Self-Regulated Learning Development: Students' Perception of Explicit Instructional Support in Online Learning

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Abstract

Students' ability to regulate their own learning is the key to learning in the twenty-first century, particularly in online learning environments during a pandemic situation. Studies have indicated the significant contribution of Self-regulated learning (SRL) to academic success. This current study sought to understand and describe students' perceptions and behavior in response to online teaching instructions designed in the light of SRL theories. The instructional support was designed following the principles of SRL from a social cognitive researcher. Twenty-five undergraduate students participated in this study. The data was obtained from questionnaires, tests, and observation. The learning activities were conducted in an E-learning platform provided by the university, Google Forms, and virtual meetings. The results from the questionnaire showed that explicit instructional supports effectively encouraged students to employ SRL skills in their learning process. Albeit, the data from observation described that only some of the SRL skills were acquired and developed during online instructions, and some skills still needed time to develop due to the fact that students were at the first level of SRL. The students in this study still need more exercises and practices to support them in continually developing their SRL skills. In future interventions, students should be trained to acquire self-assessment and task-selection skills. This study suggests providing explicit instructional support to assist university students with low-level or minimal SRL capacity in developing SRL capacity.

Keywords: Online teaching instructions; online learning; self-regulated learning

INTRODUCTION

During the coronavirus emergency, learning processes shift fully from traditional face-to-face learning to online learning to curb coronavirus transmission. This situation has brought significant changes in the learning process. It is obvious that the effectiveness of learning in this pandemic situation will not merely depend largely on other-regulation such as by schools, teachers, and others; it also fully relies on students' strategies to direct their own learning. Online learning requires students to be able to regulate their own learning (Artino & Stephens, 2009; Maldonado-Mahauad et al., 2018). Studies on self-regulated learning (SRL) have shown that SRL has a significant contribution to academic success (Broadbent & Poon, 2015). It was found that students with a high score of SRL will achieve higher academic achievement than low SRL scores (Barnard-Brak et al., 2010; Broadbent & Poon, 2015; Cleary & Chen, 2009; Jivet et al., 2020).

Abundant literature about the importance of SRL in learning and measurements of SRL is available. Although there are different views among cognitive and social-cognitive researchers in terms of the process, they all agree that learners with SRL skills are those who are able to direct their own learning by employing specific strategies to achieve their own learning goals. Learners with SRL strategies will attempt to monitor, regulate, and control their cognition, motivation, and behavior (Pintrich & de Groot, 1990; Zimmerman, 2013). It is clearly expressed that SRL is a capacity that is not achieved at once, but there are phases to go through. There are three cyclical phases: forethought, performance or volitional control, and self-reflection processes to optimize capacity (Zimmerman, 2000). Along the process, students may attain a different level of SRL at one point in time. In their study, Barnard et al. categorized learners into five profiles of SRL strategies or skills: super, competent, forethought-endorsing, performance/reflection, and non- or minimal self-regulators.

SRL is a capacity or capability achieved through a complex process. Context determines and shapes SRL (Winne, 2010). (Barnard-Brak et al., 2010) suggested that future research should replicate the results of their study with respect to learners in other domains and learning environments. In an online context, learning is more nuanced for the diversity of learners' goals, motivation, characteristics, and previous experiences

(Littlejohn et al., 2016). It is assumed that learners accustomed to learning in a traditional classroom, where their behaviors are controlled by their teachers, tend to perceive learning as transforming knowledge and skills from teachers. They may struggle to learn in an online environment where they have to control their own learning process in order to succeed in attaining learning objectives. Sulisworo et al. (2020), in their study, found that students in Indonesia still need assistance and mentoring from teachers to improve SRL. They argued that online learning is not only to master subject matters but also to strengthen SRL. Teaching instructions should be designed based on the principles of SRL development.

