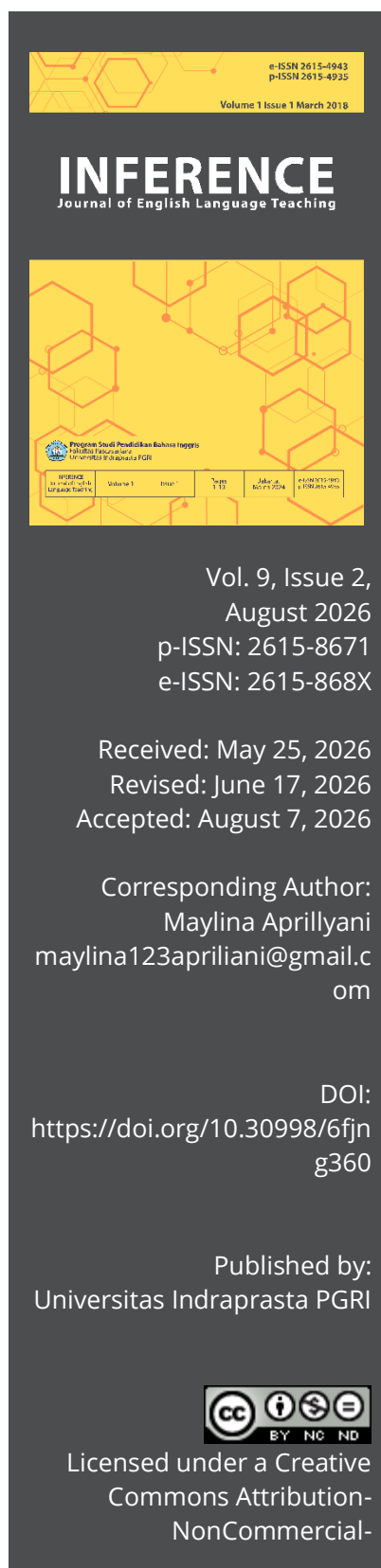




RESEARCH ARTICLE

EXPLORING EFL STUDENTS' SELF-REGULATED LEARNING IN COLLABORATIVE WRITING: A QUALITATIVE STUDY

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Abstract: This qualitative study explores how EFL students demonstrate self-regulated learning (SRL) in collaborative writing at the senior high school level. Guided by Zimmerman and Moylan's (2009) cyclical SRL model and Lowry and Lowry's (2004) collaborative writing procedures, this study employed observation, student notes documentation, and focus group discussions. The participants were six tenth-grade students from a senior high school in Karawang, West Java, Indonesia. The findings revealed that students demonstrated partial SRL behaviors across the forethought, performance, and self-reflection phases, with self-reflection emerging as the weakest phase. Several challenges were identified, including linguistic inferiority complex, limited background knowledge, individual writing preference, product-oriented pragmatism, and environmental constraints. Supporting factors included teacher scaffolding, peer co-regulation, technology use, environmental support, and individual motivation. The findings highlight the importance of strengthening reflective practices and structured support to foster students' SRL in collaborative writing.

Keywords: collaborative writing; EFL students; qualitative study; self-regulated learning; senior high school.

EKSPLORASI SELF-REGULATED LEARNING SISWA EFL DALAM PENULISAN KOLABORATIF: SEBUAH STUDI KUALITATIF

Abstrak: Abstrak: Penelitian kualitatif ini mengeksplorasi bagaimana siswa EFL menunjukkan self-regulated learning (SRL) dalam collaborative writing di tingkat sekolah menengah atas. Penelitian ini dipandu oleh model siklus SRL dari Zimmerman dan Moylan (2009) serta prosedur collaborative writing dari Lowry dan Lowry (2004). Penelitian ini menggunakan observasi kelas, dokumentasi catatan siswa, dan focus group discussion sebagai metode pengumpulan data. Partisipan penelitian terdiri dari enam siswa kelas sepuluh dari sebuah sekolah menengah atas di Karawang, Jawa Barat, Indonesia. Hasil penelitian menunjukkan bahwa siswa memperlihatkan perilaku SRL parsial pada fase forethought, performance, dan self-reflection, dengan fase self-reflection menjadi fase yang paling lemah. Beberapa tantangan yang

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ditemukan meliputi linguistic inferiority complex, keterbatasan pengetahuan awal, preferensi menulis secara individual, pragmatisme yang berorientasi pada produk, dan kendala lingkungan. Faktor pendukung meliputi scaffolding guru, peer co-regulation, penggunaan teknologi, dukungan lingkungan, dan motivasi individu. Temuan ini menekankan pentingnya penguatan praktik reflektif dan dukungan yang terstruktur untuk mengembangkan SRL siswa dalam collaborative writing.

