Total		**90.8**	**Very worthy**

c. Language analysis shows a percentage result of 92.5% which means this media is very suitable.

Table 3. Media Expert Validation Results

No	Aspect	Results	
		Percentage Score	Characteristics
1	Language Eligibility	95.0	Very worthy
2	Instructional Quality	90.0	Very Worth It
Total		**92.5**	**Very Worth It**

2. Product Effectiveness Test

In addition to the feasibility test, a product effectiveness test was also conducted on students to determine the effectiveness of the media developed in improving the understanding of procedural text materials in differentiated classes. Through the pretest and posttest, the following comparisons were found.

Table 4. Pre Test Post Test Comparison Table

No	Research result	Pre Test	Post Test
1	Highest	77	96
2	Lowest	30	70
3	Average	48.30	84.01

4	Total Completed	0	29
5	Incomplete Amount	28	0
6	Classical Completion	0	100

From table 4 above, it can be concluded that at the pre-test stage, the literacy test scores for students with a total of 28 children were the highest at 77 and the lowest at 30 with an average score of 48.30. The number of students at this stage has not been completed. The post-test scores with a total of 28 children were the highest at 96 and the lowest at 77 with an average score of 84.01. This shows that the post-test stage has reached completion.

The QR Code (Quick Responses Code) used contains a worksheet that must be completed by students to optimize the learning process. The media includes Google sites to show the worksheet display by presenting 3 activities, 1) watching videos from embedded YouTube, 2) making a written summary related to the contents of the learning material, and 3) working on TTS (Crosswords). The three activities are displayed in the QR Code to facilitate student access in obtaining the worksheets of the activities they will carry out. Students will be divided into 4 groups containing material related to "Emulating Productivity in Work and the Spirit of Literacy of the Golden Age of Islam in the Abbasid Dynasty Era (750-1258 AD)", namely 1) The Birth of the Abbasid Dynasty, 2) The Field of Science in the Abbasid Dynasty Era, 3) The Field of Art in the Abbasid Dynasty Era, 4) The Decline of the Abbasid Dynasty.

Differentiated learning with a peer tutor approach begins with planning activities by creating an initial assessment instrument to collect as much information as possible regarding student characteristics. Initial non-cognitive assessments are carried out in collaboration with homeroom teachers and Guidance and Counseling (BK) teachers. The assessment results show results containing information on student characteristics, both learning readiness, learning styles and learning profiles. This data is used by teachers to design learning tools, both KKTP, assessment plans and teaching modules that will be used.

Next, the teacher conducts an initial cognitive assessment during the initial meeting of the Learning Outcome (CP) learning to identify interactions between living things and their environment. The initial cognitive assessment obtained initial information about students, namely students in the Newly Developing phase amounted to 8 people or 25.00%, students in the Adequate and Capable phase amounted to 14 people or 43.75% and students in the Advanced phase amounted to 10 people or 31.25%. Based on the initial assessment, the teacher creates the criteria for achieving learning objectives (KKTP) and the assessment plan to be carried out and the learning activities to be carried out by students into a complete teaching module with LKPD, teaching materials, presentation materials, observation sheets for the implementation of learning and observation sheets for students' collaborative activities as well as attachments for format and summative assessments.

Cycle I Results

At the action stage, the researcher conducted learning in accordance with what had been designed at the preparation stage with a focus on differentiated learning by utilizing peer tutors in the learning process. The researcher emphasized student learning participation in completing the worksheets arranged in *google sites* then displayed in the form *QR Code*. Students will be observed for their collaboration skills consisting of several indicators, namely facilitating friends to understand the Worksheet, willingness to provide explanations of the steps of activities on the Worksheet, patience in

guiding, accepting other people's ideas and thoughts, interacting with friends in groups, and being able to respond to friends' conversations.

Teachers do not intervene in students' understanding of concepts because they are assessed on their ability to collaborate. Teachers make students understand that cognitive level is not the only aspect of assessment. Peer tutors carry out their roles in groups according to the agreement at the beginning of learning with the teacher.

Each student sits in a heterogeneous group, working on LKPD according to the description of the learning activity steps in the LKPD. Students collaborate together to complete the bill. There are some bills that must be completed individually and some must be completed in groups and then presented or exhibited in class in turns. Each student can access learning resources according to their needs and interests through facilitation by teachers and their peers.