Many studies have provided models to develop and measure SRL, but data about how learners with different readiness for online learning should be supported and what the students can acquire SRL skills during the online learning process is still limited. In their attempts to assist students in conducting SRL, Chou and Zou (2020) found that some students in their study still needed further support for SRL due to the fact that they often had poor internal SRL processes and poor internal feedback, while Jivet et al. (2020) recommended practitioners and researchers to use adaptive dashboard features to scaffold the development of expertise in using external feedback in developing SRL. Regarding the recommendations, the students in this study were assisted in developing their SRL capacity through explicit instructional support by providing models for SRL development and regularly giving feedback. It was assumed that the students in this study were not ready for the online learning environment due to minimal SRL learning capacity.

Self-Regulated Learning (SRL)
According to social cognitive researchers, SRL is not merely manifested in a personal process. It is unlikely that pure cognitive approaches focus only on mental phenomena. It is believed that the capability to self-regulate acquired during the learning process is influenced by three factors: individual, social, and physical environment (Zimmerman, 2013). The types of personal, behavioral, and environmental influences are interdependent. For instance, when students use self-regulated learning strategies, they manage to strategically control personal influences to regulate their behavior and the immediate learning environment. Metacognitive processes are necessary to SRL skills but cannot stand alone. It is believed that learners with SRL are able to control both external and internal *conditions* to maximize cognitive and metacognitive *operations* and *products* (Winne, 2010).

A number of SRL models with different constructs and mechanisms have been proposed (Pintrich & de Groot, 1990; Zimmerman, 2013). However, all of the models share similar assumptions that learners are not passively but actively construct knowledge when they are learning. They have the potential to monitor, control, and regulate their own cognition, motivation, behavior, and some features of their environments to achieve

their goals. Most models assume that SRL activities are linked to outcomes such as achievement and performance. These assumptions lead to figuring out what SRL is and how SRL is achieved. Pintrich & de Groot stated that there is a complexity and diversity of the SRL process in applying these principles to learning and achievement in the academic domain.

There are three cyclical phases of SRL proposed by Schunk and Zimmerman: forethought, performance or volitional control, and self-reflection processes (Barnard-Brak et al., 2010; Jivet et al., 2020; Littlejohn et al., 2016; Zimmerman, 2000). In the Forethought phase, learners attempt to do task analysis and build self-motivational beliefs by setting goals, planning and selecting strategies, and motivating themselves with self-efficacy, outcome expectations, intrinsic interest or value, and goal orientation. In the performance or volitional control phase, learners move to develop self-control by using a series of self-control techniques such as describing how to proceed as one executes a task, forming mental pictures and applying techniques to improve their attentional control, and conducting self-observation by tracking of specific aspects of their own performance, conditions that surround it, and the effects that it produces through self-feedback and self-recording. Self-reflection processes involve self-judgment and self-reactions. Self-judgment refers to self-evaluation in which learners attempt to evaluate their performance by judging it with a standard, criteria, or goal. Self-reactions continually occur when learners gain self-satisfaction in their actions. In this case, Social supports (such as giving feedback, praise, etc.) are necessary to increase self-reaction and sustain SRL skills development.

In the social cognitive path, to achieve a high level of SRL, there are four levels of SRL skills that begin with extensive social guidance at the first level and systematically reduce as students acquire the skills (Zimmerman, 2013). The first level of the learning process *is the observational level,* in which students carefully watch a social model to discover the description of performance. The skills can be attained at this level when students are able to discriminate or discern various differences in the knowledge and performance they are learning. In the next level, the *emulation level,* students emulate the model in terms of general pattern or style functioning discovered from the observation level. The skill is achieved through deliberate practice on new tasks on their own until they are able to perform the task in a similar way to the model. Once the skill is achieved at this level, students are supposed to learn in practice by performing a task without the presence of a model. At this third level *self-controlled level,* students are expected to apply skills based on a model's representational performance. Self-controlled functioning is attained once the execution becomes automatic. In the fourth level, *self-regulated level* students do not depend on the model. They are able to choose strategy independently and make an adjustment based on outcomes in naturalistic settings. In other words, once students attain a high level of SRL

skills, interventions are not considered to change students' behavior, as students are already the agents of their actions. In the first two levels, the development of SRL skills depends on social support such as positive vicarious consequences, a corrective model (in the first level), guidance, feedback, and reinforcement (in the second level). While in the last two levels, students can develop their SRL skills in their own way. At the *self-controlled level,* students are motivated by self-reinforcement stemming from their effort that matches their internal standard, while at the *self-regulated level,* students are motivated by their self-efficacy about successfully obtaining desired outcomes (However, students in these levels still continue to depend on social resources on a self-initiated basis).