Kata kunci: penulisan kolaboratif; siswa EFL; penelitian kualitatif; self-regulated learning; sekolah menengah atas

INTRODUCTION

Writing is one of the most complex skills in English language learning because it requires learners to organize ideas while simultaneously applying grammatical knowledge, vocabulary, and discourse conventions. For EFL (English as a Foreign Language) students, these demands are often intensified by limited exposure to English and insufficient mastery of writing conventions (Harmer, 2004; Hyland, 2003). In addition, limited genre knowledge may hinder students' ability to plan, organize, and monitor their writing effectively (Hyland, 2007; Swales, 1990).

One approach commonly used to support writing development is collaborative writing, in which students work together to produce a shared text. Through collaboration, learners can exchange ideas, construct knowledge, and support one another's language development through social interaction (Lowry & Lowry, 2004; Storch, 2013). Collaborative writing has also been shown to promote critical thinking, problem solving, and active engagement (Permadi et al., 2025). However, not all students benefit equally, as some prefer individual writing due to greater autonomy and control over the learning process (Annisa et al., 2025).

To participate effectively in collaborative writing, students need Self-Regulated learning (SRL), which refers to learners' ability to plan, monitor, and evaluate their own learning (Zimmerman, 1990; Pintrich, 2004). SRL involves cognitive, motivational, and behavioral regulation (Boekaerts, 1999; Pintrich, 2000). Research indicates that students with stronger SRL tend to demonstrate better planning, monitoring, and strategic decision making, whereas students with weaker SRL often experience difficulties in regulating their learning (Hirt et al., 2021; Erdawati et al., 2025). Factors such as self-efficacy, motivation, and anxiety further influence students' ability to regulate their learning (Bandura, 1986; Horwitz et al., 1986; Hindradjat et al., 2022).

In collaborative settings, SRL becomes more complex because individual regulation interacts with peer regulation and group dynamics. Hadwin et al. (2011) distinguish self-regulated learning, co-regulated learning, and socially shared regulation of learning as interconnected forms of regulation in collaborative environments. Peer interaction and collaborative engagement can support the development of SRL (Zheng et al., 2023; Dussuel Lam & Sato, 2025), while teacher scaffolding provides guidance that strengthens students' monitoring and revision practices (Vygotsky, 1978; Ni'mah et al., 2025).

Technology and learning environments also influence SRL. Strategic use of technology can support planning, monitoring, and independent learning (Teng & Zhang, 2020; Sharma et al., 2024; Winne, 2018). Likewise, supportive environments encourage persistence and engagement during learning activities (Azizah & Bazighoh, 2025; Zimmerman, 1998). These processes are closely related to metacognitive awareness, which involves learners' knowledge and regulation of their own thinking (Flavell, 1979; Schraw & Dennison, 1994; Ebbert et al., 2026).

Zimmerman and Moylan (2009) describe SRL as a cyclical process consisting of forethought, performance, and self-reflection phases. However, previous studies suggest that reflection is often the weakest component of SRL because learners frequently struggle to evaluate their performance and

identify future improvements (Arvatz et al., 2025; Laksana & Hadijah, 2019). Achievement goal orientation may also affect the quality of self-regulation, as students who focus primarily on performance outcomes tend to engage less deeply in monitoring and reflection than those with mastery oriented goals (Dweck, 1986; Elliot & Hulleman, 2017; Zimmerman & Schunk, 2011).

Previous studies have examined SRL in EFL writing (Anggraeni et al., 2025; Fauziyah et al., 2024; Umamah et al., 2022). Other studies have explored factors influencing SRL, including self-efficacy (Akhmedjanova & Moeyaert, 2022), technology use (Sharma et al., 2024), and environmental support (Azizah & Bazighoh, 2025). However, few studies have qualitatively investigated how senior high school EFL students regulate their learning during collaborative writing. Most research has focused on higher education contexts, leaving limited understanding of SRL among younger EFL learners in collaborative writing settings.

Therefore, this study aims to explore how EFL students demonstrate self-regulated learning during collaborative writing at the senior high school level and to identify the challenges and supporting factors they experience throughout the process. The study addresses the following research questions: (1) How do EFL students demonstrate self-regulated learning in collaborative writing? and (2) What challenges and supporting factors do EFL students experience in implementing self-regulated learning during collaborative writing?

RESEARCH METHOD

This study employed a qualitative research design using a case study approach. Qualitative research was chosen because it allows for in-depth exploration of participants' behaviors, experiences, and perceptions within their natural learning context (Creswell & Creswell, 2018). A case study approach was deemed appropriate as the study focused on a specific group of EFL students engaged in collaborative writing activities within a bounded educational setting.

The research was conducted at a senior high school in Karawang, West Java, Indonesia. The participants were six eleventh-grade EFL students, selected through purposive sampling to ensure diversity in English writing proficiency levels, ranging from high to moderate to low. These participants were involved in a collaborative writing unit focusing on descriptive text composition. In qualitative research, there is no fixed rule regarding the number of participants, as the focus is on obtaining rich and in-depth data rather than achieving statistical representation (Creswell, 2018). The selection of six participants was also considered appropriate for the focus group discussion (FGD), as Krueger (as cited in Basrowi, & Suwandi, 2008) suggests that an ideal FGD consists of four to six participants because it promotes closer interaction, easier recruitment, and a more comfortable discussion environment.

