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Research Article

OPTIMIZATION OF TEAM QUIZ STRATEGY IN ISLAMIC RELIGIOUS AND CHARACTER EDUCATION LEARNING AT SMP NEGERI 2 PANYABUNGAN

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Abstract

This research is motivated by the challenge of enhancing students' active participation and collaborative skills in Islamic Religious Education and Character (PAI-BP) learning. The study aims to examine how learning strategies, including team-based activities, function as pedagogical tools to support the internalization of Islamic values and character formation. Employing a descriptive qualitative design, the research involved the school principal, PAI-BP teachers, and students at SMP Negeri 2 Panyabungan. Data were collected through in-depth interviews, observations, and documentation, and analyzed using Miles and Huberman's interactive model. The findings indicate that collaborative learning strategies contribute to increased student engagement when they are meaningfully integrated with value-oriented instruction. However, challenges such as limited instructional time and varied student comprehension levels remain. This study highlights the importance of aligning learning strategies with moral and character education objectives in PAI-BP learning and offers practical insights for strengthening value-based instructional practices.

Keywords: Optimization; Team Quiz Strategy; PAI-BP; Active Learning; Junior High School

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INTRODUCTION

Islamic Religious and Character Education (PAI-BP) is a fundamental subject in the Indonesian national education system that plays a strategic role in shaping students' character and personality. Since the enactment of the 2013 Curriculum through the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 58 of 2014, the subject previously named Islamic Religious Education (PAI) has undergone a transformation into PAI-BP with a stronger emphasis on character and moral formation (Nugraha, M. T., Saepuloh, U., Ruswandi, U., & Arifin, 2022). This transformation aligns with the vision of national education to produce graduates who not only have cognitive knowledge but also strong spiritual, moral, and social competencies. In the context of Islamic education, this aligns with the primary mission of the Prophet Muhammad SAW, who was sent to perfect noble character (Ramayulis, 2015). However, the implementation of PAI-BP learning at the Junior High School (SMP) level faces various significant challenges that require serious attention from educators and researchers. Research (Permana, D. Y., & Fadriati, 2023) identifies that PAI-BP learning often still relies on conventional teacher-centered methods, thus being less able to activate student participation. This condition impacts the low active involvement of students in the learning process, which in turn affects their understanding of religious materials and moral values. Furthermore, this challenge is exacerbated by the diversity of student learning abilities in a single class, which requires learning strategies capable of accommodating these individual differences.

A study conducted by (Haudi, 2019) shows that effective learning requires an approach that not only conveys information but also actively involves students in the knowledge construction process. In the context of PAI-BP learning, this becomes increasingly important because the material taught encompasses not only cognitive aspects but also affective and psychomotor aspects related to the formation of religious attitudes and behaviors. Therefore, learning strategies that can holistically integrate these three learning domains are needed. Responding to these challenges, education experts emphasize the importance of implementing active learning strategies that can increase student engagement and participation. (Silberman, 2020) asserts that active learning is an approach that places students as active subjects constructing knowledge through interaction, discussion, and collaboration. The fundamental principle in active learning is that students do not just passively receive information from the teacher but are actively involved in various learning activities that encourage them to think, analyze, evaluate, and apply the knowledge they acquire.

One active learning strategy with great potential to improve the quality of PAI-BP learning is the team quiz strategy. According to (Tulsahidah, 2019), team quiz is a learning strategy designed to increase students' sense of responsibility for the material being studied in a fun and non-threatening way. This strategy involves dividing students into small groups that then test each other's understanding of the material through inter-group questions and answers. The uniqueness of this strategy lies in the combination of collaborative learning and positive competition that can increase student motivation and engagement in learning. Furthermore, (Triyanto, 2023) explains that learning using the team quiz strategy is an active model that provides opportunities for students to share ideas, consider the most appropriate answers, and answer questions orally, thus fostering students' self-confidence in expressing ideas or answers in front of the class. This aspect of building self-confidence is very important in PAI-BP learning, where students often need to speak about religious and moral values that are sensitive and personal.