Explicit Instructional Support
It has been explained in the previous part that in the first and two levels of the SRL phases, learners acquire SRL skills depending on support from others. Support actions can be done by explaining what to change and how to change it, giving recommendations on what topics to tackle, what behavior to change, or what information helps learners plan their learning (Jivet et al., 2020). Jivet et al. (2020), in their study, applied SRL theory in designing learning analytics dashboards (LADs) as tools to develop learners' SRL skills in online learning for higher education. LADs were used to help learners develop metacognitive skills, make learners aware of their learning performance and behavior, and support reflection. They found the dashboard tool benefited learners. Thus, they recommended practitioners and researchers use adaptive dashboard features to scaffold the development of expertise in using external feedback in developing SRL.

Chou and Zou (2020) designed a system with SRL tools and open learner models (OLMs) to assist students in conducting SRL and to externalize students' internal SRL processes and feedback. It was found that some students in their study still needed further support for SRL due to the fact that they often had poor internal SRL processes and poor internal feedback. Students who still have poor self-assessment, set inappropriate target goals, and fail to conduct follow-up learning to achieve goals should be given explicit instructional support. In Chou and Zou's study, the SRL tools and external feedback from the OLM were proved to be able to assist most students in SRL through the process of monitoring learning performance, setting goals, implementing and monitoring strategy used, and monitoring strategy outcome.

Learners' ability to assess their own performance and select new tasks contributes to the effectiveness of SRL capability development (Kostons et al., 2012). In their experiments, Kostons et al. (2012) investigated and confirmed that the acquisition of self-assessment and task-selection skills would enhance the effectiveness of SRL. Furthermore, they recommended training the skills through either examples or practice.

Molenaar et al. (2021), with adaptive learning technologies (ALTs), use moment-by-moment learning curves to support learners' SRL in primary education and explore how they regulate their effort, accuracy, and learning. They demanded students with different regulations in their instructional phases and observed the progress to figure out when students were in need of additional support. Their study illustrated and discussed the technical functioning of the ALT and the development of students' own regulation over time, which could help in determining when and to what extent particular students need support from the system.

Ardasheva et al., 2017 in attempts to discover the effectiveness of strategy instruction (SI) on second language (L2) and SRL outcomes, conducted a meta-analysis where they examined the direct SI impacts on SRL and/or on L2 achievement. Their results show that SI works to improve both learning domains. However, the results of SRL are still far from being conclusive due to the small number focused on this outcome. They then suggested for further study to emphasize SRL in developing SI instructions and SI curricular materials in preparation professional development and recommended instructional incorporate and assess language outcomes and all three dimensions of SRL (metacognitive, motivational, and behavioral). SI should be directed toward developing dimensions of SRL.

The effectiveness of strategy instruction (SI) is affected by contexts and structural features of the strategy training, such as age and educational level, proficiency, language typology, technology- vs. instructor-delivered and researcher- vs. teacher-lead SI intervention (Ardasheva et al., 2017). SI Interventions have different outcomes in regard to age and educational level. Regarding language outcome, younger learners tended to benefit from SI more. However, when it comes to SRL learning outcomes, older are more likely to benefit from SI with an explicit focus on SRL, for more mature individuals are more likely to be in control of their learning behavior. Based on *Proficiency level,* more proficient L2 learners tend to benefit more from SI in terms of language outcomes. It is similar in terms of SRL outcomes, and SI benefits more advanced learners. In ESL, EFL, and FL settings, the overall SI effect was larger in L2 and FL settings in both language and SRL outcomes. Regarding *Language Typology*, SI effects on self-regulated learning are greater in contexts with greater L1/L2 distance. For the length of treatment, both short-term (intensive) and longer-term (incremental development over time) interventions may be equally beneficial for the learners. The length depends on learners' needs.

