



Self-regulated learning and students' writing after Covid: A correlational study

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Abstract

The shift to independent, home-based learning during the COVID-19 pandemic created isolated educational environments that likely fostered self-regulated learning (SRL) practices among students. Building on this context, this study investigates the relationship between self-regulated learning and students' writing skills in the post-pandemic era, while also identifying the specific SRL strategies employed during writing tasks. Adopting a quantitative correlational design, the research involved 33 tenth-grade senior high school students. Data were gathered through an adapted self-regulated learning questionnaire and a reflective essay writing test, with Spearman's rho correlation used for analysis. The results revealed a statistically significant, moderate positive correlation between self-regulated learning and writing skills ($r = 0.439$, $p = 0.011$, $p < 0.05$). Additionally, the most frequently utilized SRL strategies in writing included self-consequences (e.g., self-reward for progress), self-evaluation (e.g., post-writing proofreading), and transformation (e.g., conceptualizing ideas in Indonesian before drafting in English). These findings underscore the significant association between self-regulated learning and post-pandemic writing proficiency, offering valuable insights for future research on SRL's role in enhancing English language competencies.

Keywords

self-regulated learning, writing skill, post-pandemic

Introduction

With the end of the COVID-19 pandemic, new opportunities have emerged for students to learn and explore knowledge and skills, especially in English. The pandemic forced educational institutions worldwide to close, disrupting the learning process for over 60% of students and severely affecting educational systems (Alqahtani & Rajkhan, 2020). Students had to study at home, relying heavily on self-study with minimal guidance from teachers and limited access to supportive school environments. In response, the government introduced online learning platforms, such as *Rumah Belajar* (Ikhwan & Andriyanti, 2021), to facilitate distance learning. This shift required students to transition from traditional classroom settings to independent, technology-based learning (Abidah et al., 2020).

While online learning presented many challenges, it also encouraged students to become more autonomous and develop self-regulated learning (SRL) strategies. Self-regulated learning refers to students' self-generated thoughts, feelings, and actions systematically directed toward achieving educational goals (Zimmerman, 2002). It is a proactive process where learners take control of their own learning by managing their goals, progress, and learning strategies (Zimmerman, 2002). Self-regulation is not just a mental ability or classroom performance skill, but a lifelong competency that enables students to plan, monitor, and assess their learning independently (Inan, 2013).

The pandemic period, however, significantly affected students' writing skills. Many senior high school students struggle with writing due to inadequate emphasis on productive skills during the pandemic, as most learning occurred asynchronously through platforms like Telegram and WhatsApp (Setyowati et al., 2021), focusing primarily on grammar and vocabulary exercises. Additionally, students' writing works commonly show errors in spelling, punctuation, grammar, diction, thesis statements, topic sentences, and coherence (Ariyanti & Fitriana, 2017). The lack of timely feedback during online learning further worsened the situation, as teacher feedback is crucial for improving students' writing skills (Nartiningrum & Nugroho, 2020).

However, the pandemic-driven transition to online learning also fostered greater autonomy, motivation, and self-regulation among students (Delen & Liew, 2016; Fotiadou et al., 2017; Fisher & Baird, 2005). Technology-based learning provided flexibility in time and place, access to diverse media, and opportunities to connect with global sources (Yuhanna et al., 2020). In such environments, students actively controlled their learning pace, assessed their progress, and tailored their learning paths (Lim & Chai, 2004).

Sun & Wang (2020) identified three key components of self-regulated learning strategies: (a) behavioral strategies (e.g., self-monitoring, self-consequences), (b) environmental strategies (e.g., seeking help, reviewing records, persistence), and (c) personal strategies (e.g., goal setting, self-evaluation, organization). Research by Ching (2002) found that Malaysian students frequently employed strategies like organizing and transforming, self-evaluation, and seeking help during English writing, while strategies such as environmental structuring and reviewing records were used less often. Furthermore,

high-achieving students devoted more time to planning, composing, and revising their writing Chien (2012).

