Social, Humanities, and Educational Studies

SHEs: Conference Series 9 (1) (2026) 1035 – 1046

The Role of Self-Regulated Learning on Learners' Learning Independence: A Review of the Literature

Intan Pratiwi Hadiyati, Matsuri, Eka Budhi Santosa

Universitas Sebelas Maret
matsuri@staff.uns.ac.id

Article History
accepted 1/2/2026 approved 1/3/2026 published 31/3/2026

Abstract
Learning independence is an essential competency that supports students in managing their learning actively and responsibly. This study aims to examine the role of self-regulated learning in enhancing students' learning independence through a Systematic Literature Review (SLR) using the PRISMA framework. Data were collected from articles published between 2016 and 2026 in Google Scholar, Springer, Frontiers, and MDPI, then analyzed descriptively and visualized using VOSviewer. The results show that self-regulated learning contributes significantly to students' learning independence, particularly in goal setting, time management, self-monitoring, and self-evaluation. Bibliometric analysis also indicates a strong relationship between self-regulated learning, learning motivation, and learning independence. Therefore, self-regulated learning is an important factor that should be integrated into the learning process to improve students' learning independence.
Keywords: *self-regulated learning, independent learning, students*

Abstrak
Kemandirian belajar merupakan kompetensi penting yang mendukung peserta didik dalam mengelola proses belajar secara aktif dan bertanggung jawab. Penelitian ini bertujuan untuk mengkaji peran *self-regulated learning* dalam meningkatkan kemandirian belajar peserta didik melalui metode Systematic Literature Review (SLR) dengan kerangka PRISMA. Data diperoleh dari artikel yang dipublikasikan pada tahun 2016–2026 melalui Google Scholar, Springer, Frontiers, dan MDPI, kemudian dianalisis secara deskriptif dan divisualisasikan menggunakan VOSviewer. Hasil kajian menunjukkan bahwa *self-regulated learning* berkontribusi signifikan terhadap kemandirian belajar, terutama dalam penetapan tujuan, pengelolaan waktu, pemantauan diri, dan evaluasi diri. Analisis bibliometrik juga menunjukkan adanya hubungan yang kuat antara *self-regulated learning*, motivasi belajar, dan kemandirian belajar. Dengan demikian, *self-regulated learning* perlu diintegrasikan dalam proses pembelajaran untuk meningkatkan kemandirian belajar peserta didik.
Kata kunci: *self-regulated learning, kemandirian belajar, peserta didik*

Social, Humanities, and Education Studies (SHEs): Conference Series p-ISSN 2620-9284
https://jurnal.uns.ac.id/shes e-ISSN 2620-9292

INTRODUCTION

Learning independence is one of the essential competencies that needs to be developed from the elementary education level because it plays an important role in shaping students who are able to manage their learning process actively, responsibly, and sustainably. In the context of modern education, learning independence is not only interpreted as students' ability to complete tasks without assistance from others, but also includes the ability to initiate learning activities, manage time effectively, select appropriate learning strategies, and evaluate learning outcomes independently. Lestari and Widodo (2022) stated that learning independence in elementary school students is an important foundation for developing lifelong learning skills. This is supported by Susanti and Lestari (2022), who found that students with a high level of learning independence tend to have better learning motivation, more active engagement in the learning process, and more optimal learning outcomes.

The development of the 21st-century learning paradigm further emphasizes the importance of learning independence in the educational process. Learning is no longer teacher-centered but has shifted toward student-centered learning. In this approach, students are required to actively construct knowledge, while teachers act as facilitators who support the learning process. Hidayat et al. (2020) argued that 21st-century skills such as critical thinking, creativity, collaboration, and communication cannot develop optimally without strong learning independence. Therefore, students need to be equipped with the ability to manage their own learning process in order to adapt to various changes and challenges.

However, the actual conditions in the field indicate that students' learning independence, especially at the elementary school level, has not yet developed optimally. Many students still depend on teacher guidance in completing assignments, lack initiative to learn independently, and are unable to manage their study time effectively. Putri and Setiawan (2023) revealed that in technology-based and project-based learning, most elementary school students still demonstrate a high level of dependence on teachers. This condition indicates a gap between the demands of 21st-century learning and the actual abilities of students in practice. Furthermore, this phenomenon suggests that efforts to develop learning independence have not been maximized in elementary school learning processes.