Learners' SRL Profiles
Students show different behaviors in their learning process due to the different levels of SRL. Students with high SRL scores engage in learning activities for long-term goals and are guided by intrinsic motivation, while students with low overall SRL scores tend to be more concerned with short-term goals and are driven by extrinsic motivation factors (Littlejohn et al., 2016). In another study, It was found that there are three clusters

of learners: comprehensive learners who participated in learning activities to gain a deeper understanding of the course content; targeting learners who focused only on specific material to pass the assessments; and sampling learners who were less goal-oriented and had no specific goals to achieve (Maldonado-Mahauad et al., 2018).

Barnard-Brak et al. (2010) in their study categorized students into five classes based on the different quantitative levels or amount in which they were self-regulated in their learning: the class (1) non- or minimal self-regulators, (2) forethought-endorsing self-regulators, (3) performance/reflection self-regulators, (4) super self-regulators and (5) competent self-regulators. Students who belonged to the first class or profile (1) were associated with self-regulated learning the least and disorganized their learning process. Students in the second class, forethought-endorsing self-regulators (2), and students in class 3 seem to have the same characteristics in the way they organized their self-regulation; they already endorsed some self-regulated learning skills in the level of priori or proactive sense. However, students in class 2 are less concerned with the use of task strategies, time management, help-seeking, or self-evaluation in their learning. Competent self-regulators and super self-regulators endorsed high skills and strategies of SRL.

METHOD

This current study employed a mixed method. A qualitative study was conducted to observe students' behavior in their online learning process. The population was all undergraduate students who enrolled in two courses in the English department at a university in West Papua. There were seventy-two students who enrolled in the two courses, but only twenty-five students who participated actively during the process of online learning were taken as participants of this study. The observation was conducted from the beginning of the semester to nearly the end of the semester (12 weeks) to observe the students' behavior during their online learning process. The quantitative data was gathered using a questionnaire and test. The questionnaire was used to investigate the students' rate of task interest, learning strategies, and help-seeking as the components of SRL. The items of the questionnaire were adapted from previously published instruments (Artino & Stephens, 2009). The test was designed to assess the student's knowledge of the content area of the course. The items of the test were adapted from published English grammar books. The results from the questionnaire and test were analyzed using descriptive statistics.

Observation data were obtained from the student's activities in their personal accounts in the E-learning platform provided by the university. The process began by providing guidelines for students to use SRL skills in their online learning process and providing models to show students how to set goals or learning objectives before starting to study, how to select strategies, materials, sources, and exercises to achieve the goals, how to evaluate learning process, and what to do when they encounter difficulties during learning in their own way as Zimmerman, (2013) and other previous studies had recommended. Every week, students were given the opportunity to show their progress by uploading their work to the platform. Feedback was provided via virtual meetings after reviewing students' activities and reading students' reflections. It was expected that students would imitate the model provided until they achieved the skills of SRL in the first level: to discover the description of SRL performance.

The teaching materials, the exercises, test items, and teaching instructions used in this study were adapted from published English grammar books and have been tested and evaluated. The students' responses to instructions were observed in the E-learning platform in which the students showed their attempts to follow the given model. The data from observation during the learning process was coded and categorized in order to be explained.

RESULT

Student's Profile in Subject Area

Students who participated actively in this study had good prior knowledge in the subject area of the course. Table 1 describes students' understanding of the structure of English sentences. The mean score of indicators 1 to indicator 6 is high (range 0 – 1). However, the mean score in two indicators, indicators 7 and 8, is low.

The high mean score in 6 indicators indicated that students had already acquired the concepts of using the pattern of sentences. They understood that they needed subject and verb as a predicate in constructing English sentences. They then recognized when the sentences used incorrect verbs. They understood the concepts of using different kinds of verbs based on the use of different time signals in sentences. However, students often failed to recognize the correct form of verbs in the real context, where the time signal of the sentence was not provided. They consistently gave incorrect responses to items that required them to use the correct verbs in a real context (indicator 7 and indicator 8).

Students' Experience in Online Learning

All students in this study had no experience in online learning. Most students, in their responses to the provided questions, described that it was the first time they had experienced online learning. They were anxious while they were working on the first quiz in the online learning platform to check their prior knowledge of the content area of the course. Two of their comments are quoted in extracts 1 and 2.