Writing is considered one of the most challenging language skills for English learners (Sun & Wang, 2020). Writing is a complex process involving brainstorming, drafting, revising, and editing (Bruning & Horn, 2000). It requires writers to manage content, language accuracy, and coherence while balancing creativity and technical precision. Effective writing also depends on writers' self-regulation, including their ability to set goals, monitor progress, and revise independently (Bruning & Horn, 2000).

Moreover, writing is a fundamental communication tool in both academic and real-life contexts (Graham et al., 2012). It helps students express thoughts, convey ideas, and engage in social, professional, and civic interactions. Writing also serves as a means to store and transfer large amounts of information (Lems et al., 2010). Teaching writing, therefore, requires clear goals and effective methods. Harmer (2007) emphasized two main purposes of teaching writing: writing-for-learning, where students practice language through writing, and writing-for-writing, which focuses on developing actual writing skills. In high school, students learn various text types, including recount texts. According to Anderson & Anderson (1997), a recount text reconstructs past events in chronological order, aiming to inform the audience about what happened and when. Hyland (2016) describes recount texts as socially purposeful texts, using past tense to retell events and experiences.

In this study, students are asked to write a reflective essay, a form of personal recount, analyzing their learning experiences and English lessons during the semester. This requires them to demonstrate both language proficiency and self-regulation skills, as they must plan, draft, and revise their essays independently while managing content and organization using the reflective writing rubric developed by Kreiger (2014).

While numerous studies have explored the role of self-regulated learning in language acquisition, the specific correlation between self-regulated learning and writing skills, particularly in the post-pandemic context, remains underexplored. Previous research by Abbasian & Hartoonian (2014) found significant correlations between self-regulated learning strategies and reading comprehension, as well as general academic performance (Dent & Koenka, 2016), but research focusing on writing skills, especially in the context of students' post-pandemic learning experiences, is still limited. This study aims to fill this gap by investigating the correlation between self-regulated learning and writing skills in the post-pandemic era and identifying which SRL strategies students employ in their writing process. Given students' unique experiences of studying independently during the pandemic, understanding how these experiences shaped their self-regulation and writing proficiency is crucial.

Based on the research objectives, the research questions are as follows.

1. To what extent does a significant correlation exist between students' self-regulated learning and their writing proficiency in the post-COVID-19?

2. What specific self-regulated learning strategies do students employ in the process of composing their written works?

Method

Research method and design

This quantitative study employs a correlational approach to examine the relationship between variables, aiming to uncover underlying phenomena. The correlational design is ideal for investigations into correlations within real-life contexts (Ulfatun et al., 2021). The study tests two hypotheses: (a) no correlation exists between self-regulated learning and writing skills (H0), and (b) a correlation exists between self-regulated learning and writing skills (H1).

Research participants

The researcher used purposive sampling, selecting 33 tenth-grade students from SMAN 11 Kota Tangerang Selatan as participants. These students were chosen because they take English as a compulsory course. This sampling was convenient since all participants (20 females and 13 males from the 10th Science 4 class) are taught by the same teacher.

Research instrument

The study collects data using two instruments: a questionnaire and a writing test. The questionnaire is adapted from the Questionnaire of English Writing Self-Regulated Learning Strategies (QEWSRLS) by Sun & Wang (2020). The writing test requires students to write a reflective essay on a personal recount, assessed using a rubric by Denise Kreiger (2014). Students reflect on their learning experiences and critically analyze their English lessons this semester, with the rubric evaluating content reflection, personal growth, and writing quality.

Data collection

Data will be collected from questionnaire responses and students' reflective essays. The questionnaire will be distributed via Google Forms with researcher assistance, while the essays will be gathered from Google Classroom after in-class supervision by the researcher.

Data analysis

In quantitative correlational study, the analyzing data is used in statistical data analysis. In this study, the research will use a statistical method to discover the correlation between students' self-regulation learning and students' writing performances. Because this research data has an ordinal measurement scale on the questionnaire, the statistical analysis used is Spearman's rho correlation (Vusvitasari et al. in Delima & Cahyawati, 2021).