Previous studies have widely discussed the use of team-based quiz strategies as an interactive learning approach capable of enhancing student engagement and participation in classroom activities. Such as research by (Pratiwi, 2022) confirmed that the quiz team method positively influenced student activity, creativity, and learning outcomes in Social Studies subjects, with an average score increase of 15 points from pre-test to post-test. (Tiowati, 2019)

proved a significant influence of the quiz team strategy on student interest and learning outcomes with a Pearson correlation value reaching 0.05, indicating a very strong degree of influence. Several scholars have noted that collaborative quiz formats encourage active involvement, focus, and peer interaction, particularly at the junior high school level. These findings suggest that team quiz strategies have pedagogical potential in fostering dynamic learning environments. However, most existing studies have primarily employed quantitative approaches that focus on measuring learning outcomes and statistical effectiveness. Consequently, limited attention has been given to understanding how such strategies function within value-based subjects, such as Islamic Religious Education and Character (PAI-BP), particularly in terms of moral internalization, student motivation, and character formation. This gap highlights the need for qualitative exploration that examines not merely whether team quiz strategies work, but how they contribute to the learning process and support the internalization of ethical and religious values in PAI-BP learning contexts.

Nevertheless, previous research still has limitations in deeply examining how the optimization of the team quiz strategy can be carried out, especially in the context of PAI-BP learning at the junior high school level. Most previous studies used a quantitative approach focusing on measuring the effectiveness or statistical influence of this strategy on learning outcome variables but have not deeply explored the implementation process, interaction dynamics within groups, challenges faced by teachers and students, and strategies for optimizing the application of this strategy in daily learning practices. The research gap lies in the lack of qualitative studies that comprehensively explore the process of optimizing the team quiz strategy in PAI-BP learning, including effective implementation steps, supporting and inhibiting factors, and solutions to overcome emerging obstacles. Previous research focused more on measuring the effectiveness or influence of this strategy on learning outcomes but has not deeply explored how teachers can optimize this strategy in daily learning practices, considering the specific school context, student characteristics, and existing resource limitations. Whereas, a deep understanding of strategy optimization is essential to provide practical guidance for teachers in implementing innovative learning strategies that are not only theoretically effective but also feasible in practice.

Theoretically, this research is based on the collaborative learning theory proposed by Mahmudi (2006), which states that collaborative learning places students with diverse backgrounds and abilities to work together in small groups to achieve common academic goals. This theory is relevant to the team quiz strategy, which emphasizes group cooperation in answering questions and testing material understanding. In collaborative learning, each student in the group is responsible not only for their own learning but also for the learning of other group members, thus creating positive interdependence that encourages mutual success.

Furthermore, this research also refers to modular learning theory, which suggests that learning material should be delivered in smaller units or sessions to facilitate students' deep understanding (Harminal, 2016). This theory forms the basis for solutions developed to overcome time constraints in implementing the team quiz strategy. Moreover, this research also adopts Vygotsky's social constructivism perspective, which emphasizes the importance of social interaction and the zone of proximal development in learning, where students can learn more effectively through interaction with peers who have better understanding (Tohar, 2024).

Based on the above description, this research focuses on comprehensively examining the optimization of the team quiz strategy in PAI-BP learning at SMP Negeri 2 Panyabungan. Specifically, this study aims to: (1) describe the steps for optimizing the team quiz strategy in PAI-BP learning, including planning, implementation, and evaluation; and (2) analyze the supporting and inhibiting factors in the application of the team quiz strategy and identify practical solutions to overcome these obstacles. Through this research, it is hoped that a deep understanding of best practices in implementing the team quiz strategy to improve the quality

of PAI-BP learning at the junior high school level can be obtained, which can serve as a reference for teachers and other schools in adopting innovative learning strategies.

RESEARCH METHOD

Research Design

This research uses a qualitative approach with a descriptive design to explore the optimizion of the team qiuz strategy in PAI-BP learning. The qualitative approach was chosen because it allows researchers to understand in depth the phenomena, expriences, and meanings that occur in natural contexts without manipulation or intervention from researchs.

This research was conducted at SMP Negeri 2 Panyabungan from November 2023 to August 2024. The selection of this research location was based on considerations that the school had implemented the team quiz strategy in PAI-BP learning, so that data regarding the optimization process and factors influencing its implementation could be obtained comprehensively.

Research Target/Subject

Research participants were selected using a purposive sampling technique to ensure the collection of rich and relevant qualitative data related to the implementation of the team quiz strategy in PAI-BP learning. The research subjects consisted of the school principal (one person), two PAI-BP teachers, and ten students. The selection of students with varied levels of academic ability was intended to capture diverse perspectives on the learning process and to explore how the strategy was experienced by students with different levels of participation and understanding. This sampling strategy was considered appropriate for a qualitative study, as it enabled in-depth exploration of instructional practices and supported the attainment of data saturation regarding the implementation process.