The low level of students' learning independence is influenced by various factors, both internal and external. Internal factors include learning motivation, interest, self-confidence, and the ability to manage learning strategies. Meanwhile, external factors include the learning environment, family support, teaching methods used by teachers, and the availability of educational facilities and infrastructure. Among these factors, students' ability to regulate their own learning process, or *self-regulated learning*, is one of the most significant factors affecting learning independence. This ability enables students to actively control and direct their learning process in order to achieve the learning goals that have been set.

Self-regulated learning is a concept widely used to explain how students manage their learning process independently. Panadero (2017) defined *self-regulated learning* as an active process in which students set learning goals, monitor their learning progress, regulate learning strategies, and reflect on the outcomes achieved. Sinkkonen and Tapani (2023) added that *self-regulated learning* involves students' ability to control

cognitive, motivational, and behavioral aspects during the learning process. In other words, students are not only expected to understand the subject matter but also to manage how the learning process takes place effectively.

Furthermore, Schunk and Greene (2023) explained that *self-regulated learning* consists of several important stages: forethought, performance, and self-reflection. In the forethought stage, students set learning goals and design the strategies to be used. In the performance stage, students monitor their learning progress and control the strategies applied. Meanwhile, in the self-reflection stage, students evaluate learning outcomes and determine improvement steps for subsequent learning processes. These three stages indicate that *self-regulated learning* is a continuous and integrated process in learning activities.

The ability of *self-regulated learning* is closely related to students' learning independence. Students with good self-regulation skills tend to be more independent in managing their learning process. They are able to set clear learning goals, choose strategies that match their needs, monitor learning progress, and evaluate the outcomes achieved. Amelia and Suyasa (2023) stated that students with a high level of *self-regulated learning* demonstrate better abilities in managing study time, completing tasks independently, and taking responsibility for their learning process. This shows that *self-regulated learning* is one of the important indicators in the development of students' learning independence.

Various previous studies have also shown that the implementation of *self-regulated learning* strategies has a positive impact on improving learning independence. Pratiwi and Suryani (2021) found that elementary school students with good self-regulation skills showed a higher level of learning independence compared to students with low self-regulation skills. The study by Mulyadi and Prasetyo (2021) also indicated that the use of *self-regulated learning*-based strategies could improve students' learning responsibility and reduce dependence on teacher assistance. In addition, *self-regulated learning* contributes to the development of discipline, independence, and decision-making skills in the learning process (Amelia & Suyasa, 2023).

METHOD

This study employed the Systematic Literature Review (SLR) method to identify, select, analyze, and synthesize findings from various relevant scientific articles regarding the role of *self-regulated learning* in fostering elementary school students' learning independence. The SLR method was chosen because it provides a systematic, structured, and transparent review of previous studies, allowing for a more comprehensive synthesis of findings. The research procedure followed the stages of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), which include identification, screening, eligibility, and inclusion. Through this method, the researchers obtained a comprehensive overview of the contribution of *self-regulated learning* to the development of elementary school students' learning independence based on previous research findings.

The data sources consisted of scientific articles obtained from Google Scholar, Springer, Frontiers, and MDPI databases. Article searches were conducted using the keywords "self-regulated learning," "learning independence," and "elementary school." The selected articles were limited to publications from 2016 to 2026 to ensure that the

analyzed data reflected recent research developments. Detailed results of the article search based on the selected keywords are presented in Table 1 below.

Table 1. Search Keywords Used in the Database

Database	Number of Articles
Google Schoolar	3.245
Number of Data	3.245

The article search process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram, consisting of four stages: identification, screening, eligibility, and inclusion. These stages are presented in Figure 1 below.

