A Closer Look on Indonesian EFL students' Writing Process: The Application of Cognitive and Metacognitive Strategies

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ABSTRACT

Cognitive and metacognitive strategies have been researched to find an effective strategy in teaching writing. However, little attention has been given to investigate what is on the students' minds while applying those strategies in the writing process. This descriptive qualitative study aims to investigate the process of applying the cognitive and metacognitive strategies by EFL students while performing argumentative essays. Three university students of the English Department taking the Essay Writing subject were invited to record the process of authoring argumentative essays using Zoom recording to display full audio and video on screen. Their writings were checked and the students were interviewed. This process used think-aloud protocols (TAPs) completed with the screen recording method (SRM) to record all activities on the computer screen, students' work, and the interview explored the learners' perception towards particular situation in their writing process. The data were categorized and analyzed using English as a foreign language (EFL) writing strategies as a framework for narrative analysis. This study found that both cognitive and metacognitive strategies helped all participants complete their essay through the thinking process and decision making of each step and strategy. While cognitive and metacognitive were applied distinctively in each participant's writing processes, it produced the internalization of writing steps critically in self-regulated learning. This study demonstrates that cognitive and metacognitive processes are effective in promoting varied writing strategies and self-regulated learning for EFL learners. To get a thorough application of cognitive and metacognitive strategies in writing activity, future research can use other genre for students at different age or level of education.

1. Introduction

Writing is a complex skill for students because they think as they write. It is a "mental process that involves thinking, reflecting, preparing, rehearsing, making mistakes, and finding alternative solutions" (Diaz-Larenas et al., 2017, p. 88). The activity in writing "enabled people to record, examine, and evaluate representations of reasoning as objects of reflection" (Ferretti & Graham, 2019, p. 1346; Güneyli, 2016). The writer's prior knowledge, experience, and thoughts would be expressed in language elements, including vocabulary, grammar, and structure (Azizi & Narges, 2017).

Writing competence is not only determined by knowledge of language rules and symbols, but should also be supported by the ability to generate and organize ideas, use appropriate words and sentences, and organize paragraphs (Richards & Renandya, 2002; Nourdad & Aghayi, 2016; Qadir et al., 2021). In short, writing skills suggest a composition that recognizes the importance of generating, formulating, and refining one's ideas (Ramadhan, 2019) to convey the message to the readers. The idea of the message should be delivered in a certain kind of text (Pitenoee et al., 2017) efficiently and effectively. Thus, writing is frequently assumed to be the most essential skill to amass by students (Jubhari et al., 2022; Karpova, 2020) and it can be considered as the primary language competency in class or out-of-class (Manchon, 2018; Alharbi, 2019; Marques & Signes, 2016).

However, the involution of writing in a foreign language is often perceived as a daunting task for EFL students. It is far more complicated than writing in one's native language due to the complexity of acquiring that skill (Al-Sawalha et al., 2012) and students feel the increasing level of difficulty after learning writing (Harmer, 2007, p. 326). Nowadays, most students are not interested in writing because they lack vocabulary, ability to organize ideas, and arrangement of words with appropriate grammar and structures (Ramadhan, 2019; Anaktototy, 2019; Latifi et al., 2021). It is confirmed by Rahmatunisa (2014) that Indonesian EFL Learners face three major problems in writing an argumentative essay: linguistic, cognitive, and psychological problems. Linguistic problems were mostly stemmed from their poor competence in English. The cognitive problems deal with organization of ideas/topics, and the psychological problems are due to laziness and lack of drive to do the writing task (Junianti et al., 2020).

The situation becomes complicated for higher education students who must produce argumentative essays in both academic and personal setting (Luna et al., 2020; Kleemola et al., 2022). Argumentative writing is a scientific paper that entails arguments, explanations, proofs, or reasons (Abbas & Herdi, 2018). It is crucial for students to build and review their knowledge, as well as communicate their specific objectives and emphases (Sanu, 2016) through written arguments (Lu & Zhang, 2013 p. 66)

However, students may find it difficult to compose written argumentation because their lack of sensitivity to alternative perspectives and poor writing quality (Abbas & Herdi, 2018; Ferretti & Graham, 2019). Undergraduate students often misunderstand the argument and their way of expressing their thoughts (Wingate, 2012). To have a solid argumentation strategy (Wingate, 2012), students must position themselves by generating, understanding, evaluating, and combining arguments and counterarguments from various sources and perspectives (Luna et al., 2020; Khunaifi, 2015). In short, authoring an argumentative essay is a task "that calls upon multiple and complex cognitive and metacognitive skills" (Benetos & Bétrancourt, 2020, p. 264).