Research Procedure

The research procedure was carried out through several stages. First, the researcher conducted initial observation to understand the general context of learning at the research location. Second, the researcher conducted in-depth interviews with all research subjects to collect data about expriences, perceptions, and views regarding the optimization of the team quiz strategy. Third, the researcher conducted participatory observation during the implementation of PAI-BP learning using the team quiz strategy to observe directly the process, interaction, and dynamics that occurred. Fourth, the researcher collected supporting documents such as lesson plans, learning materials, and assessment results.

Instruments, and Data Collection Techniques

Data collection was carried out through three complementary techniques. First, in-depth interviews were conducted using semi-structured interview guidelines to allow flexibility in exploring information according to the context and responses of informants. Second, participatory observation was conducted by observing directly the process of implementing the team quiz strategy in the classroom. Third, documentation was collected in the form of lesson plans, learning materials, photos of learning activities, and other relevant documents.

Data Analysis Technique

The collected data were analyzed using the Miles and Huberman model through three stages. First. Data reduction was conducted by selectinng, simplifying, and abstacting raw data from field notes, interview transcripts, and documents. Second, data display was done by organizing and presenting data in the form of narratives, matrices, or diagrams to facilitate

understanding of patterns and relationships between data. Third, conclusion drawing and verification were carried out by interpreting data and drawing conclusions based on findings that had been validated. To ensure the validity of the findings, this research applied source triangulation by comparing data from different sources, method triangulation by comparing data obtained through interviews, observation, documentation, and member checking by verifying the accuracy of data interpretation with informants.

RESULTS AND DISCUSSION

This research produced comprehensive findings regarding the optimization of the team quiz strategy in PAI-BP learning at SMP Negeri 2 Panyabungan. The research findings are organized into two main parts: (1) optimization of the team quiz strategy in PAI-BP learning; and (2) supporting and inhibiting factors of the team quiz strategy along with their solutions.

The results show that the optimization of the team quiz strategy at SMP Negeri 2 Panyabungan was carried out through several systematic steps integrated into learning planning, implementation, and evaluation. Based on interviews with PAI-BP teachers and the school principal, it was revealed that the implementation of this strategy began with the principal's policy of holding regular socialization every semester about the importance of using innovative learning strategies. This socialization was not only in the form of lectures or one-way instructions but also included workshops, group discussions, and sharing sessions among teachers to share experiences and best practices in implementing various learning strategies. As revealed by the principal: "We want every teacher in this school not to be fixated on conventional learning methods. Therefore, we regularly hold socialization to introduce and encourage the application of innovative learning strategies like team quiz. We consider this important, considering that variations in learning strategies can increase student activity and involvement in the learning process."

This policy received a positive response from PAI-BP teachers, who stated that the socialization greatly helped them understand various active learning strategies and provided inspiration to try implementing them in class. In addition to socialization, the school also provided supporting facilities such as comfortable classrooms, adequate whiteboards, and learning references accessible to teachers through the library or digital sources. The first step in optimizing the team quiz strategy was thorough planning. Interview results with Mr. Naziruddin revealed that before applying the team quiz strategy, he performed several important preparations: first, identifying learning material suitable for application with this strategy, namely material requiring deep understanding and having a broad enough scope to be divided into several sub-topics; second, compiling a Lesson Implementation Plan (RPP) that explicitly listed the team quiz strategy as the main learning method with clear time allocation for each activity stage; third, preparing learning materials in the form of summaries or handouts to be distributed to each group; and fourth, compiling guidelines or assessment rubrics to be used to evaluate group and individual performance.

The second step was random grouping of students. Observation results showed that PAI-BP teachers divided students into three groups (A, B, and C) using a lottery method using papers containing group numbers or names. The grouping process was carried out at the beginning of the lesson by directly involving students in drawing lots, making the group division process transparent and accepted by all students. This random grouping aimed to create groups heterogeneous in terms of academic ability, gender, and personality characteristics, so that students could better help their struggling peers, and rich exchange of perspectives occurred in group discussions. As explained by one PAI-BP teacher: "For group division, I usually divide them randomly. This is so that students have the opportunity to work with different groups. I usually do it through a name lottery or division based on numbers. But sometimes I also divide groups based on varying abilities, so that less active students or those

who don't understand the material can ask and learn with their usually active or understanding classmates."