Table 1
The Students' Knowledge of the Subject Area

No	Indicator	Mean
1.	Students are able to identify the subject of sentences	0.70
2.	Students are able to recognize the absence of verbs in sentences	0.75
3.	Students are able to recognize the incorrect pattern of sentences by looking at the use of verb and time signals (past tense, yesterday)	0.73
4.	Students are able to recognize the incorrect pattern of sentences by looking at the use of verb and time signals (present continuous, right now)	0.73
5.	Students are able to correct negative sentences	0.73
6.	Students are able to use the correct form of verbs in sentences (past verbs)	0.79
7.	Students are able to recognize the absence of main verbs in sentences	0.55
8.	Students are able to use the correct form of the verb in the present tense	0.36

Extract 1
"In my opinion, this quiz is enough to provide a good experience, but I have to be fast and precise in doing the quiz before the specified time runs out. It can help me to understand how to use the internet in doing assignments."

Extract 2
At first, I felt worried because it was all new for me, but I just tried my best to do the quiz, and yeah, I got a good score.

Students' Efforts to Achieve SRL in Online Learning Process
Participants in this study attempted to learn in their own way by reading the teaching materials sent by the lecturer before the virtual meeting, performing course tasks by working on exercises, and conducting reflection. After scrutinizing students' answers, it was concluded that there were some materials that they could master in their own way, and there were some materials that they thought were challenging to learn independently that required more explanations from the lecturer or others. Students also attempted to reflect on their difficulties in the learning process. Extract 3, 4, and 5 are examples of students' reflections.

Extract 3
It is a little bit difficult for me to understand the materials by reading without anyone explaining, and I think I will understand better if someone explains or if I watch the video.

Extract 4
My difficulty in this subject was when we learned about transitive/intransitive verbs. But now, I think I got it little by little when you explained it in the virtual meeting.

Extract 5
after reading the explanation and some examples provided, I thought I understood the concept of complex, compound, dependent, and independent clauses, but when it comes to exercises, I don't really understand the difference between the clauses, ma'am.

It was explained that the students encountered difficulties during learning in their own way. Students seemed to be able to learn the basic concept of knowledge using their own strategies. However, when the topic was getting more complex and demanding critical thinking skills that required them to analyze the context of time before deciding the verb to be used, students expected the lecturer to provide more explanation and discussion. These difficulties included applying the concept into real context or comparing two different concepts, differentiating dependent clauses from independent clauses, or using correct verb sentences. In the first virtual meeting, the lecturer provided an explanation in the area of students' difficulties and gave some feedback regarding the incorrect answer in exercises. In the next few activities, to help students understand teaching materials, some links to watch other alternative explanations from videos available on the internet were provided in order to help students realize that there were other independent sources of learning other than their lecturer. The response of some students to reflective questions was as expected.

Extract 6
I try to understand this concept from the material maam gives and search over the internet.

Extract 7
I think studying in my own way is easy because I can focus on the material, and I also can learn from youtube.

Some students began to search for other sources to help them understand the given topic or questions. They also showed their efforts to answer the given questions as it was required. They gave reasons for their answer, as shown in extracts 8 and 9.

Extract 8
My explanation
Numbers 1, 2, and 4 are compound sentences because those sentences consist of 2 simple sentences. We also can identify this sentence with conjuction like and, but, or etc. Number 3 and 5 there are complex sentences because those sentences consist of 2 subjects, dependent clause conjunction and 2 verbs.

Extract 9
*We should not need to add -s/-es when the sentence we use or the sentence we make contains the **subject (I)** and the plural **subject (like YOU, WE, THEY)** to the verb (base form, V1) of simple present sentences. So to make the sentence, we just use the pattern like this: **S+V1+O/C.***

Exercises given instructed students to demonstrate their understanding of the given topic in order to provide evidence in trying to use metacognitive skills through reflective thinking as they were explaining the reason for their answer. Most students attempted to follow the instructions.

