



## Islamic Religious Education Learning Strategy Based on Self-Regulated Learning in Enhancing Students' Metacognition at Al-Izzah International Islamic Boarding School

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### Article History:

Received: November 12, 2025; Revised: Desember 21, 2025; Accepted: Desember 27, 2025; Published: Desember 31, 2025

### Abstract: Islamic Religious Education Learning Strategy Based on Self-Regulated Learning in Enhancing Students' Metacognition at Al-Izzah International Islamic Boarding School

**Objective:** This study aims to analyze the learning strategies employed by teachers to enhance students' metacognition through a *Self-Regulated Learning* (SRL) approach at Al-Izzah IIBS Batu High School. **Method:** This study employs a qualitative approach, utilizing a case study design. Data was obtained through interviews with the principal, vice principal for curriculum, Islamic Education teachers, homeroom teachers, and students. **Results:** The improvement of students' metacognition at SMA Al-Izzah IIBS Batu is achieved through a Self-Regulated Learning (SRL)-based Islamic Religious Education teaching strategy that involves teacher reflection and the development of students' learning independenc. **Conclusion:** Students' self-regulated learning (SRL) abilities influence their metacognition, which, in turn, shapes their learning independence and readiness to become lifelong learners. **Contribution:** This study contributes to the implementation of Self-Regulated Learning in Islamic Religious Education, enhancing metacognition and fostering life skills such as independence, responsibility, and self-awareness among students.

**Keywords:** Islamic religious education learning strategy; Self-regulated learning; Students' metacognition

### Abstrak: Strategi Pembelajaran Pendidikan Agama Islam Berbasis Self-Regulated Learning Dalam Meningkatkan Metakognisi Siswa di Al-Izzah International Islamic Boarding School

**Tujuan:** Penelitian ini bertujuan untuk menganalisis strategi pembelajaran yang dilakukan oleh guru dalam meningkatkan metakognisi siswa melalui pendekatan berbasis *Self Regulated Learning* (SRL) di SMA Al-Izzah IIBS Batu. **Metode:** Penelitian ini menggunakan pendekatan kualitatif dengan jenis studi kasus. Data diperoleh melalui wawancara dengan kepala sekolah, waka kurikulum, guru Pendidikan Agama Islam, wali kelas dan siswa. **Hasil:** Peningkatan metakognisi siswa di SMA Al-Izzah IIBS Batu tercapai melalui strategi pembelajaran Pendidikan Agama Islam berbasis Self-Regulated Learning (SRL), yang melibatkan refleksi guru dan pengembangan kemandirian belajar siswa. **Kesimpulan:** Kemampuan *Self-Regulated Learning* (SRL) peserta didik memberikan pengaruh terhadap metakognisinya, yang pada akhirnya membentuk kemandirian belajar dan kesiapan menjadi pembelajar sepanjang hayat secara berkelanjutan. **Kontribusi:** Penelitian ini berkontribusi dalam penerapan Self-Regulated Learning pada pembelajaran Pendidikan Agama Islam, yang meningkatkan metakognisi dan menumbuhkan keterampilan hidup seperti kemandirian, tanggung jawab, dan kesadaran diri pada peserta didik.

**Kata Kunci:** Strategi pembelajaran PAI; Self-regulated learning; Metakognisi Siswa

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### To cite this article:

Mahmuda, K., Asrori, M., & Sholeh, A., (2025). Islamic Religious Education Learning Strategy Based on Self-Regulated Learning in Enhancing Students' Metacognition at Al-Izzah International Islamic Boarding School. *At-Ta'lim: Media Informasi Pendidikan Islam*, 24(2), pp. 288-298. <http://dx.doi.org/10.29300/attalim.v24i2.9397>

## A. INTRODUCTION

21st-century learning strategies shift the paradigm of education from a teacher-centered approach to a learner-centered approach. Teacher-centered learning approaches often make learners passive participants in the learning process. The transformation to learner-centered learning is a crucial step in improving the quality of education, as it encourages learners to participate actively in the learning process. (Tarumasely, 2024). The challenges and issues related to teacher professionalism in Indonesia indicate that active learning strategies have not been fully and consistently implemented, primarily due to limited training and local contextual factors (Kusanagi, 2022). Teachers tend to use monotonous methods still and do not fully utilize metacognitive strategies that can encourage student independence in learning (Kusumawati, 2022).

