Hybrid-Generative Learning: Learning Outcomes, Creative Thinking Skills, Learning Interest in Islamic Religious Education Subjects in Junior High School

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ABSTRACT

Purpose - The purpose of this study is to explain the effect of the Hybrid-Generative Learning implementation on learning outcomes, creative thinking ability, and student learning interest.

Desain/methode - This study used a pseudo-experimental method with a nonrandom control design of the pretest-posttest group. The population of this study was all grade 7 students in the even semester at Sekolah Menengah Pertama Negeri (SMPN) 01 Ngunut, Tulungagung. The sample of this study was four (4) classes that were deliberately selected from a total of six (6) classes that attended Islamic religious education subjects.

Findings - The average learning outcomes of students in the experimental class were better than those in the control class (67,523 > 57,028). Students in the experimental class had better creative thinking skills compared to the control class (70,387 > 53,633). The average learning interest of students in the experimental class had a higher interest in learning compared to the control class (37,378 > 29,441). The information shows that students who receive Hybrid Generative Learning have learning outcomes, creative thinking skills and learning interests are much higher than students in other classes.

Research Implications/limitation - The use of hybrid-generative learning models on other parameters requires further development for future research to reveal positive results on some of the more comprehensive models. Similarly, the duration of time ideally needs to be longer for different learnings.

Originality/value - Studies of hybrid-generative learning models have been conducted by several researchers in Indonesia. However, they only focused on developing this model for students' thinking and metacognitive skills. Therefore, this study is genuine, new, and can be a scientific reference.

Introduction

Technological advancements, particularly the internet and mobile devices, have enabled easy access to online learning (Kabir & Kadage, 2017; Reddy et al., 2022). It has opened opportunities to integrate technology into the learning experience (Motiwalla, 2007; Lee & Chan, 2007). One of the advances in the use of Internet technology in education is the application of hybrid learning (Erliza & Septianingsih, 2022), which is also known as blended learning (Shamsuddin & Kaur, 2020). Blended learning integrates online and face-to-face learning into one learning program and has been implemented at various levels of education (Kaur & Designing, 2020; Bala, 2016; Garg et al., 2019). The integration of offline and online learning and technology is a form of learning innovation (Rahmad Nursyahidin et al., 2021). The application of hybrid learning, due to its diverse benefits, has experienced a significant increase in the world of education (Graham, 2006; Arbaugh et al., 2010). Although various studies report the benefits of hybrid learning, a teacher must be able to determine the right design according to the goals and students' learning needs.

A good and effective learning process helps students to achieve optimally the competencies formulated in the learning objectives (Dunlosky, Rawson, Marsh, Nathan, and Willingham, 2013). Teachers can determine the form of learning used as a means to achieve learning objectives and make learning more effective (Kudryashova, Gorbatov, Rybushkina, & Ivanova, 2016). The achievement of learning objectives and the effectiveness of the learning process are reflected in the value of learning outcomes achieved by students. Choosing the appropriate learning model makes it easier for students to achieve optimal learning outcomes (Masino & Niño-Zarazúa, 2016). Conversely, unappropriate learning model means student learning outcomes will not be optimal.

However, the quality of learning is not only determined by how well student learning outcomes (Christou, 2016; Fauzi, 2013; Trilling & Fadel, 2009). Learning is also said to be of high quality if it facilitates the preparation of students to become humans who can compete in the world of work after graduation (Mcfarlane, 2013; Trilling & Fadel, 2009). Competitive are those who master various life and thinking skills (Buku, Mite, Fauzi, Widiansyah & Anugerah, 2015; Jerome, Lee & Ting, 2017; Magsino, 2014; Wilson, 2016). Therefore, the learning process is expected to improve the various thinking skills of students (Genlott & Grönlund, 2013; Prasertcharoensuk, Somprach, & Ngang, 2015).