To see the students' persistence in taking responsibility for managing their own learning process, the lecturer continuously required students to learn the given topic before the virtual meeting was conducted. Learning objectives, teaching materials, and exercises were still provided. The students also proactively asked questions about what part of the topic they could learn by themselves, what parts should be explained to them by the lecturer, and what they expected to know after learning the topic. There were three types of students based on their expectations. Students in type 1 expected the lecturer to explain all parts of the topic. In extracts 10, 11, and 11, Students mentioned that they were not able to learn the topic by themselves. They encountered difficulties in understanding a topic. They expected the lecturer to explain all materials to them. Eight (8) out of twenty-five (25) participants were classified into this type.

Extract 10
I expect the lecturer will explain all the material to me so I can understand the materials presented in Modul.

Extract 11
I got difficulties understanding the topic. I think Lecture should explain all to me.

Extract 12
I need an explanation from ma'am because I still do not understand the topic.

Students in type 2 were able to learn the basic concept of the topic but still found difficulties in understanding the concepts required to compare and analyze the context. There were sixteen (16) out of twenty-five (25) participants in this type.

Extract 13
I can learn the Introduction of the topic in my own way. I need explanations for other parts.

Extract 14
I can understand the explanation in the module only in Introduction. I still do not understand the

concept of essential dan nonessential clauses. I hope you can explain it to me.

Extract 15
I can learn the basic meaning of simple past from materials sent by the lecturer. I still need more explanation from the lecturer to understand when I should add "d or ed'" to a verb and when not to add "d or ed" to a verb.

Students in type 3 thought that they could learn the topic without explanation from the lecturer, but they still expected the lecturer to explain the teaching materials to them. Only two (2) out of twenty-five participants were categorized into this type.

Extract 16
I think I can understand the topic in my own way, but I'm not sure whether I have fully understood it or not. I will be more confident with what I know if the lecturer can explain it to me.

Extract 17
I think, even though I can understand in my own way, I still need more explanation from the lecturer.

Extract 18
I know I can learn this topic in my own way, but I still expect the lecturer to explain it to me.

Setting Goals
Participants in this study preferred to take the learning objectives stated in the given syllabus as their learning goals when they were required to set their own goals, as shown in Extract 19. There was no difference among students in three types: type 1, type 2, and type 3. It was expected that students in type 2 and type 3 would have more specific goals to learn a topic to achieve their personal goal of learning English. The students had six meetings (six weeks) where they learned in lecturers' guidance using learning objectives in the syllabus as standard in testing their knowledge. They then figured out the requirement to pass the course.

Extract 19
to know the present perfect verb according to the situation, to use the present perfect tense in writing a text, to use the present perfect tense in written and spoken language

To support in learning the topic after setting their own goal, the students were sent teaching materials form and also a link from YouTube to watch the explanation of the topic. They were given time to read provided materials, watch the video sent, and work on provided exercises and quizzes. To check students' efforts, they were asked to give responses to reflective questions provided in Google Forms. Table 2 shows the conclusion of students' responses to the given questions.

Table 2
Students' Response to Reflective Questions

Questions	Response
What's one important thing you learned in class today?	Most students are able to mention what they achieved after the learning process. Their statements are in line with the learning objectives.
Did you feel prepared for today's lesson?	Most students give a yes response to this question.
What do you think about our discussion on WhatsApp? Do you think it's not effective? Should we have a virtual meeting (video meeting) to discuss our topic today?	Most students stated that it is effective, but they still need feedback from the lecturer.
What would help make today's lesson more effective?	More practice is the answer from almost all of the participants.

Students showed attempts to learn independently. They knew what they had to achieve and what they had to do. They realized that there were parts that they could learn in their own way, and there were parts they needed additional explanation from the lecturer. It seemed that they had figured out their responsibilities for their own learning and accepted their roles on the path to success in their learning process. However, some students still had low scores on their tests (Table 3), as they mentioned in their reflection that they still needed more practice. Eleven (11) out of 25 students had low and very low scores.