Data were collected using three instruments. First, observation sheets, adapted from Zimmerman and Moylan (2009), were used to document students' observable SRL behaviors across four observation sessions. The first session consisted of a preliminary observation conducted during the teacher's material explanation stage, while the remaining three sessions focused on collaborative writing activities, including brainstorming, outlining, drafting, revising, and final text submission. Each observation session lasted for 2×45 minutes. Second, students' notes documentation (DOC) was collected to analyze physical evidence of students' planning, drafting, and revising behaviors. Third, a focus group discussion (FGD) involving the six selected students was conducted after the classroom activities to explore their reflections and perceptions of self-regulated learning throughout the collaborative writing process.

Data analysis followed Braun and Clarke's (2006) thematic analysis procedure, involving six steps: familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report. Triangulation was employed across all three data sources to ensure the credibility and trustworthiness of the findings. All data were analyzed with careful attention to ethical considerations, including informed consent, confidentiality, and the anonymization of participant identities.

RESULTS AND DISCUSSION

A. The Demonstration of SRL in EFL Collaborative Writing

1. Different SRL Patterns Across Proficiency Levels

The findings reveal that students at different writing proficiency levels demonstrated distinct patterns of self-regulated learning during collaborative writing. Students with high and moderate writing proficiency tended to engage more systematically in all three SRL phases, namely forethought, performance, and self-reflection, while lower proficiency students showed more fragmented or inconsistent regulatory behaviors. This differential pattern aligns with Zimmerman's (1990) conceptualization of SRL as a cyclical process encompassing metacognition, motivation, and behavior, in which more advanced learners are better able to integrate these components coherently.

In the forethought phase, high and moderate proficiency students demonstrated clearer goal-setting behaviors and more deliberate strategic planning during brainstorming and outlining. Observation data showed that participants such as S2 and S4 were more active in initiating discussions, organizing ideas, and contributing during mind mapping and outlining activities. Document analysis also revealed that S1 contributed detailed ideas into the group mind map and participated actively in structuring the draft, as reflected through visual organization marks, arrows, and revisions found in the group notebook.

In contrast, lower proficiency students frequently skipped the outlining stage and moved directly into drafting without clear planning. Several participants such as S3, S5, and S6 were also observed becoming distracted, chatting with peers, or using mobile phones during collaborative activities, indicating weaker behavioral regulation during the planning stage.

FGD findings further strengthened these observations. S1 explained:

"...if it's about grammar, that can wait. So the important thing is that the content is already there... then the grammar."

This response reflects conscious use of task strategies in which students prioritized idea generation and content completion before focusing on linguistic accuracy. Meanwhile, lower proficiency students tended to rely more heavily on peers when they experienced difficulty organizing ideas or constructing sentences in English. These findings are consistent with Dussuel Lam and Sato (2025), who reported that observable SRL behaviors in L2 collaborative tasks are closely tied to learners' capacity to engage verbally and actively in interaction. This finding is further supported by Hirt et al. (2021), who found that high-achieving learners tend to demonstrate stronger self-regulated learning behaviors, including more effective planning, monitoring, and strategic decision-making, whereas lower-achieving learners often show weaker regulatory control. Similar patterns were observed in this study, where higher-proficiency students engaged more actively in brainstorming, outlining, and monitoring the writing process than lower-proficiency students.

2. Collaborative Context Affects SRL

Beyond individual differences, the collaborative writing context itself significantly shaped the ways in which students regulated their learning. Working within a group introduced a social dimension that both supported and complicated individual self-regulation depending on the dynamics of each group. This finding is theoretically grounded in Hadwin et al.'s (2011) framework, which identifies three interrelated forms of regulation in collaborative contexts, namely self-regulated learning (SRL), co-regulated learning (CoRL), and socially shared regulation of learning (SSRL).

Observation data showed that brainstorming and outlining activities encouraged students to exchange ideas, negotiate content, and coordinate strategies together before drafting. Document analysis also indicated collaborative participation through multiple handwriting styles and revision marks found in group notebooks, suggesting that several members contributed to drafting and revising activities.

FGD findings further demonstrated the role of peer interaction in supporting regulation. S3 explained:

"If there's something I don't understand, usually my friends explain it again until I understand."

This finding suggests that peer interaction functioned as co-regulation that helped students maintain understanding during collaborative writing activities.

Similarly, S2 stated:

“Usually we ask in the WhatsApp group if there’s something missing or unfinished.”

This response indicates that regulation continued outside the classroom through digitally mediated collaboration. Through WhatsApp groups, students coordinated unfinished tasks, checked missing information, and discussed revisions collaboratively. During drafting activities, students were also observed revising and adjusting their writing after receiving comments from peers and teachers, reflecting self-monitoring and co-regulatory processes. This aligns with Permadi et al. (2025), who reported that collaborative environments promote critical thinking, problem-solving, and active engagement. This finding is also consistent with Zheng et al. (2023), who reported that social interaction and co-regulatory processes in collaborative learning environments facilitate the development of students’ self-regulated learning. Through discussion, feedback exchange, and shared responsibility, learners gradually develop stronger monitoring and regulation skills.