One of which is the creative thinking skills needed and required to enter the industrial era 4.0 to 5.0 (Kahar et al., 2021; Mardliyah, 2019). Students in particular, through creative thinking, can increase their flexibility in problem-solving and understanding of problem information, as well as novelty and fluency in answering questions (Siswono, 2005). Teachers can gain a comprehensive view of their students' potential and talents (Fardah, 2012; Siswono, 2004), enable or allow new ideas to emerge (Utomo et al., 2014; Saputra, 2018), and generate new, helpful, and alternative ideas that can be applied to solve problems (Samsiyah & Rudyanto, 2015). Students with trained creative thinking skills will be able to be flexible, recognize opportunities, and face challenges in a rapidly evolving world (Ritter & Mostert, 2017). Given the importance of creative thinking, the

education and learning process is expected to encourage students to become individuals who are able to think authentically, fluently, flexibly, and elaboratively (Munahefi et al., 2020; Fajriah and Asiskawati, 2015; Panjaitan and Surya, 2017). Therefore, teachers, as the main component that most often interacts with students, are expected to be able to choose learning content that optimally encourages students' creative thinking skills (Fauziah, 2011; Asdarina et al., 2019).

Apart from optimal learning achievement and students' creative thinking skills, a learning process is said to be well delivered if it also increases students' interest in actively participating in the learning process. Students with learning interests will be more interested in being involved in the learning process (Widyanto, 2017; Ardy, 2014; Charli et al., 2019). It is indicated that a student who has a high interest in learning will achieve learning success (Sukeyasa et al., 2014; Pravesti, 2016; Wati et al., 2017). Even some researchers state that interest is one of the keys to students' academic success (Setiawan, 2018; Setiawan, 2018; Ni'matullah, 2018). Moreover, interest in learning was also reported to have a positive correlation with several parameters, including learning outcomes (Komsi, 2023; Hsieh, 2014; Hasmirati et al., 2023; Eom & Ashill, 2016; Hambali Alman Nasution and Suyadi, 2020).

The learning model that suits the skills of the 21st century is hybrid-generative learning or hybrid-generative learning, hereinafter called hybrid-GL. (Irwandani, 2015; Karlina et al., 2017). The students, through hybrid-GL learning, can stimulate their brains by not passively receiving information but actively constructing interpretations of the information and then drawing conclusions (Yatmi et al., 2019; Maharani et al., 2013). Students are free to express their ideas, questions, and problems to create a more effective and meaningful learning atmosphere (Irwandani, 2015; Sadewi & Wiyasa, 2020). Generative learning provides more than opportunities to respond and solve problems freely, creatively, and entertainingly (Ratnasari, 2014; López & Assaf, 2014; Cavanagh & Kiersch, 2023). Generative learning is also considered one form of learning suitable for learners in the field of history (Pangestu et al., 2021; Faizah, n.d.; Sundari and Chairunisa, 2018). This learning is also reported to have a positive impact on learning outcomes (Widiastuti, 2019; Sari & Priatna, 2020; Amanah et al., 2017; Subiantoro, 2022) and creative thinking skills (Sugilar, 2013; Putri et al., 2020; Moma, 2017) influence; Murjani &; Hamid, 2017) and increase students' interest in learning (Official &; Rusdi, 2021; Gea & Silalahi, 2019).

Several studies have been conducted to test the effects of generative learning. However, modification of learning activities is rarely done in generative learning. Several other studies try to integrate generative learning with other learning models, such as integrating problem-based learning (PBL) (Ratri et al., 2016) with web-based learning (Nofaizzi et al., 2020) or Guided teaching techniques (Tuada et al., 2017) using the Connect, Organize, Reflect, Extend (CORE) technique (Putri et al., 2020). Based on current hybrid learning trends, research integrating generative learning into the hybrid design is still rare, one of which was conducted by Schnellert & Kozak (2019), Raina et al. (2022), and Toussi (2020). Hybrid-generative learning in his research can effectively stimulate and develop

students' metacognitive awareness (Z. Li et al., 2013). Further research by Kim et al. (2021) and Hegde & Mundada (2022) reported that the use of generative hybrid learning has had a positive impact on the development of students' thinking skills.