Since cognitive components determine students' knowledge and processing capacities, students should be taught writing strategies explicitly to enable them to plan, write, and revise their essays (Ferretti & Graham, 2019). Flower and Hayes (1981) stated that writing process involves a number of metacognitive and cognitive activities. Pioneers in these fields, Flower and Hayes (1981) suggested cognitive process model which included a study of sub-processes (planning, retrieving information from long-term memory, reviewing, and so on) that make up the larger process of writing; the manner these subprocesses interact in the entire writing process; and the response to critical questions in the discipline.

The evidence of cognitive and metacognitive strategies enhancing the students' learning has been reported. Mu & Carrington (2007) proved that writing strategies improved students' writing proficiency and solved writing problems. Also, cognitive and metacognitive strategies were considered helpful for the writers to overcome the difficulties of writing through instruction (Nückles et al., 2009), to enhance the content and quality of students' writing (Pitenoee et al., 2017), and to help students self-regulate their understanding of subject matter (Maftoon & Seyyedrezaei, 2012). Although students of different genders applied cognitive-metacognitive strategies differently, the teaching and learning of ESL academic writing are equally and significantly impacted (Aripin & Rahmat, 2020).

While these studies show the positive impact of cognitive-metacognitive strategies in ESL writing, none has provided a comprehensive study on students' mind while composing the essay. Flower and Hayes (1981) stated that if one studies the process of writing from generating ideas to revision, one can see the learning process in action. Also, Kleemola et al. (2022) suggested there be a study investigating cognitive processes during writing to provide "a more thorough understanding of argumentative skills and strategies" (p. 10).

Therefore, this study aims to explore the process of students applying both cognitive and metacognitive strategies in writing an argumentative essay to better understand what they undergo in the writing process. Observing the complete writing process from pre-writing, writing, and post-writing would provide this study a complete picture of strategies in creating arguments. This study also highlights the participants' ways to solve the potential in the writing process. The results of this study expect to contribute to the pedagogical teaching of writing for EFL learners.

Thus, to fulfill the research objectives mentioned, the study applied a think-aloud protocol (TAP) to capture the complete process. TAP captures a detailed record of what is going on in the writer's mind while composing (Flower and Hayes, 1981; Diaz-Larenas et al., 2017). Together with screen recordings and interviews, TAP gave us a very detailed picture of the writers' composing process, not only the essay development but also the underlying intellectual processes. The subject of this study was limited to three students authoring the argumentative essay.

2. Literature Review

2.1 ESL Writing Process

Mastering writing competence is a time-consuming process, as writing is a process rather than a product (Oshima, 2006), as it also challenges the

cognitive systems for memory and thinking. According to Kellog (2008), writers use virtually everything they have learned and stored away in long-term memory by rapidly retrieving it or by actively maintaining it in short-term working memory because thinking is so closely linked to writing. In other words, "the writer should be aware of his/her learning process in order to be an effective writer" (Diaz-Larenas et.al., 2017).

The writing process typically involves four key stages: planning, drafting, editing, and producing a final version (Harmer, 2004) as illustrated in Figure 1. Writers must decide what to say and how to say it by maximizing their reasoning skills and self-regulation skills (including goal setting, self-monitoring, self-instruction, and self-reinforcement) to help them manage writing strategies, writing process, and their behaviors (Graham & Perin, 2007). Diaz-Larenas et al. 2017 the writing process into planning draft, writing a text, revising, and editing as illustrated in Figure 2.
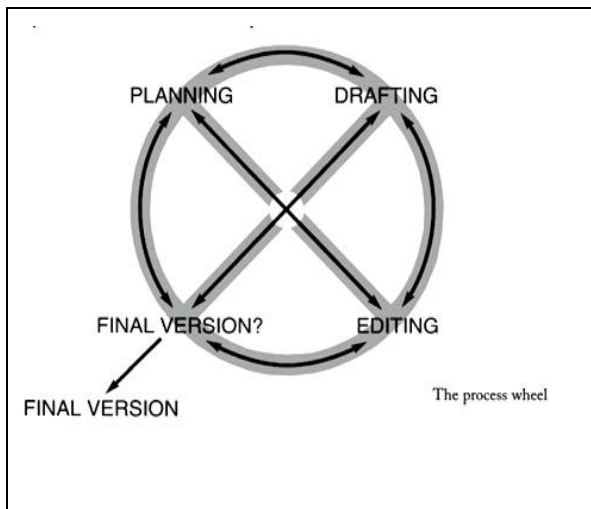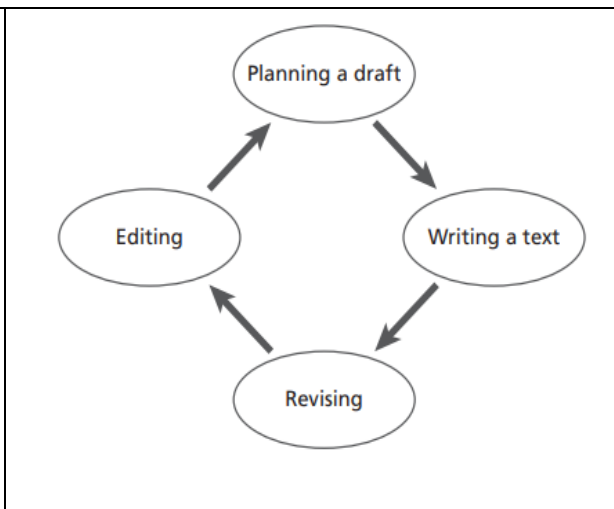