Observation results showed that this random grouping created interesting dynamics in the classroom. Students who usually only interacted with their close friends had the opportunity to work with other classmates they might not have known well. This not only improved students' social skills but also created a more inclusive and collaborative classroom atmosphere. Some students stated that they initially felt awkward working with different peers, but over time they became more comfortable and appreciated the different perspectives from their group members.

The third step was the distribution of material and assignment of roles within groups. Each group received different material to study and present to other groups. Observations showed that the teacher gave very clear instructions about the roles within the group, which included: (1) group leader responsible for leading discussions, ensuring all members participated, and coordinating task division; (2) writer or recorder responsible for noting important points from the discussion, summarizing material, and documenting questions to be asked to other groups; (3) presenter responsible for presenting the group's discussion results clearly and systematically in front of the class; and (4) researcher or information seeker responsible for seeking additional information from books, notes, or other sources to enrich the group's understanding.

This role division ensured that each group member had specific responsibilities and actively contributed to learning. The PAI-BP teacher also implemented a role rotation system, where in the next team quiz session, each student would get a different role from before. This rotation system aimed to develop various skills in each student and prevent dominance or dependence on certain group members. As revealed by Mrs. Hanisah: "This role division is very important to ensure all students are actively involved. I also implement role rotation so that each student experiences various positions and develops different skills. For example, quiet students can get the opportunity to become presenters to increase their confidence."

The fourth step was the implementation of inter-group presentation and quiz sessions. Based on interviews with PAI-BP teachers and observation results, this process began with Group A presenting their material for 10-15 minutes, while Groups B and C were tasked with listening carefully and noting important points. The teacher provided clear time limits for presentations to keep learning efficient and give all groups equal opportunity. After the presentation finished, Group A was given 5 minutes to prepare questions to test the understanding of other groups.

The PAI-BP teacher guided that the questions compiled should be comprehension and application types, not just recall, thus encouraging other groups to think more deeply. The questions were then given to Group B first. If Group B could answer correctly and completely, they received points, and Group A continued with the next question for Group C. However, if Group B could not answer or the answer was incomplete, the question would be thrown to Group C to try to answer. If Group C succeeded in answering, they received bonus points. This point system created positive competition that motivated all groups to prepare well.

The same process was carried out in turn for Groups B and C, so that each group had the opportunity to be both presenter and responder. Observation results showed that during this process, the PAI-BP teacher acted as an active facilitator: moving around monitoring each group's discussion, providing scaffolding or minimal assistance when groups faced difficulties, ensuring time proceeded according to plan, providing clarification if there were misconceptions in presentations or answers, and noting points for each group. At the end of the session, the teacher provided constructive feedback on the quality of presentations, questions, and answers from each group, and corrected concepts that were still mistaken.

The fifth step was reflection and evaluation. After all groups completed the team quiz session, the teacher allocated 10 minutes for reflection activities. Students were asked to write

down important lessons they gained from this activity, difficulties they faced, and suggestions for improvement in the next session. The teacher also conducted formative evaluation by randomly asking several oral questions to students to check their understanding of all materials presented by the three groups. This evaluation was important to ensure that learning did not only occur within their respective groups but also that knowledge transfer between groups happened effectively.

Observation results showed that students displayed high enthusiasm during the implementation of the team quiz. They appeared very active in group discussions, enthusiastic in composing challenging questions for other groups, and tried hard to answer questions well so their group would get points. Some students were even seen doing additional preparation by rereading material outside class hours to be more prepared for the quiz. This aligns with the statement of one student: "I really like the team quiz strategy because I can cooperate with friends in the group. We become more united and learn in a fun way. Besides, there's a sense of togetherness and mutual help when answering questions."

Another student expressed similar sentiments: "With the team quiz, I understand better because I can discuss with friends. If there's something I don't understand, group mates usually help explain. Team quiz also helps me become more enthusiastic to participate because there's a challenge to get the best score together with the group."

This research identified a number of supporting and inhibiting factors in the implementation of the team quiz strategy, organized based on the level at which these factors operate: institutional level (school), instructional level (teacher), and individual level (student).