The picture of the potential and benefits of a hybrid-generative learning model in the field of Islamic religious education (PAI) that can improve 21st-century skills has not been reflected (Karlina et al., 2017; Putri et al., 2017). This condition is caused by some teachers in Indonesia who fail to optimize learning and boost student interest (Saragih, 2010; Agnafia et al., 2017). It has resulted in the students' relatively low creative thinking ability in Indonesia (Lestari & Annizar, 202; Hidayati, 2016; Hendryawan et al., 2017). In truth, Indonesian students need these skills to compete in the 21st century. One of the skills in question is creative thinking.

The benefits of applying hybrid-generative learning in the learning process still need to be studied to determine the influence of this form of learning on other parameters. Previous reports have only examined the impact of hybrid-generative learning on students' cognitive learning outcomes, critical thinking, and metacognitive awareness. Mastery of concepts and the ability to think creatively, which are the common parameters that correlate with the quality of learning, have never been analyzed in this learning model. Additionally, the ability to think creatively, which is one of the indicators of learning quality in the 21st century, has never been improved through the application of hybrid-generative learning. Changes in student interest in participating in hybrid-generative learning have also never been studied. Therefore, this study tried to evaluate the impact of the hybrid generative learning application on these parameters. Based on this information, the purpose of this study is to explain the impact of the application of hybrid-generative learning on cognitive learning outcomes, creative thinking skills, and student learning interests in PAI subject.

This type of research needs to be done because it can provide information on the efficiency, effectiveness, and attractiveness of hybrid-generative learning models in improving cognitive learning outcomes, creative thinking skills, and student learning interest in PAI subjects at the junior high school level. The insights gained can be the foundation of development research in PAI learning. Teachers can also use these results when choosing an integrated learning model between e-learning and face-to-face teaching. Therefore, the purpose of this study is to analyze the impact of the application of hybrid-generative learning on cognitive learning outcomes, creative thinking skills, and student learning interests in PAI subjects at the secondary school level.

Methods

This study uses a pseudo-experimental method through a non-randomized control group pre-post test design, which aims to explain the effect of hybrid-generative learning applications on student learning outcomes, creative thinking, and learning interests. The population of this study consisted of students who could think and had interest and learning outcomes that were relatively homogenous, namely grade 7 SMPN 01 Ngunut Tulungagung, a total of 132 students. The sample of this study was class 7 A and class 7 D

as control classes and classes 7 B and 7 C as experimental classes. Each class consisted of 20 students taking PAI subjects.

The study was conducted in the even semester of the 2022/2023 academic year, from February to July of 2023 in Tulungagung Regency. Three dependent variables were learning outcomes, creative thinking ability, and interest in learning. The independent variable in this study was the Hybrid-GL learning model. Students in the control class followed learning in the form of lectures, discussions, and individual assignments. Meanwhile, the experimental class students followed learning through a hybrid-generative learning model. Students in the experimental class met twice in online learning and twice in face-to-face meetings. The study was carried out when the research subjects of both classes learned about the topic "Da'wah Strategy of the Prophet Muhammad SAW in Medina" with a sub-topic of "Steps Taken by the Prophet Muhammad to Build the Economy of the Madinah Community."

Data collection of each research parameter was performed twice, namely before (pretest) and after (posttest) the introduction of independent variables in both classes. The instrument used in collecting learning outcome data was the learning outcome test sheet. The tool consisted of ten development questions. The instruments were tested in various grades 7 of SMP 1 Ngunut Tulungagung with the participation of 40 students as respondents. Based on the analysis results of instrument items, the conclusion was those ten items were declared valid and the instrument fell in the "reliable" category.