3. Incomplete and Fluctuating SRL Cycles

One of the most notable patterns emerging from the data is that the majority of students did not complete the full cyclical SRL process as theorized by Zimmerman and Moylan (2009). While elements of the forethought and performance phases were observable across most participants, the self-reflection phase, which includes self-evaluation, causal attribution, and adaptive decision-making, was often absent or inconsistently enacted.

Among the three phases, the forethought phase appeared strongest. Most students participated in brainstorming and organized ideas before drafting. However, planning often remained at a surface level, with goals oriented toward completing the task efficiently or obtaining good scores rather than improving writing ability.

FGD findings reflected this tendency clearly. S1 stated:

“The important thing is that the assignment gets finished first.”

Similarly, some participants emphasized grades more strongly than improvement in writing ability. This performance-oriented tendency was also visible in students’ use of digital tools. Observation and interview data showed that students frequently relied on ChatGPT, Google Search, and Google Translate to complete tasks quickly rather than to deepen understanding.

S2 explained:

“ChatGPT was used because the information was more complete.”

Meanwhile, S4 stated:

“Yes, from Google, and the translate too.”

Although these tools supported task completion, students rarely discussed evaluating or critically reflecting on the information obtained from these platforms.

The self-reflection phase emerged as the weakest component of SRL. Observation findings showed that after submission many students immediately disengaged from the activity without reviewing their drafts independently unless prompted by the teacher. The weakness of the self-reflection phase identified in this study is in line with Arvatz et al. (2025), who found that reflection is often the least developed component of self-regulated learning, particularly reflection-for-action, where learners struggle to formulate plans for future improvement. This may explain why many participants focused on task completion without engaging in meaningful post-task evaluation.

FGD findings also revealed minimal reflective engagement. S1 explained:

“I felt more relieved than happy.”

S2 similarly agreed:

“Yes, relieved because the task was finished.”

These responses indicate that submission was perceived more as relief from academic pressure than as a moment for reflective evaluation. This pattern aligns with Zimmerman and Moylan’s (2009) explanation that the self-reflection phase involves self-judgment and self-reaction processes. Without

reflective evaluation, students may struggle to improve future learning performance because the regulatory cycle cannot function optimally.

4. Unconscious Use of Regulatory Strategies

An important finding of this study is that many students appeared to use regulatory strategies during collaborative writing without fully realizing that they were regulating their own learning. Students were observed organizing tasks, asking peers for help, checking their progress informally, and revising drafts after receiving feedback, behaviors reflecting several SRL strategies proposed by Zimmerman (1990). However, during the FGD many students described these actions only as ordinary habits rather than intentional learning strategies.

Observation data showed that students naturally divided responsibilities, searched for supporting information, revised drafts, and monitored unfinished sections during collaborative work. Document analysis further revealed correction marks, rewritten drafts, and visible revisions in group notebooks. For example, S5 rewrote parts of the draft after receiving comments from peers and the teacher, indicating ongoing monitoring and revision processes.

FGD findings also reflected implicit forms of regulation. S2 explained:

"Usually we ask again if there's something missing."

Meanwhile, S3 stated:

"If I'm confused, I ask my friends."

Although these actions reflect help-seeking and monitoring behaviors, students generally viewed them as spontaneous actions rather than deliberate self-regulatory strategies.

This finding supports Flavell's (1979) distinction between metacognitive knowledge and metacognitive regulation, as well as Schraw and Dennison's (1994) framework separating knowledge of cognition from regulation of cognition. Students may demonstrate regulatory behaviors without fully understanding why or when those strategies should be applied. This gap between behavioral regulation and metacognitive awareness highlights the need for more explicit SRL instruction in EFL collaborative writing contexts. In addition, Ebbert et al. (2026) argue that self-regulated learning contributes to the development of metacognitive awareness through continuous monitoring and control of learning processes. The findings of this study suggest that although students demonstrated regulatory behaviors, their awareness of these strategies remained limited, indicating an incomplete development of metacognitive understanding.

5. Inconsistent Engagement Despite High Motivation

Several students expressed high motivation toward collaborative writing activities, yet their participation and engagement were not always consistent. Some students verbally showed enthusiasm but gradually lost focus or reduced participation during the actual writing process. This gap between motivational expression and observable behavior reflects Zimmerman's (2000) explanation that motivation alone is insufficient for effective self-regulation.

FGD findings revealed multiple forms of motivation among participants. S2 explained that the selected public figure inspired the group to explore the topic more deeply. Similarly, S4 stated:

"English is important for college and work later."

This response reflects future-oriented motivation linked to academic and professional goals.

S1 also demonstrated strong task-completion orientation:

"Even if some members are passive, the task still has to be finished."