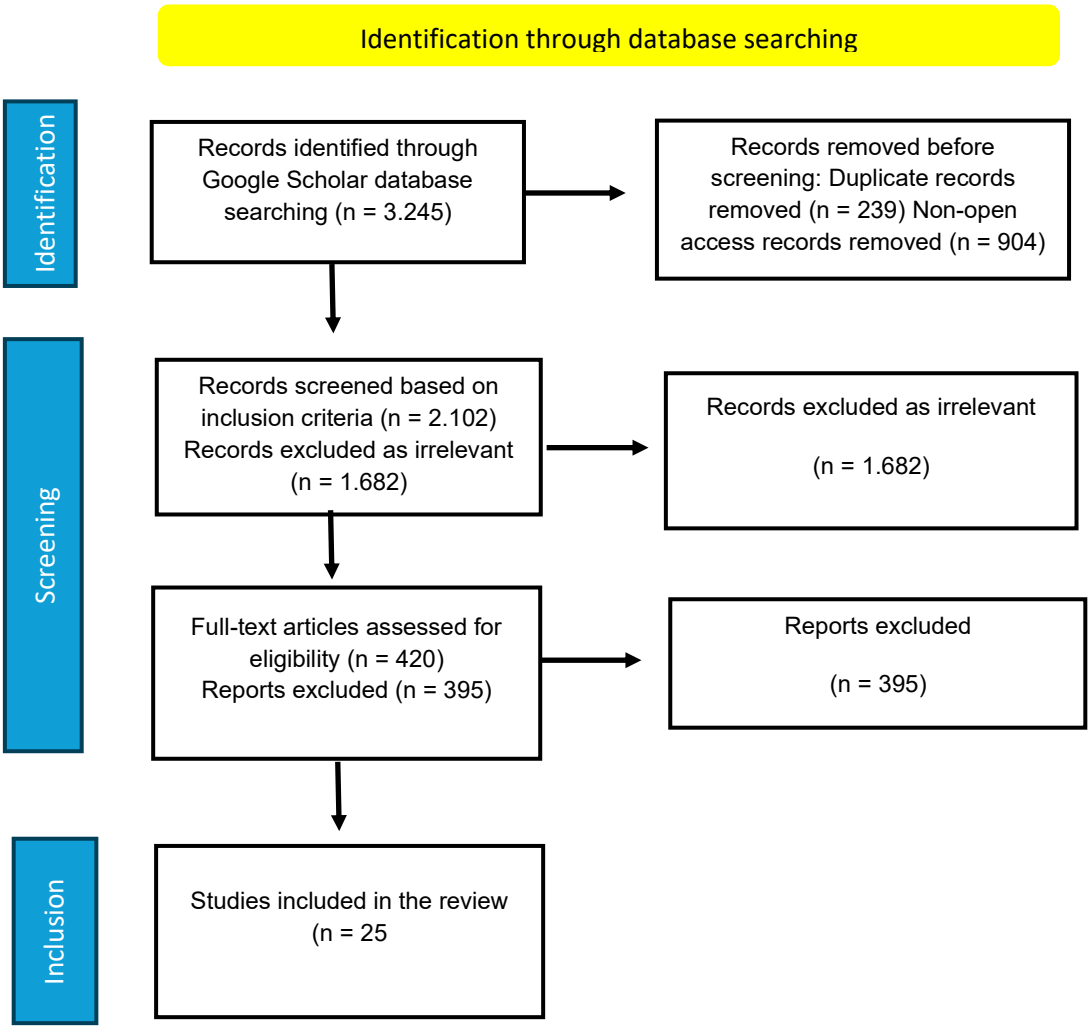

Figure 1. PRISMA Flow Diagram

The article selection process in this study was carried out using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework to ensure that the stages of article identification and screening were conducted systematically and transparently. The first stage was identification, in which articles were

searched through the Google Scholar, Springer, Frontiers, and MDPI databases using the keywords *self-regulated learning*, *learning independence*, and *elementary school*. Based on the initial search results, 3,245 articles relevant to the research keywords were identified.

In the next stage, articles that did not meet the initial requirements were removed, including duplicate articles and articles that were not available in open access form. As a result, 239 duplicate articles and 904 non-open access articles were excluded, leaving 2,102 articles for the screening stage. This stage was essential to ensure that the articles analyzed were fully accessible and free from duplicate data.

The next stage was screening, which was conducted based on the relevance of the article titles and abstracts to the focus of the study. At this stage, articles that did not discuss the relationship between *self-regulated learning* and learning independence were excluded from the selection process. Of the 2,102 articles screened, 1,682 articles were found to be irrelevant because they did not match the research topic, leaving 420 articles for further review in the eligibility stage.