This differentiated learning is carried out through a peer tutor approach, namely by dividing groups heterogeneously from the readiness to learn, learning styles, and learning profiles of students. Heterogeneous group division is deliberate to see the ability of students to interact during learning to train collaboration skills. Furthermore, the teacher provides an explanation of the learning steps that specifically for this learning achievement, will be carried out with various learning activities that are arranged and manipulated by the teacher.

In the initial activity, after the teacher conveys the learning objectives, the teacher calls several students who from the initial assessment results are at an advanced level who usually show an independent attitude to be given reinforcement by providing explanations or instructions regarding things that must be done to their friends during learning. The teacher asks students who are tutors to be fully responsible for their groups, because the success or failure of learning in the group they lead depends on the performance and performance of the tutor who provides assistance to their friends.

On the other hand, students who are at the beginning of development level and are at the basic, slow and dependent stage are given an explanation that one of the learning sources where they can ask when they have difficulties is the peer tutor in their group. The teacher provides a brief explanation of the general picture of the learning process. Furthermore, the teacher provides a graded worksheet and guides the student's learning process from initial understanding to the application of understanding in making a learning product. Through the worksheet, each student is guided and given an explanation by the tutor during the learning process. Occasionally, the teacher visits groups that need help. The learning process contains various activities that are modified by the teacher in order to accommodate all learning styles and needs of students.

The steps of differentiated content learning are carried out by providing various structured materials on identifying interactions between living things and their environment, starting from simple to complex concepts to help students who are still at the beginning of development, namely at the basic, dependent and slow stages. Students who are at the independent level are given the freedom to access articles or sources related to searches related to learning materials. In this case, the material presented in the Islamic Religious Education Lesson studied was "Exemplifying Productivity in Working and the Spirit of Literacy in the Golden Age of Islam in the Abbasid Dynasty Era (750-1258 AD)".(Ministry of Education, Culture, Research and Technology, 2021)

In process differentiation, teachers provide a variety of learning activity options according to students' learning styles. Still in the same LKPD, students can identify various images of the phenomenon of interactions between living things and their environment. In addition, teachers prepare presentation materials that can be seen and understood. Then students can make notes containing important points from the results of reading, pictures, posters and teacher presentation materials. From these activities, visual children can even formulate creative ideas about the timeline of history or a

summary of history in the Abbasid dynasty in the form of short writings, posters and infographics as a result of their understanding during learning.

In addition, to respond to the learning needs of auditory children, teachers also prepare downloaded videos and reference video links that can be accessed independently from the links provided in the QR Code. Auditory children are responded to by watching videos and can also listen to the teacher's explanation when the teacher displays presentation materials via the QR code. In addition, auditory children can listen to peer tutor explanations and can ask and answer questions about the contents of the video with friends in their group.

Kinetic children are given directions to carry out learning by answering the contents of the TTS (crossword puzzle) contained in the QR Code as a worksheet given by the teacher that allows hand movement activities in filling in the TTS (crossword puzzle). At the observation stage, the researcher involved colleagues to observe the implementation of differentiated learning and how teachers optimize the role of peer tutors in learning. After learning is completed at meeting 3 or at the end of cycle I, the teacher provides a test instrument and asks students to work on the test instrument to obtain cognitive level learning outcome data. The test instrument given by the teacher consists of 5 numbers in the form of multiple choice. The test results are analyzed to see the achievement of learning objectives. At the reflection stage, the researcher and colleagues sit together to analyze the results of the test and non-test instruments. The researcher counts the number of students who have been able to achieve cognitive level learning objectives and analyzes the results of observations of collaboration skills. The results of observations of learning implementation, collaboration skills and students' cognitive level learning outcomes can be presented in Table 1 below.

Table 5. Results of Cycle I Research

No	Research result	Action Success Percentage (%)	Criteria
1	Learning Implementation	81.25	Good
2	Cognitive Learning Outcomes	53.12	Enough
3	Ability to collaborate/participate	50.00	Enough

Based on Table 1 above, it can be seen that the implementation of learning has reached 81.25% implementation with good criteria. This shows that most of the steps or stages of differentiated learning that have been made can be implemented well. Teachers have been able to apply differentiated learning, but the achievement of cognitive level learning outcomes has not reached the indicator of action success. Likewise, the ability of students to collaborate is still in the sufficient criteria. This is possible because students have not been able to adjust to the learning carried out by the teacher.

Students who are in the basic understanding phase, slow and dependent still have difficulty adjusting and are not yet able to communicate with peers in groups. They are not yet confident in taking a role in learning and even still seem passive and still assume that the place to ask questions and get guidance is only the teacher.