However, observation findings showed that motivation did not always translate into stable engagement. Several students who initially participated actively gradually became passive during drafting activities. Participants such as S3, S5, and S6 were occasionally observed chatting, becoming distracted, or depending heavily on peers during collaborative work. Unequal participation patterns also caused some students to reduce involvement when more dominant peers controlled the discussion or decision-making process.

This interpretation aligns with volitional control theory proposed by Kuhl (1984) and developed by Corno (1993), which explains that motivation initiates goal-directed behavior, while volition helps learners maintain effort and resist distractions during task completion. Boekaerts (1999) similarly explains that students must regulate not only cognition but also motivation and emotion throughout learning activities.

B. Challenges in SRL During EFL Collaborative Writing

1. Linguistic Inferiority Complex

The primary disruption to the SRL cycle among lower proficiency EFL learners was not simply the absence of learning strategies, but a failure in SRL activation rooted in what this study conceptualizes as a Linguistic Inferiority Complex. Based on Adler's (1927) inferiority theory, this condition refers to a persistent feeling of inadequacy that develops in social learning environments and becomes the main reason learners are reluctant to engage in self-regulated learning processes.

Observation findings showed that lower proficiency students rarely initiated discussions, tended to remain silent during collaborative activities, and waited for more proficient peers to make decisions regarding content and text structure. Documentation data further supported this pattern, as the student notes checklist indicated that individual contribution indicators in outlining and mind mapping activities were frequently marked "No" among lower proficiency members, suggesting withdrawal from the planning process due to feelings of linguistic inadequacy.

FGD findings reflected this condition more explicitly. S5 explained:

"...So when I was in the drafting part, I was just the writing part, right, so I just, S4 gave the information, then I, yeah, I'll translate it, then I'll write it, like that, since I, since I'm not very good in English, right, Miss, yeah, so I translate it through Google."

This response demonstrates how low self-confidence in English ability reduced the student's willingness to independently regulate the writing process. Instead of actively contributing ideas or planning strategies, the participant relied heavily on peers and translation tools to complete the assigned task.

This inferiority complex mainly affects the forethought phase (Zimmerman, 1990, 2000), which includes goal setting, planning, and self-efficacy beliefs. In collaborative writing, these issues intensify as learners compare themselves with more proficient peers (Festinger, 1954). This upward social comparison weakens self-efficacy (Bandura, 1986), making it difficult for students to initiate planning or goal-setting. Foreign language anxiety (Horwitz et al., 1986), particularly fear of negative evaluation in front of peers, further inhibits participation. This finding is also supported by Erdawati et al. (2025), who reported that students with higher levels of self-efficacy were more willing to participate actively and regulate their learning during writing activities. Conversely, low self-confidence may hinder learners' willingness to engage in planning, monitoring, and collaborative interaction. Together, these psychological factors weaken the motivational base of SRL, causing what this study terms social loading, namely lower proficiency learners becoming heavily dependent on peers for both cognitive and regulatory tasks.

2. Limited Background Knowledge as a Barrier to Planning and Monitoring

Limited prior knowledge of descriptive text structure and English language features played a central role in weakening students' engagement in the planning and monitoring phases of SRL. Observation findings showed that lower and moderate proficiency students frequently skipped the outlining stage and proceeded directly to drafting, reflecting difficulty activating planning strategies before writing.

Documentation data also revealed organizational weaknesses in students' writing products. S2's notes showed difficulty organizing sentences into coherent paragraph structures, while S6's draft lacked paragraph indentation and an appropriate title, indicating limited understanding of descriptive text organization.

FGD findings further reflected students' dependence on fragmented brainstorming ideas rather than structured planning. S1 stated:

"So previously there was already the character, like their character, their appearance, that was from brainstorming, the keywords, the main words were already there, then after that I just change it into sentences..."

This finding suggests that students relied primarily on surface-level keyword transformation rather than deeper rhetorical planning during writing construction.

Without internalized genre knowledge, students lacked the cognitive framework for decision-making in writing. Hyland (2007) and Swales (1990) emphasize that genre knowledge provides writers with rhetorical and organizational expectations that guide text construction. Cognitive load theory (Sweller, 1988) further explains why drafting dominated over planning: for lower proficiency learners, simultaneous processing of ideas, language, and structure reduces cognitive capacity available for strategic regulation, resulting in a shift from regulated writing to survival-oriented writing behavior. This finding also aligns with Akhmedjanova and Moeyaert (2022), who argue that students who lack sufficient knowledge of writing organization often experience difficulties in applying self-regulated learning strategies effectively. Without adequate procedural and conditional knowledge, learners struggle to plan, monitor, and evaluate their writing performance.

3. Individual Writing Preference

Students consistently expressed a strong preference for individual over collaborative writing, describing individual work as more comfortable, efficient, and less emotionally demanding. This contradicts the assumption in 21st century learning frameworks that collaboration is naturally preferred and automatically beneficial (Partnership for 21st Century Skills, 2019). Instead, data show that students perceived collaborative writing as emotionally demanding due to the need to negotiate ideas, manage disagreement, and handle unequal participation.