In the eligibility stage, the articles that passed the screening process were further analyzed based on the inclusion and exclusion criteria. The inclusion criteria in this study were as follows: (1) the article discussed *self-regulated learning* and learning independence, (2) the research subjects were elementary school students, (3) the article was an empirical study or literature review, and (4) the article was published in a reputable national or international journal. Articles that did not meet these criteria were excluded from the analysis. Based on this stage, 25 articles were considered eligible for further analysis.

In the inclusion stage, the 25 articles that met all the criteria were analyzed in depth using descriptive qualitative analysis techniques. The analysis was conducted by identifying the main findings of each article, categorizing themes related to the contribution of *self-regulated learning* to learning independence, and synthesizing the findings to answer the research question.

In addition to descriptive analysis, this study also employed bibliometric analysis using VOSviewer software to visualize the relationships among keywords in the selected articles. The bibliometric analysis was conducted by extracting article metadata in RIS format, followed by mapping keyword co-occurrence to examine the relationships among the concepts of *self-regulated learning*, *learning independence*, *learning motivation*, and *learning strategies*. The VOSviewer visualization results were used to strengthen the descriptive analysis by identifying research trends and topic relationships more systematically. Through this process, a comprehensive understanding of the role of *self-regulated learning* in improving elementary school students' learning independence was obtained. The results of the keyword network visualization generated by VOSviewer are presented in Figure 2.

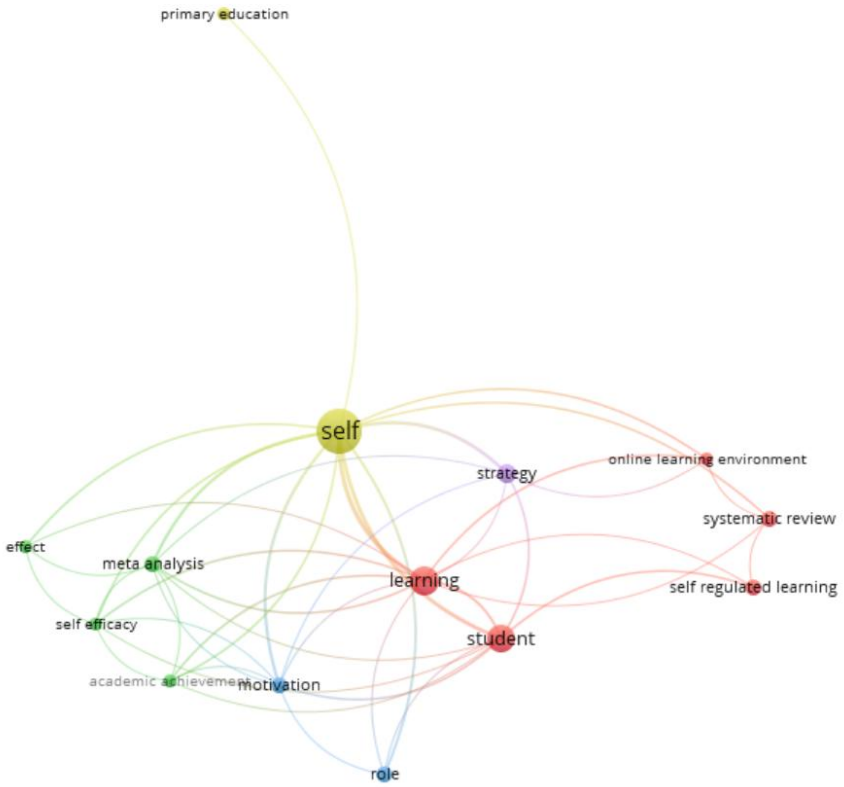

Figure 2. Keyword-Based Visualization

Figure 2 presents the keyword network diagram of the analyzed articles. The bibliometric visualization using VOSviewer illustrates the relationships among keywords in studies related to *self-regulated learning* and students' learning independence. In the network visualization, each node (circle) represents a keyword, while the connecting lines indicate the relationships among keywords based on the frequency of their co-occurrence in the analyzed articles. The size of each node represents the frequency of keyword occurrence; the larger the node, the more frequently the keyword appears in the studies.