Spearman's rho correlation is used when one of the variables has ordinal data (the opposite of continuous/interval data), the data are divided into at least three categories, each of which has a distinct natural order as we can find in Likert Scale (Frost, 2021). Correlation is an effect size and so it can be described as the strength of the correlation using the following guide for the absolute value of Spearman's correlation coefficient (Dancey & Reidy in Akoglu, 2018): .01 - .03 "weak"; .04 - .06 "moderate"; .07 - .09 "strong"; and .1 "perfect".

Results

To what extent does a significant correlation exist between students' self-regulated learning and their writing proficiency in the post-COVID-19?

This study aims to determine the correlation between students' self-regulated learning and their writing skills. From the data analysis, the result shows as follows:

Correlations			Self-Regulated Learning	Writing
Spearman's rho	Self-Regulated Learning	Correlation Coefficient	1.000	.439*
		Sig. (2-tailed)	.	.011
		N	33	33
	Writing	Correlation Coefficient	.439*	1.000
		Sig. (2-tailed)	.011	.
		N	33	33

*. Correlation is significant at the 0.05 level (2-tailed).

The table above presents key statistical evidence highlighting the relationship between self-regulated learning and writing skills. The correlation analysis yielded a significance level of 0.011, which is below the critical threshold of 0.05 (2-tailed), confirming that the correlation observed is statistically significant ($p < 0.05$). This level of significance indicates that the relationship between self-regulated learning and writing skills did not occur by random chance and is instead meaningful within the context of this study. In practical terms, this significance suggests that the changes in self-regulated learning are systematically associated with corresponding changes in students' writing performance.

Given this statistical outcome, the study rejects the null hypothesis (H_0), which assumes no correlation between self-regulated learning and writing skills. Instead, the alternate hypothesis (H_1) is accepted, establishing that a correlation indeed exists between these two variables. Rejecting the null hypothesis is a critical step in confirming that self-regulated learning should be considered an influential factor in writing performance rather than being dismissed as irrelevant or incidental.

The nature of this correlation is further described as **positive**, meaning that an increase in self-regulated learning is associated with an increase in writing skill. In other words,

as students develop stronger self-regulation, such as setting learning goals, monitoring their progress, and managing their time and effort effectively, they are likely to experience improvements in their writing abilities. This positive relationship implies that fostering better self-regulated learning practices could be a key strategy for enhancing students' writing outcomes.

Furthermore, the strength of the correlation is quantified by a correlation coefficient of 0.439, which falls within the range of a moderate positive correlation. This value indicates that while there is a noticeable relationship between self-regulated learning and writing skills, it is not extremely strong or perfect. The moderate nature of the correlation suggests that self-regulated learning is a significant but not the sole determinant of writing performance. Other factors, such as linguistic knowledge, external motivation, instructional quality, and cognitive abilities, may also play important roles.

All in all, these findings evidence that self-regulated learning contributes significantly to students' writing success. By rejecting the null hypothesis and demonstrating a statistically significant and positive correlation, the findings support the idea that promoting self-regulation can be a valuable approach to improving students' writing performance, even though additional factors may also influence the overall outcome.

What specific self-regulated learning strategies do students employ in the process of composing their written works?

The findings from the 26-item questionnaire reveal that students actively employ various self-regulated learning (SRL) strategies in their writing process. These strategies enable them to regulate their thoughts, behaviors, and motivation while composing their work, ultimately improving their writing quality and efficiency. The data suggests that most students incorporate Writing Self-Regulated Strategies to enhance their writing performance, particularly those related to Self-Consequences, Self-Evaluation, and Transformation. These strategies help them manage their motivation, assess their progress, and adapt their writing process effectively.

Among the most frequently used strategies, students tend to reward themselves when they make progress in writing. This self-rewarding technique, such as taking breaks or treating themselves, helps maintain motivation and persistence. Another widely adopted strategy is proofreading their English compositions after completing their writing, which demonstrates their awareness of the importance of self-evaluation in ensuring writing quality. Additionally, students often take breaks when feeling fatigued during writing, allowing them to return to the task with renewed focus and preventing burnout. Paying attention to English language structure while writing is also a commonly reported strategy, as students strive for grammatical accuracy, coherence, and organization. Lastly, many students think out their composition in Indonesian before translating it into English, which helps them organize their ideas more clearly before structuring them in a second language. These findings suggest that students apply a variety of strategies that allow them to plan, monitor, and evaluate their writing process, ensuring writing quality while maintaining motivation and reducing stress.