Table 3
Students' Scores in Pre- and Post-Test

Category	Score	Pre	Post
Very High	90 - 100	0	2
High	80 - 89	4	7
Moderate	70 - 79	4	5
Low	60 -69	4	5
Very low	<60	13	6
Total		**25**	**25**

Task Values, Self-Efficacy, Learning Strategies, and Help-Seeking

The descriptive statistics of this study provide information about students' level of some components of SRL capacity after they learned for 12 weeks in online learning. In four components of SRL: task interest, self-efficacy, learning strategies, and help-seeking, students had high scores in these four components. The summated scores are 124 out of a possible 154 score (Table 4). It was found that the highest score was in the task value component. It is indicated that students value the course. The mean and median scores of students on the scale for task value ranged from 6 to 7. Students thought that the material in the course was requisite for them (M=7). They figure out the value of the course (M=6). In self-efficacy, Students had confidence (moderate level) that they could understand all the materials, achieve learning objectives, and would receive good grades in the course (M=5). Students attempted to use learning strategies and seek help by asking questions and searching for other resources but not too often (M=4,5). All of these four variables showed a slightly positive skew.

DISCUSSION

This study was designed to provide explicit instructions emphasizing SRL in order to help students become aware of their responsibilities and assist them in gradually acquiring and developing SRL skills. The results showed that, at the beginning of this study, students had no experience in online learning and grew progressively from there. They had good prior knowledge of the subject area but still needed to develop critical thinking in order to be able to apply their knowledge of English grammar in analyzing sentences in a specific context of time. They attempted to learn in their own way by studying given materials before attending class (virtual meeting) and doing reflections about the difficulties in the learning process. However, they did the activities under specific instructions from their lecturer. Students still expected their lecturer to provide and explain materials to them and did not show any attempt to seek explanations available on the internet or other sources before they were instructed to do it. In the goal-setting component of SRL, most students did not have their own specific goal to be achieved except the goals provided in the course syllabus. The students neither state any other learning goals except the learning objectives provided in the lesson plan nor employ skills associated with self-regulated learning. It indicated that the students were at

the first level of SRL according to the classification of Barnard-Brak et al. (2010). The Students in this category are driven by extrinsic motivation factors and are more concerned with short-term goals (Littlejohn et al., 2016). Hence, the students should be guided to use SRL skills in the online learning process (Zimmerman, 2013).

Table 4
Students' Rating Scale on Task Interest, Self-Efficacy, Learning Strategies, and Help-Seeking

No	Statements	Mean	Median	SD
	TASK VALUE			
1	S1. The concept that I learned in this course will be used in other courses, such as writing, reading, speaking	6	6	1
2	S2. The material in this course is important for me to learn.	7	7	1
3	S3. I am very interested in the content area of this course.	6	7	1
4	S4. The material in this course is useful for me to learn.	6	7	1
5	S5. I like the subject matter of this course.	6	6	1
6	S6. Understanding the subject matter of this course is very important to me.	6	6	1
	SELF EFFICACY			
7	s7. I believe I will receive good grades in this class.	5	5	1
8	S8. I'm certain I can understand the most difficult material presented in the readings for this course.	5	5	1
9	S9. I'm confident I can learn the basic concepts taught in this course.	5	6	1
10	S10. I'm confident I can understand all material presented by the instructor in this course.	5	5	1
11	S11. I'm confident I can do all the assignments in this course.	5	5	1
12	S12 I'm certain I can master the skills being taught in this class.	5	5	1
13	S13. Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class	5	5	1
	LEARNING STRATEGIES			
14	s14. When I study for this class, I use information from different sources, such as Modul, watching videos, and my prior knowledge of the subject.	6	6	1
15	S15. I try to relate ideas in this subject to those in other courses such as in writing, Reading, speaking, and listening course	5	5	1
16	S16. When reading material in the module, I try to relate the material to what I already know.	5	6	1
17	S17. I try to understand the material in this class by making connections between the material in the module and the explanation from the virtual meeting.	6	6	1
18	S21. The materials presented in the module are the starting point for me. I try to develop my knowledge.	5	6	1
19	S22. Whenever I read an assertion or conclusion in this class, I think about some possible alternatives.	6	6	1
20	S18 I try to apply the concepts I get from this course.	6	6	1
	HELP-SEEKING			
21	S19. I often ask questions when I get confused about the explanation in the module or from the lecturer	4	4	1
22	S20. I will read or watch explanations from other sources to understand the theory, interpretation, or conclusion presented in the module and in the virtual meeting	5	5	1
	Summated Scores		**124**	