Based on the visualization, the keyword "self" appears as the largest node and is located at the center of the network. This indicates that the keyword has the highest occurrence frequency and serves as the main connection point with other keywords. This node is directly linked to keywords such as *learning*, *student*, *motivation*, *strategy*, and *self-regulated learning*, indicating that studies on *self-regulated learning* are frequently associated with learning processes, instructional strategies, learning motivation, and student engagement.

In addition, the keywords "learning" and "student" also appear as relatively large nodes and are located near the center of the network. The proximity among nodes indicates strong conceptual relationships, suggesting that *self-regulated learning* is closely related to students' learning activities and the development of learning independence. This relationship indicates that self-regulation is one of the main factors influencing students' success in managing their learning process independently.

The visualization also reveals several color clusters that represent thematic groupings in the research. The red cluster connects keywords such as *student*, *learning*, *systematic review*, *online learning environment*, and *self-regulated learning*, indicating that many studies discuss *self-regulated learning* in the context of student learning, online learning environments, and systematic literature reviews. This finding suggests that *self-*

regulated learning has increasingly become an important topic in modern learning environments.

In the green cluster, keywords such as *self-efficacy*, *academic achievement*, *effect*, and *meta-analysis* appear prominently. This cluster indicates that *self-regulated learning* is frequently associated with improved self-efficacy, learning outcomes, and the effects of learning strategies on students' academic achievement. This relationship confirms that self-regulation not only affects learning independence but also contributes to students' academic success.

Furthermore, the blue and purple clusters show relationships among the keywords *motivation*, *role*, and *strategy*. These clusters indicate that learning motivation and learning strategies are major supporting factors in the development of *self-regulated learning*. Students with higher learning motivation tend to be more capable of regulating their learning strategies and demonstrate better learning independence.

Overall, the VOSviewer visualization results indicate that *self-regulated learning* has strong relationships with learning motivation, instructional strategies, self-efficacy, and student learning outcomes. These findings strengthen the results of the literature review, which show that *self-regulated learning* plays an important role in fostering students' learning independence. Therefore, the development of *self-regulated learning* should become an important concern in the learning process so that students can become independent, active, and responsible learners. The bibliometric visualization findings are consistent with the synthesis of the reviewed articles, which indicates that *self-regulated learning* contributes to improving students' learning independence through strengthening motivation, learning strategies, and self-evaluation.

RESULTS AND DISCUSSION

This section presents the findings from the 25 selected articles, organized according to journal information, authors, publication year, article title, and research questions. The detailed identification results are presented in Table 2 below.

Table 2. Findings from 25 Articles Retrieved from the Google Scholar Database

No	Journal Details	Author(s)	Title	RQ	Research Question
1	*Frontiers in Psychology*	Panadero	*A Review of Self-Regulated Learning*	1	How does self-regulated learning influence students' learning processes?
2	*Educational Psychology Review*	Dignath & Büttner	*Teachers' Support of Self-Regulated Learning*	2	How does teacher support affect students' self-regulated learning?
3	*Metacognition Learning*	Dent & Koenka	*The Relation Between Self-Regulated Learning and Academic Achievement*	3	How is self-regulated learning related to students' learning outcomes?
4	*Internet and Higher Education*	Broadbent & Poon	*Self-Regulated Learning Strategies*	4	Which self-regulated learning strategies influence learning success?