Unlike learner-centered learning approaches, where learners play an active role and are taught to take responsibility for their own learning process. The concept of Self-Regulated Learning is important because, in general, it refers to learning that is guided by metacognition (thinking about one's own thinking), strategic actions (planning, monitoring, and evaluating personal progress against a standard), and motivation to learn (Efklides & Schwartz, 2024). Learners are taught to monitor, direct, and regulate their actions and learning to acquire information, expand their skills, and improve them, while teachers act as facilitators and mentors (Mariani, 2024). This increase in self-control is key to success, especially in learning that shapes students' minds as lifelong learners. This potential is highly relevant to the demands of 21st-century education, which requires students to have 4C skills (Critical Thinking, Collaboration, Creativity, and Communication) (Yuliana & Irawan, 2024). Learning strategies have a significant impact on shaping students' character in learning and managing themselves, motivating themselves, maintaining focus, managing their study time well, not always relying on teachers' instructions to increase their knowledge, and enabling students to face unexpected challenges encountered during the learning process (Leggett, 1988).

Zimmerman defines Self-Regulated Learning as a process whereby individuals regulate and manage their behavior, motivation, and mood during the learning process. This includes the process of planning learning objectives, monitoring one's progress, regulating oneself while learning, and evaluating the learning outcomes achieved (Tarumasely, 2024). Meanwhile, metacognition was first introduced by John Flavell, a psychologist from Stanford University, in 1976. John Flavell defines metacognition as thinking about one's thoughts or knowledge about their cognitive processes. The word "metacognition" consists of two words: "meta" and "cognition." Meta means after, beyond, or above (Hartini et al., 2024). Cognition is a skill related to the thinking process. From an Islamic perspective, self-regulation and metacognition are important constructs that reflect an individual's ability to take responsibility for their actions and deeds (Panggabean, 2023).

Research on Self-Regulated Learning (SRL)-based Islamic Education learning strategies shows an increasing focus on how self-regulation skills can strengthen students' metacognition and learning independence. Hasan & Amiruddin (2024) found that the application of SRL in Islamic Education learning can increase independence and metacognitive awareness through planning, self-monitoring, and reflection activities. Nurhayati (2023) demonstrated that SRL plays a crucial role in reducing procrastination behavior among students memorizing the Qur'an, thereby enhancing their ability to manage learning and think metacognitively. Mukni'ah & Fawait (2024) also revealed that self-regulation skills develop strongly in traditional Islamic school cultures due to the systematic development of spiritual habits and self-control. The findings of Novarizka et al. (2024) expand the evidence that SRL contributes to increased learning engagement and decreased academic stress among Islamic school students, which is closely related to the strengthening of metacognitive processes. Meanwhile, Jannah & Sari (2023) emphasize that self-regulation levels differ among student profiles, but SRL remains a consistent predictor in the development of higher-order thinking skills, includ-

ding metacognition. Overall, the five studies demonstrate that SRL-based learning strategies are relevant and practical in Islamic Religious Education, enhancing students' metacognitive abilities.

Although various studies over the past seven years have demonstrated that the Self-Regulated Learning (SRL) approach is effective in enhancing student learning independence, motivation, and engagement, most studies have not specifically integrated SRL into the context of Islamic Religious Education learning to develop student metacognition comprehensively. Previous studies have mostly highlighted the influence of SRL on procrastination, independence, or academic stress. At the same time, few have directly examined how Islamic Religious Education learning strategies can be designed based on SRL to optimize higher-order thinking skills, particularly metacognitive awareness, which is very important in understanding, reflecting on, and internalizing religious values. Additionally, previous studies have not examined the interaction between Islamic school culture, student character, and the pedagogical practices of Islamic Religious Education teachers and the self-regulation process. Thus, this study is important for filling this gap through a more in-depth examination of SRL-based Islamic Religious Education learning strategies that directly target the improvement of student metacognition.