The main supporting factor identified was full support from the school through the principal's policies and provision of adequate learning facilities. The principal of SMP Negeri 2 Panyabungan showed strong commitment to learning innovation by holding regular socialization every semester that introduced various active learning strategies to teachers. This socialization was not only informative but also provided space for teachers to discuss, share experiences, and receive collegial support in implementing new strategies. As expressed by the principal: "The school fully supports the implementation of innovative learning strategies like team quiz. This activity aligns with the school's mission to optimally improve achievement through the teaching and learning process. Besides, the adequate ability of teachers also supports the smooth implementation of this strategy."

The second supporting factor identified in this study was the competence and creativity of PAI-BP teachers in designing and implementing innovative learning strategies. Both teachers demonstrated a strong understanding of collaborative learning principles and were able to adapt the team quiz strategy to the characteristics of PAI-BP materials and students' learning conditions. This adaptability indicates not only technical teaching skill but also pedagogical judgment in aligning learning strategies with value-oriented instructional goals. Teacher competence played a crucial role in ensuring that the team quiz strategy functioned as more than an interactive activity, instead serving as a medium for fostering student engagement, cooperation, and ethical awareness. As revealed through interviews, the teachers' ability to contextualize learning strategies within Islamic values strengthened the meaningfulness of student participation. These findings suggest that teacher competence and creativity are central to the successful implementation of innovative learning strategies in PAI-BP learning, particularly when the goal extends beyond cognitive outcomes toward character and value internalization.

The second supporting factor was the competence of PAI-BP teachers in designing and implementing innovative learning strategies. Both PAI-BP teachers who were research participants had long teaching experience (over 15 years) and had attended various trainings on active learning strategies. They demonstrated a good understanding of collaborative learning principles and were able to adapt the team quiz strategy according to the characteristics of PAI-BP material and the condition of students in their classes. As revealed by Mr. Naziruddin:

"Teacher competence, especially in applying learning strategies like team quiz, is very important and is one of the main factors in its successful implementation. At SMP Negeri 2 Panyabungan, we PAI-BP teachers have been equipped with adequate knowledge and skills to apply various learning strategies, including team quiz. We also often share learning links about the team quiz strategy available on YouTube to help us develop and optimize this strategy in the classroom."

These teachers also showed a reflective attitude and willingness to continuously learn and develop. They actively sought additional information about learning strategies from various sources, including education journals, online learning videos, and teacher discussion forums. When facing obstacles in implementation, they did not give up but sought creative solutions, such as dividing the team quiz implementation into several sessions or limiting the number of questions to be more focused and in-depth. Teacher creativity in adapting strategies according to the local context was key to successful implementation.

The third supporting factor was the high enthusiasm and positive response of students towards the team quiz strategy. Interview results with ten students showed that they really liked this strategy for various reasons: learning became more fun and less boring compared to lecture methods; they got the opportunity to cooperate with friends and build togetherness; competition between groups motivated them to learn and understand the material well; and they felt more confident and brave to speak in front of the class. As expressed by one student: "In my opinion, team quiz is very helpful in learning. We don't learn alone but can discuss with friends in the group. If there's something not understood, we can ask and friends are definitely willing to explain. Besides, because we work in a team, we are more enthusiastic and not bored."

Student enthusiasm was also visible from their active participation during learning. Observation results showed that over implied: a high percentage of students were actively involved in group discussions, both in studying material, composing questions, and answering questions from other groups. Even students who were usually passive and rarely participated in conventional learning appeared more active and confident when in small group contexts. This indicates that the team quiz strategy successfully created an inclusive learning environment that supported the participation of all students.

The first identified obstacle was limited learning time. The ideal implementation of the team quiz strategy requires quite a long time to complete all stages: group division, material discussion, presentation, quiz preparation, quiz execution for all groups, and reflection. However, the time allocation for PAI-BP subjects in junior high school is 3 lesson hours (3 x 40 minutes) per week, which must be used to deliver various materials in the curriculum. As revealed by Mr. Naziruddin: "Time limitation is indeed one of the main challenges in implementing team quiz. Often, the available time feels insufficient to carry out all stages well, especially when students need more time to discuss and solve problems. As a result, activities become rushed, and students cannot delve into the material maximally."

This time limitation was also felt by students, as expressed by one of them: "In my opinion, the time for doing team quiz often feels too short. We have to quickly discuss and answer questions, and sometimes it feels rushed. Because of the limited time, we also can't always discuss all questions well." To overcome the time limitation obstacle, PAI-BP teachers at SMP Negeri 2 Panyabungan developed two creative solutions: The first solution was the gradual implementation of team quiz, where the team quiz activity was divided into several sessions across multiple meetings. For example, in the first meeting, only Group A did the presentation and quiz, then in the second meeting it was Group B's turn, and the third meeting for Group C.