5	*Learning and Instruction*	Zimmerman	*Self-Regulated Learning and Achievement*	5	How does self-regulated learning improve students' academic achievement?
6	*Educational Technology Research*	Cleary & Callan	*Assessing Self-Regulated Learning*	6	How can self-regulated learning be measured in the learning process?
7	*Computers & Education*	Teng & Zhang	*Developing Self-Regulated Learning*	7	How is self-regulated learning developed in students?
8	*Education Sciences*	Anthonysamy et al.	*Self-Regulated Learning Strategies*	8	What self-regulated learning strategies support learning independence?
9	*BMC Medical Education*	Gandomkar et al.	*Self-Regulated Learning in Education*	9	How does self-regulated learning support independent learning?
10	*Instructional Science*	Jansen et al.	*Self-Regulated Learning in Higher Education*	10	How does self-regulated learning influence independent learning?
11	*Current Psychology*	Cazan	*Self-Regulated Learning Prediction*	11	How do self-regulated learning strategies predict learning success?
12	*Frontiers in Education*	Kersna et al.	*Supporting Self-Regulated Learning*	12	What factors support students' self-regulated learning?
13	*Jurnal Pendidikan Dasar*	Mulyadi & Prasetyo	*SRL dan Kemandirian Belajar*	13	Does self-regulated learning affect students' learning independence?
14	*Jurnal Pendidikan*	Pratiwi & Suryani	*Peran SRL dalam Kemandirian Belajar*	14	How does self-regulated learning support students' learning independence?
15	*Jurnal Ilmiah Sekolah Dasar*	Amelia & Suyasa	*SRL dan Otonomi Belajar*	15	How does self-regulated learning shape learner autonomy?
16	*Jurnal Basicedu*	Hidayat et al.	*Kemandirian Belajar Siswa*	16	What factors influence students' learning independence?
17	*Jurnal Pendidikan Dasar*	Putri & Setiawan	*Independent Learning in Elementary School*	17	How is elementary school students' learning independence developed?

18	*Jurnal PGSD*	Sa'idah & Habibi	*SRL Instrument Development*	18	How can students' self-regulated learning be measured?
19	*Jurnal IPA SD*	Ramadhani et al.	*SRL in Science Learning*	19	How does self-regulated learning influence science learning?
20	*Journal of Learning*	Lee et al.	*SRL and Learning Motivation*	20	What is the relationship between self-regulated learning and learning motivation?
21	*Journal of Education*	Wong et al.	*Learning Independence and SRL*	21	Bagaimana SRL memengaruhi How does self-regulated learning influence learner autonomy?belajar?
22	*Journal of Learning Science*	Cho & Kim	*The Effects of SRL*	22	What is the impact of self-regulated learning on students' learning processes?
23	*Education Review*	Greene	*Self-Regulation in Education*	23	How does self-regulation support learning?
24	*Psychological Review*	Usher & Schunk	*Social Cognitive Perspective of SRL*	24	How does social cognitive theory explain self-regulated learning?
25	*Educational Research Review*	van Alten et al.	*SRL Support in Learning*	25	How does support for self-regulated learning improve learning effectiveness?

Descriptive analysis was conducted on the 25 articles that passed the selection stage using the PRISMA method to obtain an overview of the research characteristics related to the role of *self-regulated learning* in promoting students' learner autonomy. This analysis included the distribution of articles based on publication year, research focus, and trends in the research findings.

Based on the publication year, the analyzed articles ranged from 2016 to 2026. Most of the articles were published between 2020 and 2024, indicating that research on *self-regulated learning* and learner autonomy has increased in recent years. This trend reflects growing scholarly attention to the importance of self-regulation skills in supporting students' learning success, particularly in the context of 21st-century learning and technology-based education.

In terms of research focus, the analyzed articles indicate that *self-regulated learning* has been widely studied in relation to learner autonomy, learning motivation, learning strategies, and students' learning outcomes. Most studies emphasize that *self-regulated learning* helps students set learning goals, manage time effectively, monitor the learning process, and evaluate learning outcomes independently. These findings indicate that self-regulation skills are one of the key indicators in fostering students' learner autonomy.

The analysis also shows that the majority of the articles reported a positive relationship between *self-regulated learning* and learner autonomy. Students with strong *self-regulated learning* skills tend to be more independent in completing tasks, demonstrate greater responsibility for their learning process, and are better able to choose learning strategies that suit their needs. In addition, students with higher levels of self-regulation tend to show stronger learning motivation compared to those with lower self-regulation skills.

In addition to students' internal factors, the analysis results indicate that teacher support and the learning environment are important external factors influencing the development of *self-regulated learning*. Several studies found that teachers play a crucial role in helping students develop skills in setting learning goals, engaging in reflection, and monitoring learning progress. A supportive learning environment also contributes to the development of independent learning habits.

The bibliometric analysis using VOSviewer strengthened these findings by showing that the keyword *self-regulated learning* has strong connections with learner autonomy, motivation, learning strategy, and student achievement. The relationships among these keywords indicate that *self-regulated learning* is closely related to several important aspects of independent learning.