This study aims to examine in-depth how Self-Regulated Learning-based Islamic Education learning strategies are implemented at Al-Izzah International Islamic Boarding School in Batu, and to analyze the factors that influence their effectiveness in shaping students' self-regulation. This study also aims to identify the forms of self-regulation skills that emerge during the learning process and explain how these strategies contribute to improving students' metacognition, specifically in terms of planning, monitoring, and reflective learning. Through this study, a comprehensive understanding will be gained that can serve as a basis for developing a more effective Self-Regulated Learning-based Islamic Education learning model to enhance students' metacognitive abilities in a boarding school environment.

## B. METHOD

This study uses a qualitative approach, with a case study design. The qualitative approach is used to produce findings that cannot be obtained through statistical procedures or other quantification methods. The data collected at Al-Izzah International Islamic Boarding School, Batu, were then analyzed inductively to formulate a theory or in-depth understanding of the phenomenon of Islamic Religious Education learning strategies with a Self-Regulated Learning approach to improve student metacognition. The research location is Al-Izzah International Islamic Boarding School, Batu, on Jalan. Indragiri Gang. 6, Sumberejo Village, Batu District, Batu City. This location was chosen due to its suitability for the research focus, academic quality, and integrated coaching system, as well as the availability of representative research subjects.

The data sources used include primary and secondary data sources. Primary data sources were obtained through direct observation in October 2025 during Islamic Education learning activities at Al-Izzah International Islamic Boarding School in Batu, as well as interviews with the principal, the vice principal for curriculum, Islamic Education teachers, and several students. Relevant and credible documents, books, scientific articles, and previous research reports reinforced this data. After the data were collected, they were recorded, filtered, summarized, and presented in accordance with aspects relevant to the research focus. The validity of the conclusions was then tested using source, technique, and time triangulation techniques. (Mekarisce, 2020).

## C. RESULTS AND DISCUSSION

### Result

Based on observations and interviews with several Islamic Education teachers at Al-Izzah International Islamic Boarding School, Batu, particularly regarding Islamic Education learning strategies to improve student metacognition through a Self-Regulated Learning approach, it was found that there is strong synergy between teachers and students in forming independent learning to improve student metacognition. Some of the efforts made by teachers included compiling learning targets in the form of Individual Project Proposals, which encompassed learning planning, implementation, evaluation, self-development, and character building for students. In implementing the learning process, teachers trained students' metacognitive abilities using the Self-Regulated Learning approach, which was carried out through discussions, essay questions, and projects, as well as reflective evaluation of students in two ways: self-assessment and peer assessment, along with a personal approach to each student.

Meanwhile, the forms of Self-Regulated Learning carried out by students are by determining learning objectives, forming learning strategies, classifying the material to be studied, determining the time and place of learning, trying to overcome learning obstacles and barriers independently, applying rewards and punishments, and conducting evaluations and strengthening motivation when encountering obstacles in learning. The following are some of the learning strategies used by students at Al-Izzah International Islamic Boarding School, Batu:

**Table 1.** Self-Regulated Learning Strategies of Al-Izzah Students

Aspects of SRL	Sabrina	Hanna	Belva	Ailsa	Regina
Learning Objectives	In-depth study of material; long-term understanding.	Accepted into the university of your dreams and a job related to your major.	Insight and preparation for the future, becoming a mother and a useful person.	Getting into university and finding a job in your field of study.	Good grades & long-term skill development.
Reward & Punishment	Not applicable.	Rewards from parents, punishment with extra chores.	Don't enforce it; prioritize comfort.	Consequence : reading material that has not been achieved.	Not applicable.
Selection of Materials	Based on interest.	Difficult and enjoyable material.	According to interests and aspirations.	Physics, Chemistry, Biology, English.	Relevant to learning objectives.
Place & Time of Study	Comfortable, not too quiet.	Before bed, on the bed or in class.	Anywhere, long material needs a quiet place.	Morning/ dawn; a quiet and peaceful place	Quiet, clean, well-lit place.
Learning Strategies	Skim reading, marking, making notes.	Reading, comparing notes, summarizing, evaluating.	Prepare things you like before studying.	Pray, prepare notes, practice questions.	Needs analysis & SWOT.
Barriers	Rest and do something fun.	Discussions with friends or teachers.	Discussion with friends.	Ask friends/ teachers; take private lessons.	Self-study, ask the teacher.
Information Processing	Mark important points.	Repeat & note down important points.	Teaching and telling stories to understand.	Repeat & note down	Note down important and