Teachers are still considered the only source of learning, so if only friends help provide explanations, it is considered incorrect and not in accordance with what is desired. This condition causes tutors to have difficulty convincing friends in their groups. This causes learning objectives not to be achieved, so that the learning outcomes of the cognitive level are still in the sufficient criteria, and the ability to collaborate is also in the sufficient criteria.

Based on Table 1 and the description of the results above, the criteria for the success of the actions set at the beginning have not been achieved in cycle I. Based on the results of the joint reflection, it was determined that differentiated learning through the peer tutor approach would be continued in the next cycle with an emphasis on points that must be fixed and improved. Peer tutors must be made aware that they must be able to help their peers understand and take on roles during learning activities and not be the ones who do the billing or complete all the activities in the worksheet. The teacher will also convey at the next meeting that the results of student reflection will be used as a benchmark and material for improvement to do positive things in subsequent learning.

Cycle II Results

Cycle II planning is carried out based on the results of the analysis and reflection of cycle I. Cycle I learning has shown implementation with good criteria but has not succeeded in helping students' collaboration skills and cognitive level learning outcomes. This is possible because teacher facilitation has not focused on empowering peer tutors. Students who are assigned to be peer tutors do not fully understand their position as peers who must help friends achieve learning goals.

The implementation of actions in cycle II focuses on empowering peer tutors as a key factor in student success in achieving learning objectives. At this stage, the researcher reminds students again about the learning steps that will be implemented. The teacher said that the learning steps are still the same as the previous meeting. Learning will empower peer tutors as companions in group learning. Peer tutors will be assessed for their learning success when they succeed in guiding friends in understanding the content and completing the worksheets correctly. Tutors are given the challenge that they are an extension of the teacher who makes their colleagues understand.

In relation to this, the teacher explained that each tutor is fully responsible for facilitating friends in their group. The success of the group depends on the role of the tutor in collaborating with its members. The teacher reminded that all student activities are assessed in the form of collaboration skills both in the discussion process, presentations, and products such as TTS and posters/summarized writings.

Next, the researcher conducted a differentiated learning process by conveying learning objectives, guiding students in groups in understanding LKPD instructions. The teacher actively provided guidance to groups in need. In addition, the teacher also made observations through observation sheets of students' collaboration abilities in the learning process. After the learning process was completed, the teacher conducted a final learning assessment (summative assessment) by giving a multiple-choice test of 5 numbers to collect information related to students' success in achieving cognitive level learning objectives.

In the reflection stage, the researcher sat down again with colleagues. The researcher and colleagues analyzed the research data consisting of observation results during the action. The researcher calculated the percentage of teacher success in learning, students in achieving learning objectives (cognitive level) and analyzed student activities in collaborating. In the final stage, all analysis results were matched with the previously determined action success criteria, namely a minimum of 90% learning implementation, 75% of students achieving learning objectives, and 80% of students being willing and able to collaborate with their friends. The results of the cycle II research are presented in Table 2 below.

Table 6. Results of Cycle II Research

No	Research result	Action Success Percentage (%)	Criteria

1	Learning Implementation	93.73	Very good
2	Cognitive Learning Outcomes	90.62	Very good
3	Ability to collaborate/participate	87.50	Good

Based on Table 2, it is explained that the results of the observation of cycle II, for the implementation of learning has reached 93.73% (very good), cognitive level learning outcomes 90.62% (very good) and the ability to collaborate has increased to 87.62% (good). This condition shows that the progress of the increase is clear and can be observed from cycle I to cycle II. The teacher has implemented most of the planned learning steps. The emphasis on the function of peer tutors has been maximized so that students begin to get used to and realize that their job is to accompany their peers in understanding the contents of the worksheet, guide patiently and complete learning tasks together.

Based on the description of the results in cycle I and cycle II above, it shows that differentiated learning through a peer tutor approach to learning outcomes in identifying interactions between living things and their environment can improve students' ability to collaborate. The success in question is that students who initially did not want to interact together in group activities are slowly willing to take on roles and no longer wait for direct teacher explanations. Students who are at the developing level are no longer afraid to ask for explanations from their peers. Initially, students at this level tend to be passive, do not want to take on roles, watch and witness their friends' activities more and are often not motivated to learn.

Tutors are able to optimize themselves well in providing guidance, direction, and guidance to their peers. In fact, they began to take the initiative to work together to compete to stand out from other groups. Students are more active in learning and even start to be confident in going to the front of the class because peer tutors are able to coach their friends before going to the front of the class. Students who initially watched more of their friends' successes in class are willing to try and take part in completing their learning bills. The most interesting thing found is that tutors train their friends to do presentations before it is their group's turn to do presentations. This has an impact on achieving learning objectives and the ability to collaborate and the acquisition of cognitive level learning outcomes to achieve classical success.