Overall, the descriptive analysis indicates that *self-regulated learning* makes a significant contribution to improving students' learner autonomy. Students' ability to regulate their own learning process is an important factor in enhancing motivation, learning strategies, and learning outcomes. Therefore, the development of *self-regulated learning* should become an important focus in the learning process to enable students to become active and autonomous learners.

CONCLUSION

Based on the literature review of 25 articles analyzed using the Systematic Literature Review (SLR) method with the PRISMA framework, it can be concluded that *self-regulated learning* plays a significant role in enhancing students' learner autonomy. Self-regulated learning enables students to plan learning goals, manage time, select appropriate learning strategies, monitor their learning progress, and conduct self-evaluation independently. Through these abilities, students become more active, responsible, and capable of managing their learning processes more effectively.

The review findings indicate that students with strong *self-regulated learning* skills tend to have higher learning motivation, greater engagement in learning activities, and better ability to complete tasks independently. In addition, the bibliometric analysis using VOSviewer revealed that *self-regulated learning* has strong relationships with learner autonomy, learning motivation, instructional strategies, and learning outcomes. These findings demonstrate that self-regulation is one of the key factors in fostering autonomous learning behavior among students.

This review also indicates that the successful development of *self-regulated learning* is influenced not only by students' internal factors but also by external factors such as teacher support and the learning environment. Teachers play an important role in guiding students to set learning goals, monitor learning progress, and provide feedback that helps students develop independent learning habits. A supportive learning environment also contributes positively to strengthening students' self-regulation skills.

The implications of this study suggest that the development of *self-regulated learning* should become an essential part of the learning process in schools. Teachers need to implement instructional strategies that encourage students to actively set goals, plan their learning, reflect on their progress, and evaluate their own learning outcomes. In this way, the learning process not only focuses on academic achievement but also

on the development of learner autonomy, which is an essential competence for facing the challenges of 21st-century learning.

Furthermore, the findings of this review imply that integrating *self-regulated learning* into technology-based learning environments can be an effective strategy for improving learner autonomy. Digital learning environments provide opportunities for students to learn flexibly and independently, making self-regulation skills increasingly important to develop. Therefore, schools and teachers need to design learning environments that optimally support the development of students' *self-regulated learning* skills.

Based on these findings, future research is recommended to conduct empirical studies on the implementation of *self-regulated learning* strategies across various educational levels and subject areas to examine their effectiveness more specifically. Future studies may also develop technology-integrated instructional models based on *self-regulated learning* to improve learner autonomy. In addition, further reviews involving a larger number of articles and broader database coverage are needed to provide a more comprehensive understanding of the development of *self-regulated learning* research and its contribution to learner autonomy.

Therefore, *self-regulated learning* can be regarded as an essential component in developing students who are autonomous, active, and responsible in the learning process. Strengthening these skills systematically in educational practice is expected to improve the quality of learning and support students' sustainable academic success.

REFERENCES

Amelia, R., & Suyasa, P. T. Y. S. (2023). Self-regulated learning and student learning autonomy in elementary education. *Jurnal Ilmiah Sekolah Dasar, 7*(2), 145–154.

Anthonysamy, L., Koo, A.-C., & Hew, S.-H. (2020). Self-regulated learning strategies and non-academic outcomes in higher education blended learning environments: A one-decade review. *Education Sciences, 10*(9), 245. https://doi.org/10.3390/educsci10090245

Broadbent, J., & Poon, W. L. (2017). Self-regulated learning strategies and academic achievement in online higher education learning environments: A systematic review. *The Internet and Higher Education, 27*, 1–13. https://doi.org/10.1016/j.iheduc.2015.04.007

Cazan, A.-M. (2020). The impact of self-regulated learning strategies on academic achievement in higher education. *Current Psychology, 39*(1), 300–312. https://doi.org/10.1007/s12144-019-00314-9

Cho, M.-H., & Kim, B. J. (2018). Students' self-regulation for interaction with others in online learning environments. *The Internet and Higher Education, 17*, 69–75. https://doi.org/10.1016/j.iheduc.2013.01.001

Cleary, T. J., & Callan, G. L. (2018). Assessing self-regulated learning using microanalytic methods. In D. H. Schunk & J. A. Greene (Eds.), *Handbook of self-regulation of learning and performance* (2nd ed., pp. 19–35). Routledge.