This way, each session could be more focused and in-depth, and students had sufficient time to prepare well. As explained by Mr. Naziruddin: "To overcome this problem, I started implementing team quiz gradually. I divide the team quiz implementation into several smaller

sessions conducted over several meetings. This way, each session can be more focused, and students don't feel rushed. They have enough time to understand the material, discuss, and prepare answers well."

The second solution was time optimization by limiting the number of questions. Instead of giving many questions in one quiz session, the teacher limited the number of questions to 5-7 quality questions for each group. With reduced quantity but increased question quality, discussions could be conducted more deeply for each question. The teacher also guided that questions should be higher-order thinking (analysis, evaluation, creation) rather than lower-order thinking (remembering, understanding), so that even though few in number, these questions encouraged critical thinking. Students responded positively to this solution, as expressed: "With the limitation on the number of questions, it really helps us. Now we can focus more on the existing questions without feeling pressured to finish them all in a short time. We have more time to discuss and think about answers thoroughly, so the results are also better."

The second obstacle was differences in academic ability among students in one class. Observation and interview results showed that in each class there were students with a very wide range of abilities: some who quickly understood the material and actively participated, some with moderate ability, and others who experienced learning difficulties and tended to be passive. When students with very different abilities were grouped together, there was a risk that the more capable students would dominate discussions and decision-making, while the less capable became passive and just followed along. As expressed by Mrs. Hanisah: "I also feel that differences in student ability become an inhibiting factor for us in implementing the team quiz strategy. In class, there are students with very varied levels of understanding and ability. Some students may have better understanding of the lesson material, while others may need more time and help."

Some students also expressed their feelings regarding these ability differences: "Yes, sometimes I feel a bit pressured because I'm afraid of answering incorrectly, especially if there are smarter friends in the group." To overcome this obstacle, PAI-BP teachers applied the solution of clear task and role assignment within groups. Each group member was given a specific role according to their strengths and abilities, yet still challenging for growth. For example, students with good communication skills but low confidence could be given the role of presenter to train their confidence. Students who were thorough and neat could be given the role of writer. Students with good material understanding could be given the role of group leader, also tasked with helping other members understand the material (peer tutoring).

As explained by Mr. Naziruddin: "Indeed, differences in student ability are one of the obstacles in implementing team quiz. Often, more capable students tend to lead and do most of the tasks, while other students are less active. To overcome this, I apply different task and role assignments in each group. For example, I ask students who are quicker in understanding the material to help their friends or become group leaders. Meanwhile, I give other students more specific tasks, like noting important points or managing time. This way, all students feel involved and contribute according to their abilities."

A role rotation system was also implemented so that each student experienced various positions and developed diverse skills. In the next team quiz session, students who were previously writers could become presenters, those who were researchers could become group leaders, and so on. This rotation ensured that no student was continuously in the same position, which could reinforce stereotypes or power imbalances within the group. Students responded positively to this solution and felt its benefits: "Initially, I felt I couldn't contribute much because I felt not as smart as other friends in the group. Sometimes I just listened and followed along. But after tasks were divided according to ability, I felt more confident because I knew what I had to do. I could focus on my task and feel important in the group. Friends also discussed with me more often, so I felt more involved."

The findings of this research provide an important contribution to understanding the practice of optimizing the team quiz strategy in PAI-BP learning. This discussion section analyzes and interprets the research findings by referring to relevant theories and previous research results, and identifies the theoretical and practical implications of the findings.

The research findings show that the optimization of the team quiz strategy at SMP Negeri 2 Panyabungan was done through random grouping of students to create heterogeneous groups, combined with clear role division within groups. This practice aligns with the collaborative learning theory proposed by (Hasibuan, 2022), which states that effective collaborative learning places students with diverse backgrounds and abilities to work together in small groups to achieve common academic goals. Group heterogeneity creates opportunities for rich exchange of knowledge and perspectives and facilitates peer tutoring where more capable students can help their struggling peers.

Furthermore, clear role division within groups aligns with the concept of structured interdependence in the cooperative learning theory developed by Johnson (Sanjaya, 2017). According to this theory, positive interdependence can be created in several ways, one of which is role interdependence where each group member has a unique yet interconnected role. With role division such as group leader, writer, presenter, and researcher, each student has specific responsibilities important for the group's success, thus encouraging individual accountability and reducing the risk of free-rider problems that often occur in group work.