| Fig 1. Harmer's writing process | Fig 2 Writing process by Diaz-Larenas et al. |

Considering the complexity in writing process, language teachers need to tailor the instructions to students' individual needs (Johnson, 2008) and remind their EFL students of employing the appropriate writing strategies to enhance their writing skills (Al-Sawalha et al., 2012). There is a close relationship between writing and thinking which makes it important to investigate (Raimes, 1983).

Additionally, students should learn to use online resources to generate writing ideas, receive support, and access evaluative tools to improve their writing competence. As digital resources become increasingly available, innovative approaches to teaching writing can support student self-sufficiency and independence (Karpova, 2020), with understanding that "the writing process emphasizes the writer as an independent producer of texts" (Hyland, 2003, p.10). Therefore, students should learn from the writing processes used by professionals (Johnson, 2008) to observe the positive correlation between writing competence and strategy (Chien, 2012).

2.2 Cognitive and Metacognitive Strategies

Cognitive and metacognitive strategies helped to overcome the difficulties of writing through instruction. The strategies assisted students to self-regulate their understanding of the subject matter (Nückles et al., 2009) and helped enhance their writing content and quality (Pitenoee et al., 2017). In addition to upgrading language proficiency, cognitive and metacognitive strategies were proven by Maftoon and Seyyedrezaei (2012) to enable students to communicate ideas clearly and logically. It is because writing process is related to the cognitive process and some factors such as cultural, motivational, and social (Jennifer and Ponniah, 2017; Mastan et al., 2017).

Cognitive strategies refer to the mental operations or steps used by learners to learn and apply the latest information to specific learning tasks (Sethuraman & Radhakrishnan, 2020). Cognitive strategies allow users to process, store, and transform diverse types of knowledge (Mu, 2005). The taxonomy of cognitive strategies comprises of seven elements: generating ideas, revising, elaborating, clarification, retrieving, rehearsing, and summarizing (Sethuraman & Radhakrishnan, 2020). Zhang & Liu (2008) prove that cognitive and metacognitive strategies are closely related with each other and significantly with the students' performance.

Metacognitive writing strategies have been highlighted as beneficial for EFL writers. These strategies help learners reach a higher level of writing content, achieve desirable goals, and have better control over their behavior and learning to make them confident and efficient in their writing, and have a proper guideline to regulate their materials (Azizi et al., 2017). Three elements of the taxonomy of metacognitive writing strategies are planning, monitoring, and evaluating (Azizi et al., 2017). Planning involves making and changing outlines, scheming ideas and conveying their objective for organization and procedures. Monitoring involves controlling the writing process as they write. Writers control their writing process by checking and verifying the content, organization, and local elements, such as grammar and mechanics of writing. After the writing process is completed, evaluation stage is started, comprising of rechecking and reconsidering written text at the planned thought (Azizi et al., 2017). Human cognitive and metacognitive processes, and particularly the mental process of writing is a study that can be investigated in different ways, such as observing reactions to specific stimuli, analyzing the errors, and the results of task performance (Alamri, 2019)

3. Method

This study employed a descriptive qualitative method to investigate Indonesian EFL students' cognitive and metacognitive strategies in writing argumentative essays. Purposive sampling was used to select three fifth semester students of English Department in a higher education institution in Jakarta who had taken a class on writing argumentative essays. The participants were identified as P1, P2, and P3.