Aspects of SRL	Sabrina	Hanna	Belva	Ailsa	Regina
Managing Boredom	Fun activities (writing, drawing).	Looking for something motivating.	Sleep.	until memorized. Snacking, eating candy, relaxing.	additional points. Rest, reflect, find a new atmosphere.
Evaluation	There is no specific time.	There is no specific time.	Based on friends' understanding.	Ask a friend for correction; practice again.	SWOT analysis.
Motivation	Positive affirmations & parental messages.	Reflections and new plans.	Parental achievement & learning targets.	Want to be a nurse like your sister.	Parent & coach support.

Several factors support the formation of Self-Regulated Learning and the improvement of students' metacognition, namely: The annual target of the Al-Izzah International Islamic Boarding School Batu Senior High School unit to produce graduates who are pious, intelligent and independent, the support of parents and those closest to them, coordination of teachers, homeroom teachers and dormitory guardians in the Student Welfare Meeting to discuss student development, as well as complete school facilities. Meanwhile, several inhibiting factors include the numerous incidental activities that interrupt Teaching and Learning Activities, the students' lack of interest in delving deeper into religious material (primarily for further study), and the students' limited readiness to read the material before learning, except during daily exams and Mid/end-semester exams.

## Discussion

The results of the study indicate a strong synergy between teachers and students in implementing Self-Regulated Learning-based learning strategies to enhance students' metacognitive abilities in Islamic Religious Education at Al-Izzah International Islamic Boarding School, Batu. Teachers act as facilitators and guides in shaping students' learning independence through activities such as preparing Individual Project Proposals, providing project-based and essay-based questions, implementing reflective evaluations, and providing a personal approach to each student. This approach aligns with Zimmerman's theory, which posits that self-regulated learning comprises three primary phases: planning (forethought phase), implementation (performance phase), and reflection (self-reflection phase) (Järvelä et al., 2016). In this context, teachers encourage students to formulate learning objectives (planning), organize learning implementation strategies (implementation), and conduct self-evaluation (reflection) (Zimmerman, 2022). Activities such as self-assessment and peer assessment, implemented by teachers, are also in line with Flavell's theory, which demonstrates the implementation of metacognitive principles, namely the ability of students to be aware of their own thinking processes (metacognitive awareness) and control the strategies used during learning (Dezhbankhan et al., 2021). Thus, students not only understand religious content but also learn to regulate their thoughts to achieve optimal learning outcomes. This demonstrates that Islamic Religious Education teachers at Al-Izzah International Islamic Boarding School, Batu, have acted as mentors in shaping students' reflective mindsets and instilling spiritual values within the context of independent learning.

On the other hand, the results of interviews with students showed that they had internalized the values of self-regulated learning in their daily learning, including through setting learning goals, developing learning strategies, classifying materials, arranging study time and place, and implementing a reward and punishment system to maintain learning consistency.

This is in line with Pintrich's self-regulated learning model, which explains that the self-regulation process includes four main aspects: (1) cognitive regulation, (2) motivational regulation, (3) behavioral regulation, and (4) context regulation. These four aspects appear to be realized in students of Al-Izzah International Islamic Boarding School, for example, through motivational regulation via family support and the internalization of spiritual goals, as well as behavioral regulation through disciplined study time.