This finding is also supported by Manalu's research (2014), which emphasizes the importance of considering ability heterogeneity in learning groups. According to Vygotsky's social constructivism perspective, (Haryanto, 2021) social interaction in heterogeneous groups plays an important role in students' cognitive development because it creates a zone of proximal development (ZPD), which is the distance between the actual developmental level as shown by independent problem-solving ability and the potential developmental level that can be achieved through adult guidance or collaboration with more capable peers. In the context of team quiz, students who struggle to understand the material can achieve higher understanding through explanations and discussions with groupmates who have better understanding.

However, this research also found challenges in heterogeneous grouping, namely the potential for dominance by academically more capable students and passivity of less capable students. This finding is consistent with criticism of group learning raised by Webb (1991), who found that in heterogeneous groups, imbalance in participation often occurs where high-ability students tend to take over important tasks while others become passive spectators. To overcome this challenge, PAI-BP teachers at SMP Negeri 2 Panyabungan developed innovative solutions through clear role division and a role rotation system. This solution proved effective in ensuring active participation of all group members and developing various skills in each student.

The research findings reveal that the team quiz strategy is effective in increasing student engagement in PAI-BP learning. Students showed high enthusiasm, actively participated in group discussions, and were motivated to understand the material well to be able to answer questions and compose quality questions. This aligns with the principles of active learning proposed by (Silberman, 2020), who emphasizes that active learning places students as active subjects constructing knowledge through interaction, discussion, and collaboration, not as passive objects receiving information from the teacher.

Furthermore, the increase in engagement in the team quiz strategy can be explained by Self-Determination Theory (SDT) developed by (Ryan, R. M., & Deci, 2020). According to this theory, a person's intrinsic motivation is influenced by the fulfillment of three basic psychological needs: autonomy, competence, and relatedness. The team quiz strategy fulfills all three needs: (1) autonomy is fulfilled because students have autonomy in determining their group strategy, selecting important information to present, and composing questions; (2) competence is fulfilled because students experience success in answering questions correctly or

composing challenging questions, which increases their sense of competence; and (3) relatedness is fulfilled because students work in groups and develop positive relationships with their peers through collaboration.

This finding supports the results of research by(Febrisyamsi, 2020), which proved that the application of the team quiz strategy was able to increase student learning activity with an increase in activity percentage reaching 78% in the final cycle of classroom action research. This research expands the understanding of the mechanisms underlying this increase in activity, namely through the fulfillment of students' basic psychological needs that drive their intrinsic motivation to learn.

Besides increasing engagement, the research findings also show that the team quiz strategy is effective in increasing students' understanding of PAI-BP material. Students reported that they understood the material better because they could discuss it with group friends, hear explanations from different perspectives, and had to teach or explain to others. This phenomenon can be explained by the learning pyramid or cone of learning developed by Edgar Dale (Indriyani, Dina, 2024), which shows that learning retention rate increases when learning methods are more active. According to this model, students remember about 10% of what they read, 20% of what they hear, 30% of what they see, but can remember up to 90% of what they do or teach to others. In the team quiz strategy, students not only read and hear the material but also discuss it, present it, compose questions, and teach it to groupmates or other groups, thus significantly increasing their learning retention.

The research findings identify support from the school, particularly the principal's policies, as the main supporting factor for the successful implementation of the team quiz strategy. The principal of SMP Negeri 2 Panyabungan actively held regular socialization every semester to introduce innovative learning strategies to teachers, provided supporting facilities, and gave flexibility in learning management. This practice aligns with the concept of transformational leadership proposed by Bass in research (Harsoyo, 2022), which states that transformational leaders function as change agents who inspire, motivate, and support organization members to achieve higher goals and make innovative changes.

Transformational leadership has four main dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Nur, Lutfi, 2021). In the context of this research, the principal demonstrated all four dimensions: (1) idealized influence was shown through the principal's personal commitment to learning innovation and being a role model for teachers; (2) inspirational motivation was realized through a clear vision about the importance of innovative learning strategies and the ability to communicate that vision in an inspiring way; (3) intellectual stimulation was provided through socialization, discussion, and encouragement for teachers to try new approaches and think creatively; and (4) individualized consideration was shown through individual support for teachers facing difficulties in implementing new strategies.