The participants were briefed on the study procedure, then instructed to record themselves using Zoom platform as they write their essay while verbalizing as much thought as possible. The think-aloud protocol (TAPs) was used to capture the cognitive and metacognitive strategies used by each participant during the writing process. Screen recording was used to record all changes on the computer screen, including cursor movements, clicks, corrections, internet searches, and use of electronic aids such as dictionaries. The writing process was checked against the outlines and the final product.

After the writing process, an in-depth interview (recorded and transcribed) was conducted to each participant for data validation and to explore their perception of the writing process. The data collected from the writing products, screen recordings, transcripts of the recordings, and interviews were subjected to narrative analysis, using Mu's (2005) categories of English as a foreign language (EFL) writing strategies as a framework.

Triangulation was used to ensure the reliability and validity of the data by using TAPs, screen recording, and interview methods. The essays were analyzed to identify and classify the participants' cognitive and metacognitive strategies embodied in decision-making processes to solve problems encountered during the writing process.

Overall, this study aimed to provide a comprehensive analysis of the cognitive and metacognitive strategies used by Indonesian EFL students in writing argumentative essays, using a triangulation approach to ensure the reliability and validity of the data collected.

4. Result

This study focused on the process of applying cognitive and metacognitive strategies in the stages of writing argumentative essays (drafting and revising), and the problem-solving strategies at every stage. In general, different problem-solving strategies reflected variation in cognitive and metacognitive strategies in each student's writing.

Table 1. Findings of Cognitive and Metacognitive Strategies Applied by Students

Cognitive strategies applied	Metacognitive strategies applied
Generating Ideas	Planning *
Revising	Monitoring
Elaborating	Evaluating
Clarification	
Retrieval	
Rehearsing	
Summarizing *	

*) done only by some participants

Table 1 shows that most participants, except one, employed all cognitive and metacognitive strategies in their writing process. Unlike the other participants, Participant 3 (P3) skipped cognitive strategies, summarizing, and the metacognitive strategy, planning. The recording transcript showed that she did not brainstorm nor organize her draft but rather, went straight to pouring out ideas into freewriting. Whether P3 had a clear goal and plan for the essay was not embodied in any apparent action. This lack of planning stage made the process of conveying ideas last longer. Meanwhile, P1 only mentally planned the draft and P2 wrote down the outline. All and all, this lack of planning stage caused the long process of conveying ideas.

The next step was analyzing the thinking process when students were composing their argumentative essays. Data of screen recording display, recording transcripts, students' work, and the interview transcripts are presented in Table 2 to 10. The screen recording showed what the students were doing when writing, the TAP showed their mental process and thoughts, the interview confirmed the writing processes strategies and validate the display on the TAP and screen recording, and the produced essay showed the result of the process.

4.1. The Process of Applying Cognitive Strategies

Regarding cognitive writing strategies, all participants applied clarification and retrieval in their writing processes.

4.1.1 Clarification

Clarification was identified when one participant disposed of confusion when, for example, thinking of incorporating a current issue to support the argument. To do this, the participant researched on Google and read online news article for fact check.

The clarification could be vividly identified and analyzed through one of the participants' writing processes who expressed her thoughts that education should be free. To her knowledge, many students dropped out of school as a consequence of financial issues.

Table 2. Excerpt in Clarification

Data Code	Data of Audio Excerpt	Screen Recording captured	Writing Strategies identified	Sub-strategies identified
B66	*Okay, let's see from this article.*	Clicking an article at kompas.com	Cognitive Strategies	Clarification

The screen recoding and TAP audio in Table 2 showed that after P2 browsed on Google, she said "let's see from this article" while clicking a link to an article from Kompas.com. While making an argumentative essay, P2 encountered some difficulties and stated them out loud by, for example, re-expressing words, clarifying the meaning of certain terms, evaluating the final writing, and researching credible articles to reinforce her arguments. In handling the problem-solving, P2 was no different from P1 who used Google for references. During the interview, P2 mentioned the advantages of Google.

"*It was really helpful. I had no idea what I was going to write about Free Education. Google helped me brainstorm and gave me ideas about that topic. I also used Google to look up a dictionary and look for synonyms. I also accessed Grammarly via Google.*" [P2/cl]

After reading the article briefly, P2 highlighted the necessary information or the key points and arranged them into some sentences in the essay as follows:

"*The first reason why education should be free is that it can make the students focus more on their studies. According to KPAI, there is an increasing amount of students who dropped out of school because they haven't been able to pay school tuition fees. Not only that, but KPAI also states that students choose to stop going to school because they have to help their parents with business rather than studying.*" (Retrieved from Essay 2, P2/S1-S3)

The implementation of clarification strategy, especially by incorporating or referring to trusted articles or online sources was evident in several paragraphs. For instance, the fourth paragraph contained the third argument about the impact of free education on society that was backed up with sources.