In addition, the teacher's approach to integrating character coaching and self-development in the Individual Project Proposal also strengthens the affective dimension of self-regulated learning, as emphasized by Boekaerts, who notes that self-regulation is not only cognitive but also emotional and motivational (Musso et al., 2019). Activities such as reflection on spiritual values and personal approaches between teachers and students indicate the existence of an emotional regulation process that supports increased metacognitive awareness and learning resilience (Kayalar & Hiçdurmaz, 2024). Overall, these findings support the notion that implementing Self-Regulated Learning in Islamic Religious Education (ISE) can be an effective means of enhancing students' metacognitive abilities (Rouzi et al., 2025). Students not only learn to understand religious material but also learn how to learn, namely by being aware of, controlling, and evaluating their own thought processes. This condition indicates that Islamic Religious Education learning at Al-Izzah International Islamic Boarding School, Batu, has successfully shifted the pattern of teacher-centered learning to student-centered learning that emphasizes self-reflection and independent learning.

Theoretically, self-regulated learning (SRL) is an important concept in education that describes an individual's ability to independently manage, monitor, and evaluate their learning process (Dahri et al., 2024). In the context of Islamic Religious Education, the application of self-regulated learning-based learning strategies has been proven effective in improving students' metacognition (Dalminah & Chandra, 2025). Metacognition, which refers to students' awareness of their thinking and learning processes, develops through this approach (Medina et al., 2017). Through reflection via self-assessment and peer assessment, discussions, and individual projects, students can evaluate their own understanding and plan more effective learning strategies (Torres et al., 2024). This supports the improvement of metacognitive skills, which are vital for both academic and personal development.

The application of self-regulated learning in Islamic Religious Education not only encourages the strengthening of metacognition but also shapes independence in learning (Hasi, 2025). By setting goals, planning strategies, and conducting self-evaluations, students can develop better self-control in managing time and resources to achieve learning objectives (Latva-aho et al., 2024). This process involves not only cognitive aspects but also affective aspects, namely, an increase in more sustainable learning motivation. When students feel they have control over their learning process, they will be more motivated to continue learning and adapt to existing challenges, which ultimately builds their character as lifelong learners (Rahiem, 2021).

The application of self-regulated learning in Islamic religious education has a positive impact on shaping students' life skills (Masuwai et al., 2024). In this context, students not only learn to become more academically independent but also more responsible in their actions. Self-regulated learning-based education emphasizes the importance of continuous self-awareness, which fosters the development of critical, reflective, and responsible attitudes towards one's own learning process (Anders & Speltz, 2025). Thus, the application of self-regulated learning in Islamic Religious Education not only enhances students' metacognitive abilities but also prepares them to become individuals who can face life's challenges with independence, responsibility, and high self-awareness.

Factors supporting the formation of Self-Regulated Learning and the improvement of student metacognition at Al-Izzah International Islamic Boarding School, Batu, are also inseparable from the systemic support of the institution and the students' social environment. The

school's annual target of producing pious, intelligent, and independent graduates serves as the foundation for values that encourage the formation of learner characters who are reflective and responsible for their own learning process. In addition, support from parents and the surrounding environment also strengthens students' intrinsic motivation in organizing learning strategies and increasing their metacognitive awareness. This finding aligns with the opinion of Boekaerts and Pintrich, who emphasize that social support and a positive learning environment play a crucial role in facilitating students' self-regulation and metacognitive development.

Coordination between teachers, homeroom teachers, and dormitory guardians through the Student Welfare Meeting (SWM) forum is also a crucial factor in strengthening Self-Regulated Learning. This activity reflects collaboration across educator roles to monitor students' academic and psychological development, ensuring that the learning process focuses not only on cognitive achievement but also on affective and motivational aspects. This aligns with Zimmerman's view that a structured and communicative learning environment can strengthen students' self-efficacy, a crucial component of self-regulation (Zhang, 2024; Wang et al., 2023; Zheng & Xiao, 2024).