Dent, A. L., & Koenka, A. C. (2016). The relation between self-regulated learning and academic achievement across childhood and adolescence: A meta-analysis. *Educational Psychology Review, 28*(3), 425–474. https://doi.org/10.1007/s10648-015-9320-8

Dignath, C., & Büttner, G. (2018). Teachers' direct and indirect promotion of self-regulated learning in primary and secondary school mathematics classes. *Metacognition and Learning, 13*(2), 127–149. https://doi.org/10.1007/s11409-018-9181-x

Gandomkar, R., Mirzazadeh, A., Jalili, M., Yazdani, K., Fata, L., & Sandars, J. (2020). Self-regulated learning processes of medical students during an academic learning

task. *BMC Medical Education, 20*, 165. https://doi.org/10.1186/s12909-020-02074-5

Greene, J. A. (2018). Self-regulation in education. In D. H. Schunk & J. A. Greene (Eds.), *Handbook of self-regulation of learning and performance* (2nd ed., pp. 1–5). Routledge.

Hidayat, R., Sari, N., & Setiawan, A. (2020). Student learning independence in 21st-century education. *Jurnal Basicedu, 4*(3), 567–576.

Jansen, R. S., van Leeuwen, A., Janssen, J., Jak, S., & Kester, L. (2019). Self-regulated learning partially mediates the effect of self-regulated learning interventions on achievement in higher education: A meta-analysis. *Educational Research Review, 28*, 100292. https://doi.org/10.1016/j.edurev.2019.100292

Kersna, M., Smesharik, J., & Tammets, K. (2025). Supporting self-regulated learning in primary education: A systematic review. *Frontiers in Education, 10*, 1594556. https://doi.org/10.3389/feduc.2025.1594556

Lee, J., Lim, C., & Kim, H. (2019). Development of an instructional design model for flipped learning in higher education. *Educational Technology Research and Development, 65*(2), 427–453.

Mulyadi, A., & Prasetyo, B. (2021). Self-regulated learning and students' learning independence in elementary schools. *Jurnal Pendidikan Dasar, 12*(1), 34–42.

Panadero, E. (2017). A review of self-regulated learning: Six models and four directions for research. *Frontiers in Psychology, 8*, 422. https://doi.org/10.3389/fpsyg.2017.00422

Pratiwi, D., & Suryani, N. (2021). The role of self-regulated learning in enhancing students' learning independence. *Jurnal Pendidikan, 22*(2), 112–121.

Putri, M., & Setiawan, D. (2023). Independent learning in elementary school students. *Jurnal Pendidikan Dasar, 15*(1), 55–63.

Ramadhani, N., Sari, D., & Lestari, P. (2022). Literature study on self-regulated learning in science learning of elementary school students. *Jurnal Pendidikan IPA, 8*(2), 87–96.

Sa'idah, N., & Habibi, M. (2025). Development of self-regulated learning instruments for elementary students. *Jurnal PGSD, 13*(1), 22–31.

Schunk, D. H., & Greene, J. A. (Eds.). (2017). *Handbook of self-regulation of learning and performance* (2nd ed.). Routledge.

Usher, E. L., & Schunk, D. H. (2018). Social cognitive theoretical perspective of self-regulation. In D. H. Schunk & J. A. Greene (Eds.), *Handbook of self-regulation of learning and performance* (2nd ed., pp. 19–35). Routledge.

van Alten, D. C. D., Phielix, C., Janssen, J., & Kester, L. (2020). Self-regulated learning support in flipped learning videos enhances learning outcomes. *Computers & Education, 158*, 104000. https://doi.org/10.1016/j.compedu.2020.104000

Wong, J., Baars, M., Davis, D., Van Der Zee, T., Houben, G.-J., & Paas, F. (2019). Supporting self-regulated learning in online learning environments. *Educational Technology Research and Development, 67*(4), 995–1021.

Zimmerman, B. J. (2017). Self-regulated learning and academic achievement. In D. H. Schunk & J. A. Greene (Eds.), *Handbook of self-regulation of learning and performance* (2nd ed., pp. 1–12). Routledge.