According to https://www.uopeople.edu/, education should be free because it will improve society. With our people having reached a higher level of education, they will understand the country's situation better. (Retrieved from Essay 2, P4/S4-S5)

P2 wrote this line after reading an article about the benefits of free school tuition fees to society which clarified her knowledge. Quoting a statement from relevant and reliable source has positively strengthened P2's argument about free education.

As denoted in the two previous examples, P2 cited the source of her essay, which could help divert plagiarism and gave credit to the original ideas. The other proof of topic research was demonstrated in the discussion section of planning strategy.

4.1.2 Retrieval

As a cognitive strategy, retrieval refers to recalling personal knowledge or experiences. In writing process, retrieval can occur at the beginning. This study found that at the beginning of the writing process, P3 mentioned that she planned to relate her personal experiences to reinforce her arguments. This strategy was evident in the third paragraph which reflected the participant's reminiscing her personal experience.

Table 3. Excerpt in Retrieval

Data Code	Audio Recording Data	Screen Recording Data	Writing Strategies identified	Sub-strategies identified
A332	*Okay. Nah, now, let's point out about the money. From my own experience, I think money can umm… what is it? Money can like.. make me more motivated to study.*	none	Cognitive Strategies	Retrieval

Retrieval was found to be the most frequent strategy applied by the participants. There were many ways to determine retrieval strategy, such as rereading sentences, self-questioning, and reminiscing certain information that would be included in the writing. P3 reread aloud or silently to come up with ideas to continue the sentences. In the interview, she said "*I always ask question to myself about the argument and I will be the one who answer too. Nah nanti baru ngatur kata-katanya. [I'll arrange the words later]*" [P3/rt]

The retrieval activity is presented in Table 3 where nothing was shown on the screen but participant was busy thinking and self-questioning about the topic. The audio of think-aloud protocol (TAP) recorded what she was thinking. The result of retrieval can be seen in her sentences, "*This can lead to create a laziness on studying because they will think that it is free and they can do anything in class. Besides, money sometimes can encourage us to be more effortful, more independent, and more motivated to give our best. After all, everything we accomplish will be more valuable and meaningful because we put lots of efforts to achieve that.*" (Retrieved from Essay 1, P3/S3-S4)

P3 also applied retrieval to monitor and revise certain words or sentences. Therefore, this strategy was perceived as practical and helpful in enhancing the writing quality. The data of retrieval was also strengthened by her statement which denoted that rereading sentence effectively eased her in rechecking. One example of retrieval strategies could be identified in the final stage of writing, as shown on Table 4.

Table 4. Example of Retrieval to monitor

Data Code	Audio Recording Data	Screen Recording Data	Writing Strategies Identified	Sub-Strategies Identified
A573	*Okay so …. however, some people still have strong argument that education should be free for everyone, especially for the students from the poor family. They assume that everyone should have an equal right for education. Talking about right and equality, we need to make sure that everyone gets the same equality. Not just about students, people should also consider the teachers who have educated their students countlessly.*	Rereading sentences	Cognitive Strategies	Retrieval
A574	*Oh, wait wait. Maybe, I can add one more word in this.*		Metacognitive Strategies	Evaluating

Data Code	Audio Recording Data	Screen Recording Data	Writing Strategies Identified	Sub-Strategies Identified
A575	*Not just about students, people should also consider ...*	Rereading sentence	Cognitive Strategies	Retrieval
A576	*And respect. Yes. And respect the teachers who have educated their students countlessly.*	Typing "and respect"	Metacognitive Strategies	Evaluating

Table 4 shows that P1 reread the sentences several times and finally realized that it needed more words. Thus, necessary revision could be made after the author reread the sentences and recalled personal experiences as a retrieval in cognitive strategy. It was evident from the beginning of the writing process where P1 mentioned that she planned to incorporate her personal experiences to reinforce her arguments about the topic.

4.2. The Process of Applying the Metacognitive Strategies

Metacognitive strategies played a substantial role in every participant's writing process although not all strategies were applied.

4.2.1 Planning

P2 perceived that writing was nothing without planning. When interviewed, P2 claimed that planning enabled her to make coherent arguments, specify primary key points, work out a logical structure, and identify the end point for the writing before starting the process. The evidence of P2's planning stage was her rechecking the writing prompt as the first step.