Observation findings showed that students frequently worked on assigned sections independently rather than co-constructing the text collaboratively. In many cases, collaborative writing became parallel individual writing, where students focused primarily on completing their own sections before combining them into a final draft.

Documentation data further supported this pattern. Group notebooks showed visibly different handwriting styles across sections without cohesive integration between paragraphs, indicating task division rather than genuine collaborative construction.

FGD findings also reflected students' strong orientation toward individual achievement and personal responsibility. S1 explained:

"Yes, if, for example, for that, uh, my main goal is actually chasing the grade. Yes, if, for example, I'm really enthusiastic about chasing the grade, I don't know why, but uh because I also like English, that becomes a pretty big supporting motivation."

This response indicates that students were strongly motivated by personal achievement goals, which may indirectly reinforce preference for independent control over writing tasks rather than shared collaborative regulation.

From an SRL perspective, this preference for individual work reduced opportunities for co-regulation and shared monitoring (Hadwin et al., 2011; Zimmerman & Moylan, 2009). Storch (2013) explains that in L2 collaborative writing, unequal participation often occurs in dominant/passive interaction patterns. The present study extends this by suggesting that passivity and unequal participation are preceded by students' initial preference for individual work, a deliberate avoidance of collaborative situations perceived as emotionally uncomfortable (Dörnyei & Ryan, 2015). Similar findings were reported by Annisa et al. (2025), who found that some high-achieving students preferred individual learning because it allowed them to maintain focus and exercise greater control over their learning process. This preference may partially explain students' reluctance to engage fully in collaborative regulation despite recognizing the benefits of group work.

4. Product-Oriented Pragmatism and Post-Submission Apathy

The dominance of a completion-oriented mindset directly weakened students' SRL processes, particularly metacognitive regulation. Students engaged in a "write-first, think-later" pattern, writing in a linear and unreflective manner with minimal planning, limited monitoring, and almost no revision.

Observation findings showed that most groups submitted drafts without meaningful final revision. Students generally displayed little emotional response after submission, neither strong satisfaction nor motivation to further improve their work.

Documentation findings reinforced this pattern. The student notes checklist showed there was no record of personal reflection and no documentation of planning

FGD findings also reflected this pragmatic orientation toward task completion. S1 stated:

"...if, for example, it has to be revised or there are many revisions, I feel sad, but, like, okay, come on, we can do it. That means the result will be even better."

Although the participant demonstrated adaptive emotional coping toward revision, the broader pattern still indicated that submission functioned primarily as task completion rather than reflective evaluation.

This pattern can be explained through achievement goal theory (Dweck, 1986; Elliot & Hulleman, 2017), which shows that performance-avoidance orientation reduces deep cognitive engagement and weakens metacognitive monitoring. From an SRL perspective, this reflects a breakdown in the self-reflection phase (Zimmerman, 2000; Zimmerman & Schunk, 2011), where submission becomes an endpoint representing relief from task pressure rather than a moment of reflection. Laksana and Hadijah (2019) similarly found that EFL learners rarely engage in reflective writing without explicit prompts.

5. Environmental and Contextual Challenges

Environmental conditions constrained students' SRL during collaborative writing, including the physical learning environment, limited learning resources, inconsistent group attendance, and the dual role of digital technology as both support and distraction.

Observation findings showed that inconsistent group attendance disrupted collaborative coordination throughout writing sessions. Limited classroom space and frequent phone use for social media also interfered with students' ability to sustain attention during brainstorming, drafting, and revising activities.

Documentation data further confirmed these conditions. Field notes documented episodes of off-task chatting, joking, and social media access during collaborative writing activities, reflecting weakening attentional control under unstable learning conditions.

FGD findings revealed that students relied heavily on digital devices because of limited access to alternative learning resources. S1 explained:

"Yes, we definitely need gadgets, yeah. Because, eh, if, for example, with the current facilities, if, for example, we want to find information in our school library, it's difficult. So the fastest way we look for it is on our cellphones. So we need Google, that's it, sih..."

This response demonstrates how environmental limitations pushed students toward technology-dependent learning behaviors during collaborative writing.

Limited printed resources led students to rely heavily on digital devices, which introduced what this study conceptualizes as a digital loophole, namely technology used primarily for instant answers bypasses metacognitive processes of selection, evaluation, and integration of information (Winne, 2018). The role of digital technology further complicated the environmental situation because mobile phones functioned simultaneously as cognitive support tools and sources of distraction. Teng and Zhang (2020) argue that technology enhances SRL only when learners possess metacognitive awareness and strategic control. In this study, technology use was often habitual rather than intentional, resulting in frequent shifts between task-related and off-task engagement.

C. Supporting factors in SRL During EFL Collaborative Writing

1. Teacher-Scaffolded Regulation Across Collaborative Writing Stages Enhances Students' Performance Phase Control

The findings indicate that teacher scaffolding functioned as an important form of external regulation supporting students' SRL, particularly during drafting, reviewing, and revising stages. Observation findings showed that the teacher actively provided direct feedback during collaborative writing activities by guiding students to check text structure, grammar, and vocabulary. This guidance appeared to compensate for students' weak internal monitoring processes during writing.