Data on creative thinking skills were collected using a creative thinking skills questionnaire developed by Marzano (2001). This questionnaire comprises 13 questionnaires consisting of 3 categories, namely low (1.00-2.00), medium (2.01-3.00), and high (3.01-4.00). Following the analysis of instrument items, all questionnaire items were valid and reliable instruments. Learning motivation data were then collected using interest questionnaires of the ARCS (Attention, Relevance, Trust, and Satisfaction) model developed by Keller (1984, 1). The questionnaire encompasses 22 statements. The scale used in this questionnaire was the Likert type, which uses positive statements consisting of items with rates ranging from 1) strongly disagree; 2) disagree; 3) agree; and 4) strongly agree. The study data were tested for normality and homogeneity using the Shapiro-Wilk and Levene tests. The results were analyzed using the ANOVA test.

Result and Discussion

The concept mastery level of student learning outcomes was measured through learning outcomes tests. The achievement of these optimal parameters can be influenced by the learning model used in the classroom. The results of the Shapiro-Wilk and Levene test analysis of the data obtained in this study are presented in Table 1. Based on Table 1, the sig for learning outcomes, creative thinking ability, and interest in learning determined from the Shapiro-Wilk test were 0.215; 0,170; and 0.416; while the Levene test is 0.401; 0,0363; or 0.651. Therefore, all data obtained from this study met the requirements of normality and homogeneity assumptions.

Table 1. The Results of the Normality and Homogeneity Tests of the Research Data

Data	Statistical Tests	Sig.
Learning outcomes	Shapiro-Wilk	0.215
	Levene	0.401
Creative thinking skills	Shapiro-Wilk	0.170
	Levene	0.363
Learning interest	Shapiro-Wilk	0.416
	Levene	0.651

Table 2. The Results of the ANOVA Test of the Research Data

	Degree of Freedom	F	Sig.
Learning outcomes	1	21.994	< 0.05
Creative thinking skills	1	27.499	< 0.05
Learning interest	1	25.575	< 0.05

The achievement of learning outcomes is one of the parameters of learning success. Based on the results of hypothesis testing presented in Table 2, PAI obtained an F-score of 21.994 with Sig.< 0.05. Thus, there were significant differences in the achievement of student learning outcomes in experimental and control classes. Meanwhile, for Creative Thinking PAI obtained an F-score of 27.499 with a sig.< 0.05. Therefore, there was a significant difference in students' creative thinking ability in the experimental and control classes. Similarly, the results of student learning interest obtained an F value of 25.575 with Sig.< 0.05. Therefore, there was a significant difference in student learning interest in the experimental and control classes.

Table 3. The Comparison of Mean Scores of Corrected Results from Experimental and Control Classes

Data	Classes	Pretest	Posttest	Increase (%)	Corrected Mean Scores
Learning outcomes	Experiment	53.763	66.394	23.493	67.523
	Control	51.075	56.705	11.017	57.028
Creative thinking skills	Experiment	50.921	68.795	35.101	70.387
	Control	50.300	52.636	4.644	53.633
Learning interest	Experiment	27.816	36.136	29.910	37.378
	Control	26.275	28.636	8.985	29.441

The average corrected learning outcomes shown in Table 3 assume students in the experimental class obtained better learning outcomes compared to the control class (67,523 > 57,028). These data showed that students who receive hybrid-generative learning obtained much better learning outcomes than students in other classes. Meanwhile, the average correction for creative thinking skills was 70,387. Table 3 assumes that students in the experimental class had better creative thinking skills compared to the control class

(70,387 > 53,633). This data shows that students who receive hybrid-generative learning have much higher creative thinking skills than students in other classes. Similarly, the average learning interest corrected in Table 3 reveals that students in the experimental class had a higher interest in learning compared to those in the control class (37.378 > 29.441). The information shows that students who receive Hybrid Generative Learning have higher interests in learning than students in other classes.