Table 5. Findings in Planning

Data Code	Audio Recording Data	Screen Recording Data	Writing Strategies Identified	Sub-Strategies Identified
B3	*Then I think we can just start uuuh let's get started then.*			
B4	*Uhh… today I'm supposed to write an essay. The prompt says uh that I will have to write about an ... uh… an argumentative essay.*		Metacognitive Strategies	Planning
B5	*And it will be of 500 hundred words and the topic is should education be free.*		Metacognitive Strategies	Planning

Table 5 shows that P2 ensured that she comprehended the writing prompt before developing the essay. It can be seen from the screen recording that showed no writing activity. The audio of TAP of B3-B5 showed that she was aware of the task, identified the goal and the necessity for a specific plan, and decided to convey her ideas or arguments precisely in the draft. In addition, P2 knew when, where, how, and what was to write for the introduction, body paragraph, and conclusion stages.

After clarifying the writing prompt, P2 focused on the topic for a while before deciding what to write. The proof (screen recording and TAP audio) showed a fluent flow of creating the outline and the outcome of the essay. To convince her arguments and make her essay credible, P2 look up to research articles of free education while generating the outline and drafting.

P2 explored more than one research from news platforms, online forum discussions, and blogs through Google. Researching the topic prior to writing her essay was considered as planning, whereas the way P2 explored the research was a form of clarification in cognitive strategies.

Before outlining the counterargument and refutation of free education, P2 read an online discussion forum to understand people perceptions from this view point. Then, she built her counterarguments upon those views and composed her opposite statements, for example, as follows:

> *Those who think that school cannot be free say that the school will not give the best facilities and materials for the students and the school will not make a progress.* (Retrieved from Essay 2, P5/S1)

As the only participant who preferred to research the issues about the topic before writing the essay, P2 emphasized the significance of researching as a part of planning during the interview.

"I look up for the facts first before I start writing the essay because I need to provide some evidences to support my arguments. I think by looking up for the evidences, I can convince the audiences (readers) better because they know that I write the truth about some topics and not merely based on my biased opinion."

P2 believed that stating her arguments based on fact could convince the readers about the truth while averting biased judgement. Prioritizing credibility in her argumentative essay, P2 ensured that her opinions in the essay were beyond personal or surface knowledge of the subject.

4.2.2 Monitoring

Monitoring refers to controlling the writing process while writing the text. Simply put, monitoring is the editing part of writing. In this study, one example could be vividly identified in P1 who controlled her writing process several times for many aspects, including content, language, organization, and local aspects like grammar and mechanics of writing.

In the interview, P1 stated that she frequently monitored her writing to avoid any errors or misconception to improve the comprehensibility of her essay. When she encountered errors in her essays, P1 revised them directly (see Table 6 and Discussion for details).

Table 6. Examples in Monitoring

Data Code	Audio Recording Data	Screen Recording Data	Writing Strategies Identified	Sub-Strategies Identified
A77	*I notice that I missed something here, so let me add ...*		Metacognitive Strategies	Monitoring
A78	*Um... who*	Typing "who"	Metacognitive Strategies	Revising

In Table 6, the screen recording and the audio from TAP indicated that after writing the third sentence of the essay, P2 realized that grammatically, a relative pronoun was missing from her sentence, so she typed the correct one as follows:

*Nelson Mandela once stated that education is the most powerful weapon which you can use to change the world. For that reason, it is undeniable that education is considered vital. However, there are numerous people **who** argue that education should be free since it plays a big role in our life.* (Retrieved

from Essay 1, P1/S3). In the interview, P1 stated that she avoided committing further errors by monitoring one paragraph for its content, punctuation, grammar, and other elements before writing the next. In this case, monitoring strategy helped P2 create better sentences and improve her essay.

"Before going on to the next paragraph, I usually recheck it several times. It takes time but it eases me to move on the next paragraph." [P2/mn]

Table 7. Monitoring to rechecking

Data Code	Audio Recording Data	Screen Recording Data	Writing Strategies Identified	Sub-Strategies Identified
A199	Now, I'd like to recheck this whole first paragraph.	Scrolling upside and down for rechecking	Metacognitive Strategies	Monitoring
A200	…………….	Scrolling upside and down for rechecking	Metacognitive Strategies	Monitoring
A201	I think it's already good. It shows what I meant already.		Metacognitive Strategies	Monitoring

P1 decided to monitor each paragraph because it saved the time at the evaluation stage after she completed the whole essay. Monitoring played a significant role in identifying some problems creeping in the writing process and determining whether additional corrections were necessary. P1 realized that others would read her essay, so errors could affect the readers' understanding. Thus, P1 was seen to scroll back and forth in the screen recording and TAP audio of TAP as part of her monitoring. During the interview, P1 acknowledged the importance of readers' understanding.