This finding enriches the literature on educational leadership by showing how the principal's transformational leadership can create a culture of innovation in schools that supports the adoption and implementation of active learning strategies. This aligns with research by Leithwood and Jantzi, who found that transformational leadership has a positive impact on school climate, teacher motivation, and classroom learning practices. Principals who apply transformational leadership styles not only give directions and instructions but also create an ecosystem that supports continuous learning and professional growth for teachers, which in turn positively impacts the quality of student learning.

Time limitation was a significant obstacle identified in this research, consistent with the findings of research (Kusumawardani, 2017), which reported that lack of learning time made it difficult for students to concentrate their thoughts during team discussions. To overcome this obstacle, PAI-BP teachers at SMP Negeri 2 Panyabungan developed two innovative solutions: gradual implementation of team quiz and limiting the number of questions with a focus on

quality. This gradual approach aligns with the modular learning theory proposed by (Harminal, 2016), which suggests that learning material should be delivered in smaller units or modules to facilitate students' deep understanding. The chunking theory in cognitive load theory developed by Sweller (1988) (Putra, Fawwas, 2025) also supports this approach. According to this theory, human working memory capacity is limited, so too much or overly complex information can cause cognitive overload that hinders learning. By dividing the team quiz implementation into several smaller sessions, students' cognitive load can be better managed, allowing them to process information more deeply and store it in long-term memory.

Furthermore, limiting the number of questions with a focus on quality aligns with the depth over breadth principle in learning. Rather than trying to cover many topics or questions superficially, this approach emphasizes deep understanding of a few key concepts or questions. This aligns with Bloom's taxonomy revised by Anderson and Krathwohl (2001) (Jian Nurus Shofa & Miksan Ansori, 2022) which distinguishes between lower-order thinking skills (remembering, understanding) and higher-order thinking skills (applying, analyzing, evaluating, creating). By limiting the number of questions but increasing their quality to encourage higher-order thinking, learning becomes more meaningful and has long-term impact.

The innovative solutions developed by PAI-BP teachers demonstrate the importance of teacher agency and creativity in adapting learning strategies according to local contexts and constraints. This aligns with the concept of adaptive expertise proposed by Hatano and Inagaki (1986) in (Andrea, 2024), namely the ability to apply knowledge and skills flexibly and innovatively to solve new problems or unexpected challenges. Teachers with adaptive expertise do not just apply learning strategies mechanically according to manuals or theory but are able to make creative modifications based on a deep understanding of learning principles, student characteristics, and their specific context.

The findings of this research have specific implications for PAI-BP learning, which differs from other subjects. PAI-BP encompasses not only the cognitive dimension (knowledge about religious teachings) but also the affective dimension (religious attitudes and values) and psychomotor dimension (worship practices and morals)(Kholis, 2023). The team quiz strategy applied at SMP Negeri 2 Panyabungan proved effective in integrating these three dimensions. Through group discussions, students not only shared cognitive knowledge about PAI-BP material but also reminded and encouraged each other to apply religious values and practices in daily life. Furthermore, the team quiz strategy created a learning community in the classroom that aligns with the concept of ukhuwah (brotherhood/sisterhood) in Islam.

Students learned to cooperate, help each other, respect differences, and compete healthily, which are important values in PAI-BP. This aligns with the hadith of the Prophet Muhammad SAW: "The parable of the believers in their mutual love, mercy, and compassion is that of one body; when one limb aches, the whole body reacts with sleeplessness and fever" (Narrated by Muslim). The team quiz strategy embodies this value in learning practice, where the group's success depends on the contribution and success of each member.

CONCLUSION

Based on the research findings, it can be concluded that the optimization of the team quiz strategy in PAI-BP learning at SMP Negeri 2 Panyabungan was implemented through systematic steps including planning, heterogeneous grouping, role division, quiz execution, and reflection. Its successful implementation was supported by three main factors: institutional support from the school, teacher competence, and student enthusiasm. Although facing constraints such as limited time and differences in academic ability, teachers successfully overcame them with gradual strategies and clear role assignments. As a result, this strategy proved to significantly increase active involvement, material understanding, and the development of cooperation values and competence among students.

AUTHOR CONTRIBUTIONS

Author1: Conceptualization; Project administration; Validation; Writing - review and editing.
Author 2: Data curation; In-vestigation.
Author 3: Data curation; Investigation.

CONFLICTS OF INTEREST

The authors declare no conflict of interest

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