DISCUSSION

The research that has been conducted is a Research and Development study with differentiated learning through a peer tutor approach as a mentor and extension of the teacher in collaborative learning. This approach is taken to overcome the problems and difficulties of teachers when facing large classes, with diverse student characteristics. This is done to meet the needs of students who still need intense and continuous guidance. Students who receive this treatment are focused on students who are at a level that is starting to develop according to the initial assessment. This approach is effectively applied to overcome the difficulties of teachers in providing guidance in large classes with a large number of students. Based on the results of the study, it can be analyzed that the peer tutor approach in differentiated learning can develop students' collaboration skills.

Differentiated learning can be implemented well when teachers are able to create a learning atmosphere that can "invite" students to take roles, work hard, work together, and study seriously to achieve learning goals. Teachers do not only use one learning method, but are able to formulate various procedures, methods, approaches and strategies in such a way as to modify the learning environment that can help students develop their abilities.

In differentiated learning, each student is believed to be able to grow according to their own development pattern. Differentiated learning has many advantages (Joseph et al., 2013). The advantages in question are not only qualitative but tend to be quantitative because in differentiated learning the learning process is a combination of classical learning, group learning and individual learning so that it looks interactive and of course favors students (Tomlinson, 2017).

Students in the early development phase begin to feel comfortable getting explanations from their friends, especially if they come from the same friendship group, the same interests, the same readiness and learning style. As the results of the study (Ninik, 2022) stated that students become more understanding when taught, given understanding, insight and direction of learning activities when there are friends who are willing to be tutors who accompany and are willing to cooperate, help each other, work together and collaborate during the learning process.

Peer tutors can be used as an alternative solution to problems in differentiated learning. As commonly understood, differentiated learning is an implementation of learning that accommodates all student needs. This learning is used to help accompany the process of developing unique and diverse student potential. Teachers often find it difficult to convey activity steps so they need to empower tutors as message deliverers, help provide repeated explanations, patiently direct friends, and guide friends in learning activities to achieve learning goals. Furthermore, (Ninik, 2022) in his research concluded that learning outcomes with peer tutors can be optimized, through empowerment peer tutors can activate students and find solutions quickly simultaneously.

This shows that differentiated learning through optimizing peer tutors is very helpful for teachers during the teaching process, in addition peer tutors can help students improve their learning competencies in co-curricular activities. In line with this, Febianti (2014) in her research explained that through peer tutors, students teach other friends. Students who act as tutors are students who have more competencies than their friends or students who first understand how to achieve learning goals. Tutors usually first understand the information given by the teacher, so they are given the task of conveying it to their group members so that they can more easily understand the learning content so that they can better achieve learning goals.

CONCLUSION

In the learning process, it is important for educators and teachers to create a learning environment that encourages student participation and involvement. One form of effort to realize this is by involving learning media to encourage the progress of student learning in the current era.

This study focuses on the process of student involvement to collaborate in the learning process. The strategy used is also attempted in the form of peer teaching to involve student elements in carrying out tasks according to the direction and guidance of the teacher. So that students can collaborate well, it is presented in the form of a QR Code to facilitate the elaboration of differentiated learning activities by presenting the diversity of student learning styles.

The peer tutoring approach to develop students' collaboration skills in differentiated learning for the Abbasid Dynasty learning outcomes in class VIII of SMP Islam Al Ulum Terpadu Medan showed a significant increase from cycle I and cycle II. This is indicated by an increase in the percentage of learning implementation achievement of 12.50%, collaboration skills of 37.50% and student learning outcomes at the cognitive level of 39.50%. The results of the assessment by the validator stated that the development of technology-based differentiated learning media for class VII procedural text material was declared valid with an average percentage of 88.43%.

Based on the results of this study, researchers expect teachers to continue to innovate and be creative in learning, especially to accommodate students' needs in order to help students recognize their

potential. The potential in question is not only at the cognitive level. Teachers are expected not only to focus on assessing students from the cognitive level, but to be able to optimize students' potential in literacy, communication, collaboration, creative thinking, and critical thinking. In this case, the school system is expected to be able to provide space for teachers to continue to develop themselves and innovate in differentiated learning that can be carried out in good practices, development research and classroom action research that can be used as elements of credit points that can be calculated.

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