Documentation findings further supported the importance of teacher scaffolding. Observation checklist data showed that the indicator "Student responds to feedback by making visible revisions" was most frequently marked "Yes" after teacher interaction, indicating that students became more responsive to revision when external guidance was provided.

FGD findings also reflected the role of externally scaffolded regulation. S2 explained:

"...nah, eh, for me, I look for everything, then eh, yeah, basically we look for it first, we look for it together, like identification, eh, what is it, their personality, and basically a lot of things, for that, I looked for it in Chat GPT, then later they start writing, you know."

This response suggests that task organization and writing progression were strongly shaped through guided collaborative processes supported by external resources and instructional direction.

Within Zimmerman's (2009) SRL model, the performance phase involves self-control and self-observation; however, students' monitoring processes in this study were still heavily supported through teacher feedback. This aligns with Vygotsky's (1978) Zone of Proximal Development, where learning develops through guidance from more capable others. From a social cognitive perspective, Bandura (1986) explains that feedback supports self-efficacy development through social persuasion and performance evaluation. Recent SRL studies (Winne, 2018; Panadero, 2017) also conceptualize feedback as an external information loop supporting metacognitive monitoring. Nevertheless, students' strong dependence on teacher guidance suggests that regulatory processes have not yet become fully internalized. This result is also consistent with Ni'mah et al. (2025), who found that teacher support plays a significant role in sustaining students' self-regulated learning in EFL writing contexts. Through feedback, guidance, and structured assistance, teachers help learners develop stronger monitoring and revision practices.

2. Peer Co-Regulation and Role-Based Interaction Strengthen Distributed Regulation in Collaborative Writing

Peer interaction functioned as co-regulation that supported students' SRL during drafting and revising stages. Observation findings showed that more proficient students frequently acted as informal regulatory agents by directing peers, correcting sentences, and ensuring content completeness during collaborative writing activities.

Documentation findings also revealed distributed regulatory participation across group members. Group notebooks showed corrections, additions, and revisions written in multiple handwriting styles, indicating that regulatory responsibilities were shared unevenly among participants.

FGD findings reflected how peer interaction extended beyond classroom interaction. S2 explained:

"Because this book, the book, the book is not kept where? lah, at school, right, so it's kept by one person. So sometimes there are also people who, eh, in the WA group, there are those who, eh, add this, add this, add this. So we, like, yeah, there too, what is it, others also share ideas."

This response demonstrates that peer regulation continued outside classroom hours through WhatsApp-based communication, allowing students to coordinate revisions, share ideas, and monitor unfinished tasks collaboratively.

Hadwin et al. (2011) define co-regulation as temporary regulatory support provided by peers to help learners manage cognitive and behavioral engagement. This pattern aligns with Storch's (2013) interactional framework, particularly dominant/passive and expert/novice interaction patterns in collaborative writing. Zimmerman (1989) also identifies help-seeking as an important behavioral

strategy of self-regulated learners. In this study, higher proficiency students more frequently initiated peer guidance and strategic assistance than lower proficiency students.

3. Technology as Cognitive and Metacognitive Tool in SRL Processes

Technology functioned as both cognitive support and metacognitive tool across multiple SRL phases in collaborative writing. Observation findings showed that students actively used smartphones for information searching, vocabulary translation, and communication during brainstorming and drafting stages.

Documentation findings also confirmed extensive use of digital tools throughout collaborative writing activities. Field notes documented students' use of Google, Google Translate, ChatGPT, Meta AI, and WhatsApp as cognitive and communication support tools during writing tasks.

FGD findings illustrated how technology became integrated into collaborative regulation processes. S2 stated:

"...nah, eh, for me, I look for everything, then eh, yeah, basically we look for it first, we look for it together, like identification, eh, what is it, their personality, and basically a lot of things, for that, I looked for it in Chat GPT, then later they start writing, you know. They write, and I divide the tasks, they write this, they write this, I also write my part."

This response demonstrates that digital technology supported not only information gathering but also task organization and collaborative coordination among group members.

Within Zimmerman's (2009) model, digital tools support behavioral regulation by helping learners organize and facilitate task completion. However, Winne's (2018) COPES model emphasizes that technology only supports SRL effectively when learners evaluate digital output against internal standards. Similarly, Oxford (2016) argues that effective strategy use requires metastrategic awareness, namely understanding why and when tools should be used. In this study, students often used ChatGPT, Google Translate, WhatsApp, and Google Search operationally rather than strategically, indicating limited metacognitive monitoring. The findings also support Sharma et al. (2024), who demonstrated that adaptive learning technologies can facilitate self-regulated learning by providing feedback, scaffolding, and opportunities for independent learning. In the present study, digital tools such as ChatGPT, Google Search, and Google Translate supported students' writing processes, although their use was not always accompanied by critical evaluation

4. Environmental Support Factors in Facilitating SRL Across Writing Stages

Environmental conditions functioned as structural supports shaping SRL across outlining, drafting, and reviewing stages. Observation findings showed that students working in neat and spacious areas demonstrated more sustained engagement during collaborative writing activities. Adequate physical space appeared to support material organization and flexible group interaction during brainstorming and drafting stages.