On the other hand, some strategies appear to be less frequently utilized by students, particularly those related to Self-Monitoring, Seeking Opportunities, and Persistence. For instance, students rarely write down common mistakes made in the writing process, indicating a lack of systematic error tracking that could help improve their accuracy over time. They also seldom send emails to friends in English on their own initiative, suggesting that they do not frequently seek informal writing opportunities outside of academic settings. Furthermore, some students struggle with continuing to write when encountering difficulties, which may indicate challenges in maintaining persistence and overcoming writer's block. Another strategy that is rarely used is taking notes during English writing classes, implying that students might rely more on passive learning rather than actively documenting key points for later review. Finally, students are less likely to consult teachers when they face difficulties in writing, which could suggest either a preference for independent problem-solving or hesitation in seeking help.

These findings indicate that while students actively use self-motivation, evaluation, and structural awareness strategies, they are less engaged in self-monitoring, persistence, and resource-seeking behaviors. The lack of these latter strategies may limit their ability to track progress, stay committed to their writing, and seek additional learning opportunities. Encouraging students to develop a balanced approach to self-regulated learning, by incorporating strategies such as self-monitoring, proactive help-seeking, and sustained writing efforts, could enhance their writing proficiency.

Discussion

This study has objectives to investigate the correlation between students' self-regulated learning and writing skills as well as to discover the specific writing strategies related to self-regulation learning which students use in composing their writing works. The result shows that there is a significant correlation between students' self-regulated learning and students' writing skills. Also, it indicates a positive relationship between the variables with moderate positive correlation.

The results are in line with Eva et al. (2023) research findings which showed 83.3% of Indonesian senior high school students were rated as high on Self-Regulated Learning (SLR) during pandemic, while 31.1% of Malaysian high school pupils received high ratings on SRL. These results may be attributed to Indonesian and Malaysian high school students having an excellent ability to control themselves in the learning process independently because SRL is a process of self-regulated done by students independently in learning (Zimmerman & Martinez-Pons in Eva et al., 2023). Furthermore, Tajudin et al. (2022) also found the similar finding that stated that throughout the online classes, the students maintain a positive mood, high levels of academic enthusiasm, and effective self-learning regulation.

Regarding the self-regulated learning strategies, the results showed the most frequent writing self-regulated strategies used by the students are related to self-consequences, self-evaluation, and transformation. The findings are in line with Sun & Wang's (2020) research. They found out that the most frequent writing self-regulated learning strategies is thinking out a composition in native language before writing it in English.

This transformation strategy is included in personal self-regulated learning strategies which allows students to think the writing works in their native language and transform it in English to help them create meaningful writing works. Furthermore, Rochmah (2021) found out that Self-regulated learning practices and writing proficiency showed a positive moderate correlation ($r = .481$, $p .001$). Self-regulated learning in a writing context helps students in planning their writing and guide them to organize their writing process (Rochmah, 2021). Also, Nadlifah (2020) stated that self-monitoring and self-evaluation are included to meta-cognitive strategies in self-regulated learning which allows students to keep track on their learning progress and evaluate what they have learned after putting it into practice and it is possible to adopt new strategies for achieving their objectives.

Conclusion

In conclusion, this study is intended to investigate the correlation of self-regulated learning and writing skills in the post-pandemic era and to discover the self-regulated learning strategies which students use in their writing skills. The results show that self-regulated learning has a significant correlation with students' writing skills and it has a moderate positive correlation which is seen from the correlation coefficient of data analysis. The results also discover students' self-regulated learning strategies in writing skills. The most frequent writing self-regulated strategies used by the students are related to self-consequences, self-evaluation, and transformation.

This study is expected to give information and contribution to research literature related to self-regulated learning and English language skills. Further research is recommended to investigate the correlation of self-regulated learning strategies with other English language skills (reading, listening, and/or speaking skills). Also, it is needed to investigate the effectiveness of self-regulated learning strategies in the classroom to support the English language skills and the learning process.

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