"*Yes, I check whether there is grammatical error, punctuation, or things that I need to revise. I want to avoid any errors or misconception. Um, so people can understand the essay easily too.*"

4.2.3 Evaluating

When all participants finished drafting, they used an evaluative strategy to reconsider the produced essay, previous goals, planned thoughts, and changes made in the text. Unlike the other two participants in this study, P2 was the only one who rechecked the whole essay using Grammarly, a cross-platform cloud-based writing assistant that reviews spelling, grammar, punctuation, clarity, engagement and delivery mistakes. In short, Grammarly offers people specific suggestions to enhance their writing beyond grammar.

"*When I was taught by Ms. (Name), She usually encouraged students to check the essay, including me. I also check the essay on Grammarly when… when there are incorrect words* (Retrieved from Datum IV, transcript code B422 - B424)

The finding of this study showed that P2 took the initiative to recheck her produced essay because she remembered that the writing lecturer told the class to get help from Grammarly or similar platforms. Thus, the evaluation stage in this writing process began when P2 access Grammarly once completing her essay.

Before correcting the input texts, Grammarly requires the users to adjust the correction setting based on the goals, audience formality, domain, and intention of their writing. Grammarly offers a wide range of corrections in addition to grammar, such as word choice, phrases, and punctuation. In other words, Grammarly helps remind the users of what to evaluate and revise from their writing. Any changes made after evaluating the sentence was then classified as revising, specifically at the very final stage of writing.

The screen recording and the TAP audio on Table 8 captured the moment P2 opened Grammarly, adjusted the setting, and corrected the errors.

Table 8. Examples of Correction

Data Code	Audio Recording Data	Screen Recording Data	Writing Strategies Identified	Sub-Strategies Identified
B329	*Okay, now the Grammarly can be used. I have logged in and use my email.*	Opening Grammarly		
B330	*Now we paste the essay which I have created*	Pasting the essay in Grammarly	Metacognitive Strategies	Evaluating
B331	*The Audience is knowledgeable*	Clicking "knowledgeable" for audience	Metacognitive Strategies	Evaluating
B332	*Formal*	Clicking "formal" for the formality	Metacognitive Strategies	Evaluating
B333	*Um general*	Clicking "general" for the domain	Metacognitive Strategies	Evaluating
B334	*Um convince because it is argumentative essay*	Clicking "convince" for the intent	Metacognitive Strategies	Evaluating

Data Code	Audio Recording Data	Screen Recording Data	Writing Strategies Identified	Sub-Strategies Identified
B335		Clicking "done" for the goals and audience setting	Metacognitive Strategies	Evaluating
B336	*The most important keys ... okay*	Clicking "keys" as a correction to "key	Metacognitive and Cognitive Strategies	Evaluating and revising
B337	*The most important keys*	Rereading the revised line	Metacognitive Strategies	Evaluating
B338	*For ... to someone's bright future*	Clicking "for" as a correction to "to"	Metacognitive and Cognitive Strategies	Evaluating and revising

Table 9 shows the situation when P2 realized the mistake she had made before. The situation in the data found showed that evaluating and revising could be done simultaneously. The digital platform could show what the students needed to know. Thus, when they learned the mistake, they learned the proper form of the sentence and how to improve it.

Table 9. Findings in Revising

Data Code	Audio Recording Data	Screen Recording Data	Writing Strategies Identified	Sub-Strategies Identified
B447	*See... it was right. The word educating was supposed to be education. Why did I change it?*	Clicking "education" as a correction to "educating"	Metacognitive and Cognitive Strategies	Evaluating and revising
B448	*Especially ... okay there should be a comma.*	Clicking "especially," as a correction to "especially"	Metacognitive and Cognitive Strategies	Evaluating and revising
B449	*School tuition fees*	Clicking "fees" as a correction to "fee"	Metacognitive and Cognitive Strategies	Evaluating and revising
B450	*Um… raised…raised to. I don't have write raised up*	Omitting "up" in the sentence	Metacognitive and Cognitive Strategies	Evaluating and revising
B451	*Okay, higher level there should be a line.*	Clicking "higher-level" as a correction to "higher level"	Metacognitive Strategies and Cognitive Strategies	Evaluating and revising

As explained before, the corrections suggested by Grammarly are diverse and not limited to grammar. However, it should be noted that such cloud-based typing assistant still needs human's knowledge and writing aptitude because the tool only suggests optional revision to evaluate the text which the users can take or dismiss. In this case, P2's background knowledge affected her decision to agree or disagree with some of trivial corrections in Grammarly. Table 10 demonstrates this practice.