Documentation findings also indicated that the availability of complete writing materials supported students' planning activities. S4's documentation notes listed:

"Book, pen, colored pens, ruler for the mind mapping, and uh, what's it called? Connector..."

These materials supported visual organization during mind mapping and outlining activities in the forethought phase.

FGD findings further reflected the importance of supportive physical environments. S1 explained:

"Um, it depends on the place, doesn't it, sih. If, for example, the place is limited, we will definitely have difficulties. But if, for example, we do the work in a spacious place, like maybe on the floor, it won't be complicated, sih."

This response indicates that environmental comfort and workspace flexibility influenced students' ability to maintain collaborative coordination and engagement throughout the writing process.

Zimmerman (1990, 1998) conceptualizes environmental structuring as a self-control strategy in which learners organize physical and social contexts to support learning. Bandura's (1986) reciprocal determinism further explains that environmental, behavioral, and personal factors continuously interact

in shaping self-regulation. From Pintrich's (2000) perspective, supportive classroom environments enhance persistence and strategic engagement, whereas unstable learning conditions encourage minimal-effort strategies. This finding is further supported by Azizah and Bazighoh (2025), who emphasize that supportive learning environments promote learner autonomy and encourage students to take greater responsibility for regulating their learning. Adequate physical space, learning materials, and comfortable learning conditions may therefore strengthen students' engagement in collaborative writing activities.

5. Personal Motivation, Goal Orientation, and Coping Strategies as SRL Drivers

Personal motivation played an important role in sustaining SRL, particularly during the forethought and performance phases. Observation findings showed that several students continued working despite collaboration difficulties, absent group members, and repeated revisions, indicating persistence and goal-oriented coping behaviors during collaborative writing.

Documentation findings further confirmed this pattern. Field notes indicated that several participants remained engaged in drafting and revising activities even when experiencing frustration, temporary loss of motivation, or unequal participation within the group.

FGD findings reflected future-oriented motivation and long-term learning goals. S4 explained: *"I study because uh I want to be able to speak English, right, like English will definitely be very useful for the future, especially if it's for college, work, like that, English is definitely useful, yeah. That's why I really want to be able to speak English, yeah, because of that."*

This response demonstrates mastery-oriented motivation and future academic orientation as important drivers sustaining engagement during collaborative writing.

Zimmerman's (2009) model identifies goal setting, self-efficacy, and outcome expectations as central forethought processes influencing subsequent regulation. Dweck's (1986) achievement goal theory distinguishes mastery-oriented learners, who emphasize learning and persistence, from performance-oriented learners, who focus more on external outcomes. In this study, coping strategies such as persistence, self-encouragement, and emotional adjustment helped students maintain participation despite collaborative difficulties. Boekaerts' (1999) dual processing model explains this fluctuation as movement between growth-oriented and well-being-oriented pathways. Pintrich (2004) further conceptualizes motivation regulation as a core component of SRL alongside cognition and behavior. This finding is consistent with Hindradjat et al. (2022), who reported a positive relationship between motivation and self-regulated learning engagement. Students who possess stronger future goals and higher learning motivation are more likely to sustain effort, persist through difficulties, and employ self-regulatory strategies throughout the learning process.

CONCLUSIONS

This study explored how EFL senior high school students demonstrate self-regulated learning in collaborative writing and identified the challenges and supporting factors they experienced throughout the process. The findings reveal that students demonstrated partial SRL behaviors across Zimmerman and Moylan's (2009) three cyclical phases, forethought, performance, and self-reflection, with the self-reflection phase being the weakest component. Proficiency level significantly influenced SRL patterns, with lower-proficiency students demonstrating more fragmented, passive, and dependent regulatory behaviors. The collaborative context shaped SRL in complex ways, as peer interaction generally supported regulation while unequal participation and group dysfunction sometimes disrupted it.

Key challenges included a Linguistic Inferiority Complex rooted in social comparison and foreign language anxiety, limited background knowledge of descriptive text structure, a strong preference for individual writing, product-oriented pragmatism manifested as post-submission apathy, and environmental constraints including inconsistent attendance and uncontrolled technology use. Supporting factors encompassed teacher scaffolding, peer co-regulation, technology integration, environmental support, and individual motivational factors.

These findings suggest that SRL in collaborative EFL writing is a complex, socially situated, and context-dependent process that cannot be fully understood solely from an individual cognitive perspective. EFL teachers are therefore encouraged to explicitly integrate SRL instruction into collaborative writing activities by guiding students through planning, monitoring, and reflection, rather than assuming these skills will develop naturally through group work alone. Future research may employ mixed-methods or longitudinal designs to examine how SRL behaviors develop over time and how explicit SRL instruction produces long-term improvements in collaborative EFL writing contexts.

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