The students were encouraged to use SRL strategies during the online learning process by providing a worksheet in which they stated their learning goals, strategies for learning, and their expectation and evaluated their efforts and works. The results from observation during the learning process in the E-learning platform described that students gradually applied some of the SRL skills in their learning process. In their response to the questionnaire distributed after the learning process, students rated themselves on a slightly positive scale in four SRL components: task value and self-efficacy (forethought) and learning strategies and help-seeking (performance), as described in Table 4. More practice is required to achieve skill at the next level (emulative level). Students, as participants in this study, still need

time to apply SRL strategies step by step during working on tasks in the E-learning platform. Students still need support for SRL, particularly in setting their personal goals, planning strategies, seeking help, and conducting self-evaluation.

Integrating SRL theories into the teaching instructions in the online learning process for students with low SRL skills and low critical thinking skills demands a lot of work. Teachers or lecturers must provide models for students to follow, give clear instructions on how to use SRL strategies, monitor students' progress, scrutinize students' work, give feedback during virtual meetings, and train students' critical thinking by providing questions or exercises demanding them to analyze the context of the text in using correct grammar. Sulisworo et al. (2020) implied that in the online learning process, teachers have two tasks, help students to master the subject matter and guide students to use SRL skills. During the online learning process in this study, it was shown that the lecturer was actively involved in each step to help students to be aware of their responsibilities in learning to achieve learning objectives. In addition, the teacher also guided students on how to apply SRL skills and provided feedback to achieve a better understanding of teaching materials.

The instructions provided in this study effectively encouraged students to work on the task. Students show high interest in the task and attempt to employ SRL skills in the learning process. However, that was not only the case. The fact that only twenty-five out of seventy-two students who enrolled in two courses followed the provided instructions indicated that students' willingness and readiness to engage in provided supports for SRL skills development are the most important factors to be considered. Ardasheva et al. (2017) in their studies found that older participants are more likely to benefit from strategy instruction (SI) with an explicit focus on SRL. They stated that more mature individuals are more likely to be in control of their learning behavior. It means that the explicit SRL instructions in the online teaching and learning process will benefit students who are ready to take control of their own learning process and invest their time to follow each step of the instructions. The teachers in online learning settings should ensure the SRL levels of students before deciding on a set of instructions.

The tools in online learning platforms can be useful to show students' progress in employing SRL skills. In the process of monitoring, it provides information about when students start to work on the task and how long they spend time working on the task. The monitoring process is required to observe students' progress in order to figure out when to give support and what kind of support, intervention, or feedback should be provided, as Molenaar et al. (2021) also conducted in their study using adaptive learning technologies (ALTs). Students who participated actively in this study should be trained to acquire self-assessment and task-selection skills to support them in continually developing their SRL skills. The training has been conducted through examples and practices as suggested by Kostons et al. (2012), but there is still not enough data to conclude that students have already acquired the skills. They still need more exercises and practices in future interventions.

CONCLUSION

Designing and implementing instructions emphasizing on SRL principles process in online teaching and learning can help students gradually acquire and implement SRL skills in their attempts to achieve learning goals. E-learning platforms as a space for students to demonstrate not only their knowledge and skills achieved but also their efforts in the learning process can help teachers to monitor students' progress. The evidence in the platform can be used to track students' behavior in online learning in order to investigate how students regulate their own learning. Students need models and explicit instructions to assist them in implementing SRL skills in the online learning process. However, the instructions and the outcomes of the process depend on students' readiness to engage in SRL skills. Many factors possibly affect students' readiness, such as students' knowledge and skills on subject matters, students' experience, and students' level (class) in SRL capacity.

Students as participants in this study were categorized into level one of SRL capacity, minimal self-regulators. The extensive support in this study, such as providing models, specific teaching instructions emphasizing SRL principles, and regular feedback via virtual meetings, assisted students in applying SRL skills in their online learning process. However, students still needed time to develop SRL skills. More practices to internalize self-controlled functioning until the execution becomes automatic are required for future intervention.

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