The first parameter in the study was learning outcomes. Based on the results of the hypothesis test presented in Table 2, the achievement of learning outcomes of the group of students who got Hybrid-GL learning was significantly different from those who did not have the chance. Based on the data analysis results presented in Table 3, it can be seen that the average corrected score of students' creative thinking skills in the experimental class was higher than the average corrected score of students' creative thinking skills in the control class. Also, the average score of improved thinking skills in the experimental class was much higher than in the control class. Therefore, according to the ANOVA test results and the corrected average score, the achievement of creative thinking skills of students who received Hybrid-GL learning was much higher than students who did not receive Hybrid-GL learning.

The study results showing the impact of the application of hybrid-generative learning on student learning outcomes are consistent with several previous reports examining almost identical learning designs. Several reports, such as Rosdianto (2017), Karlina et al. (2017), Gea & Silalahi (2019), and Hardianti (2012), stated that the Hybrid-Generative learning model has a positive impact on student learning outcomes. In addition, Butz & Stupnisky (2016), Snart (2010), Kulsum et al. (2017), and Garrison & Kanuka (2004) stated that Hybrid learning can provide students with the most meaningful learning to achieve better results.

The learning outcomes in this study have illustrated students' mastery of concepts. Students in experimental classes had a better mastery of concepts because hybrid-generative learning can facilitate meaningful learning. Such learning conditions in experimental teaching are achieved through orientation activities, expression of ideas, challenges and restructuring, and application and verification of learned concepts, thus encouraging the student's brain not to passively absorb information but actively construct and interpret the information and then draw conclusions. The purpose of PAI learning is for students to discover their own concepts from top to bottom through cognitive shifts, scaffolding, and emphasis on complex, complete, and authentic problems to be solved through the theme "Steps taken by the Prophet Muhammad SAW to Build the Economy of Medina Society." Learning activities in experimental classes allowed students to gain meaningful learning experiences through problem-solving activities that were associated with real-life everyday conditions. This activity is indeed a major feature of the Hybrid-Generative learning model (Osborne & Wittrock, 1983; Khasanah et al., 2018; Wittrock, 1992).

Students in experimental classes will not only find it easier to achieve meaningful learning, but it will also be easier to become active students who build new

knowledge. During learning activities, students are encouraged to actively reflect on their knowledge and consciously work together in groups. Collaborative problem-solving activities, through generative learning activities, can educate students to become active learners (Febrianto et al., 2021; Nyoman, 2022; Herdi et al., 2014; Taufiq & Hidayani, 2016). This collaborative activity is also reported to optimize the process of knowledge absorption during learning (Santoso, 2013; Funali, 2016; Dewi et al., 2020; Utami et al., 2019).

The following research parameter is the ability to think creatively. Based on the results of the hypothesis test using ANOVA (Table 2), the acquisition of creative thinking skills in students who received hybrid-generative learning was significantly different from students who did not receive hybrid-GL. The data analysis results in Table 3 showed that the average corrected score of students' creative thinking skills in the experimental class was higher than the average corrected score of student's creative thinking skills. The average improvement in thinking skills was much higher compared to the control class. Based on the results of the ANOVA test and the corrected average score, the achievement of creative thinking skills was much higher in students who got Hybrid-GL than in students who did not get Hybrid-GL.

The effect of hybrid-generative learning applications on students' creative thinking skills is in tune with several previous reports that examined the use of generative learning and hybrid learning on thinking skills. Anstine and Isayev (2023) and Fujino et al. (2008) emphasized that hybrid-generative learning can improve students' creative thinking skills. Consistent with these findings, Ramezanan-Panahi et al. (2022) also stated that hybrid-generative learning is learning that has the potential to further develop students' thinking skills. Further research states that hybrid-generative learning has the potential to stimulate three components of thinking skills, namely self-regulation, critical thinking, and creative thinking skills (Holub et al., 2008; Peharz et al., 2020).