However, this study also identified several factors that inhibit the implementation of SRL and hinder the improvement of student metacognition. These include the density of incidental activities outside of teaching and learning activities, low interest among some students in exploring in-depth religious material, and students' lack of readiness to learn in reading or understanding material before learning, except during exam preparation. These conditions illustrate that there is still an imbalance between short-term motivation (oriented towards exam results) and long-term motivation (oriented towards the learning process and in-depth understanding). This aligns with Schunk's learning motivation theory, which posits that students oriented towards performance goals tend to learn for the sake of results. In contrast, students with a mastery orientation are more consistent in engaging in self-regulation and metacognitive reflection (Nasron et al., 2025).

Thus, although the structural and social support at Al-Izzah International Islamic Boarding School has created a conducive ecosystem for the growth of self-regulated learners, internal factors such as motivation, study habits, and interest in religious material remain challenges that need to be strengthened. Efforts to cultivate reflection habits, project-based learning, and contextual spiritual approaches can be sustainable strategies for fostering metacognitive awareness and promoting student learning independence.

## D. RESEARCH IMPLICATIONS AND CONTRIBUTIONS

### 1. Research Implications

The results of this study imply that Self-Regulated Learning-based Islamic Religious Education is effective in fostering students' metacognition and learning independence. Teachers need to integrate reflective strategies such as self-assessment and individual projects to help students become accustomed to managing their own learning processes. School support and coordination through Student Welfare Meetings (SWM) are also crucial for fostering a culture of independent and directed learning. Therefore, the SRL approach can be a model for Islamic Religious Education learning that balances spiritual intelligence, academic intelligence, and self-responsibility.

### 2. Research Contribution

This research contributes to the development of Islamic Religious Education learning practices by presenting empirical evidence that Self-Regulated Learning can be effectively integrated into Islamic education. Practically, this research provides guidance for teachers and schools in developing learning systems that encourage reflection, discipline, and intrinsic motivation in students. Theoretically, this research extends the application of the SRL concept

to a spiritual context, demonstrating that independent learning can be integrated with the development of a religious character.

#### **E. RECOMMENDATIONS FOR FUTURE RESEARCH DIRECTIONS**

Further research is recommended to expand the study of the application of Self-Regulated Learning in Islamic Religious Education by involving more schools and different educational levels to obtain a more comprehensive picture. Furthermore, future research can explore the relationship between Self-Regulated Learning and other affective factors, such as spiritual motivation, emotional intelligence, and the role of the Islamic boarding school environment in internalizing religious values in the self-regulation process. A mixed methods approach can also be used to gain a deeper understanding of the mechanisms of Self-Regulated Learning in improving students' metacognition and character in the context of modern Islamic education.

#### **F. CONCLUSION**

There are positive implications between students' levels of Self-Regulated Learning and their levels of metacognition in the learning process. The higher a student's Self-Regulated Learning, the higher their metacognitive abilities, and vice versa. The secret to true success in learning lies not only in memorizing extensively or achieving a 100% in every subject, but also in the ability to self-regulate, motivate oneself, and have the awareness to learn independently anywhere and anytime. With the Self-Regulated Learning abilities in students while they are still in school, it is hoped that this will have an impact on their lives after they leave school. Students can become lifelong learners, enabling them to plan their lives with conscious thought and measurable calculations that can be applied. They are also able to monitor the achievement of their targets and evaluate mistakes that may be made during the process they are undertaking. Thus, their independent learning does not stop only in the classroom but can be helpful wherever they are.

#### **ACKNOWLEDGMENTS**

The author expresses his sincere appreciation and gratitude to Al-Izzah International Islamic Boarding School, Batu, for their support and cooperation throughout the research. He also thanks the Islamic Education teachers and students who actively participated and contributed valuable data. Special appreciation is extended to the supervisor for his scientific guidance, direction, and constructive feedback, which played a crucial role in the improvement of this article.

#### **AUTHOR CONTRIBUTIONS STATEMENT**

The author is fully responsible for all stages of the research, from designing the research design, collecting and analyzing data, to drafting and refining the article. The entire process was conducted independently with the guidance and supervision of a supervisor.

#### **DECLARATION OF COMPETING INTEREST**

The author declares that there is no conflict of interest in the conduct of research, writing, or publication of this article.

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