One of the reasons why students' creative thinking skills in the experimental class were better than those in the control class was because students actively constructed their knowledge. Students are also given freedom to express ideas and reasons for the problems raised, to better understand the knowledge they gain, and the learning process carried out more optimally through five phases of activities, namely orientation, expression of ideas, challenges and restructuring, application, and looking back (reflection). This activity encourages them to use their creativity in solving problems related to learning topics. Students in the experimental class have to ask questions and communicate their answers. Then, in the concentration phase, students have the opportunity to propose hypotheses, followed by the challenge phase, where students test hypotheses by planning and carrying out data and information collection activities as much as the hypothesis test. Therefore, this hybrid-generative learning model is suitable for use in PAI learning based on a constructivist approach. This explanation is in line with Nguyen & Cho (2019) and Anstine & Isayev (2023), who reported that the generative learning model application is an innovative advancement that can transform the learning process into a means of developing student creativity. Furthermore, M. Li et al. made a similar statement.

(2018) and Ramezanian-Panahi et al. (2022) stated that hybrid-generative learning activities require students to solve problems by producing a product creatively.

The third parameter is interest in learning. Based on Table 2, the learning motivation of students who received hybrid-generative learning treatment was significantly different from students who did not receive hybrid-generative learning. Table 3 shows that the corrected average of student learning interest in the experimental class was higher than in the control class. Therefore, it can be said that the learning interest of students who obtain hybrid-generative learning is much better compared to control class students who do not obtain hybrid-generative learning. Based on the corrected mean, there was also a significant difference in the increase in student learning interest in the experimental class (29.910%) compared to the control class (8.985%). Based on the ANOVA test and the average correction results, the achievement of learning interest of students who received hybrid-generative learning was much higher than students who did not receive hybrid-generative learning.

The significant difference between students in experimental and control classes in this study is most likely due to several factors. First, the generative learning model emphasizes student interaction, with the teacher's role as a facilitator to make learning meaningful. Meaningful learning certainly affects students' interest in learning (Sembiring, 2013; Hudaya, 2018). Students who take part in hybrid-generative learning have a high interest in learning, so the learning outcomes they achieve will also be high (Wulandari et al., 2014; Moma, 2017).

Second, a learning environment that appeals to and stimulates the student's interest in building knowledge and ideas about a significant phenomenon in his mind through active speaking and action (Tafonao, 2018; Yulistirawati et al., 2021). Third, hybrid-generative learning encourages students to speak and express their opinions as early as possible, so it will instill in children a sense of courage and interest in the future without shame to express their opinions and ideas (Indrawan et al.2023; Agnafia 2017) Fourth, creating an active learning atmosphere encourages students to recall previously learned material and allows them to convey their thoughts, opinions, and understands verbally of the concepts learned (Irwandani, 2015; Mawaddah & Anisah, 2015).

Fifth, allowing students to communicate concepts that can increase self-confidence (Karlina et al., 2017). Sixth, the advantage of the hybrid-generative learning model is that it trains students to respect the opinions of others (Fuad, 2018). Seventh, generative models require student involvement in extracting information from various sources to be interested in following learning, leading to increased student interest in learning (Hakim, 2015). Therefore, the trend of this study's results, shows that students' learning interest in experimental classes that are better than those in control classes, is more likely to experience significant changes if the research is conducted over a long period. Furthermore, students in the experimental class also participated in online learning.

Based on several references and several previous studies, interactive learning activities offered in online learning design are considered capable of creating a pleasant

learning climate and increasing student interest in learning and participation in the learning process (Magdalena et al., 2021; Zebua & Harefa, 2022; Rohani and Zulfah, 2021).

Conclusion

The study results have shown the significant influence of the hybrid-generative learning model on PAI learning outcomes, creative thinking ability, and student learning interest at the junior high school level. The results of this study have revealed that the hybrid-generative learning model is one alternative form of learning relevant to the needs of the 21st century. The application of hybrid-generative learning models to other parameters needs to be further developed - studies to further demonstrate the positive impact of the hybrid-generative learning model. Moreover, researchers suggest extending the study duration to analyze the long-term effects of different learning.

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