Table 10. Evaluating

Data Code	Audio Recording Data	Screen Recording Data	Writing Strategies Identified	Sub-Strategies Identified
With our people having reached a higher level of education, they will understand the country's situation better. (Retrieved from Essay 2, P4/S5)				
B469	Having … with our people have reached	Clicking "have" to see the reason	Metacognitive Strategies	Evaluating
B470	I think it is having.		Metacognitive Strategies	Evaluating
B471		Dismissing the correction	Metacognitive Strategies	Evaluating
B472	Just *Having*		Metacognitive Strategies	Evaluating

As stated in the transcription above, P2 preferred to settle with her own sentence and word choice, and rejected Grammarly's suggestion to change the word have into "having" in a particular sentence. Overall, using a writing app assistance at the evaluation stage enabled P2 to ascertain of her writing and determine the appropriate corrections for grammatical and lexical errors.

In short, the collected data indicated that all participants, with respective writing habits, applied cognitive and metacognitive strategies to put forward their arguments in the essays confidently.

5. Discussion

This study highlighted the participants' methods of solving the problems they encountered when writing an argumentative essay by exploring the application of cognitive and metacognitive writing strategies. Writing an argumentative essay is a proper task to boost authors' cognitive and metacognitive skills (Benetos & Bétrancourt, 2020) by composing a piece of writing full of argumentative explanation backed up with evidences and reasons in the body paragraphs (Abbas & Herdi, 2018; Ferretti & Graham, 2019). The writing process (Harmer, 2004; Diaz-Larenas, 2017) done by the student writers show that writing involves active thinking process which influences their decision making about what idea to express and how to deliver it (Flower & Hayes, 1983; Oshima, 2006) into arguments. When the participants were thinking, nothing was shown on the screen (SRM), but once they decided to do something, the audio recording of TAP and SRM showed how their thoughts were taking shape. The active thinking process and the decision-making affected the writers' decision whether it was necessary to go back and forth to ensure appropriate idea delivery.

The cognitive strategies may include generating ideas, revising, elaborating, clarification, retrieval, rehearsing, and summarizing. Similar to metacognitive strategies, cognitive strategies encompasses three main actions: planning, monitoring, and evaluating (Ferretti & Graham, 2019). It has been reported that student writers can think thoroughly about the writing process by planning, monitoring their comprehension or composition, and executing self-evaluation to their argumentative essays (Zhang & Liu, 2008).

The findings showed that all participants decided to employ the same cognitive and metacognitive writing strategies in different manners. One participant spent more time for planning, while the others perused on evaluation; two participants applied all cognitive strategies, and the other skipped one step. These thinking process and decision-making impacted the produced essays. The benefits of cognitive and metacognitive strategies showed that the participants were able to conduct self-generated learning, and motivated to follow the steps in writing process thoroughly.

It is evident that writing strategies improve writing proficiency (Mu & Carrington, 2007) and make students more independent in producing the writing.

(Pitenoee et al., 2017; Maftoon & Seyyedrezaei, 2012). The following is the elaboration of how participants' cognitive and metacognitive strategies were embodied in their writing an argumentative essay on the topic of free education.

The first step is planning. In metacognitive strategies, planning consists of retrieval, classification, outlining, and rehearsing. Planning helps writers formulate unambiguous idea and convince themselves of a solid base for presenting strong arguments. When drafting a piece of writing, authors must know what to write, what to emphasize and how to deliver the idea. The findings showed that all participants understood the assignment to write an argumentative essay with solid arguments. Before creating the outline and structure of the essay, the participants identified the ideas, classified them, and then generated their argument. When necessary, the participants researched some reliable sources like articles on the given topics to gain more understanding and knowledge of the topics. If done properly, research enables students to be skillful in creating solid argument (Wingate, 2012; Kleemola et al., 2022). Regardless of the method, generating ideas is a crucial cognitive strategy for writers to understand the issue and avoid getting stuck when communicating their arguments confidently. In short, they work on the content and language to ensure they communicated the message clearly (Sanu, 2016). Writes can also personalize the topics by linking their personal experience with the writing topics, and therefore, gain full comprehension of the ideas.

Confirming the studies by Mu (2005), Nückles et al. (2009), and Sethuraman and Radhakrishnan (2020), this finding proved that cognitive strategies assisted student authors in processing, transforming, and formulating information to acquire knowledge. It showed that the authors realized about the importance of generating, formulating, and refining ideas (Ramadhan, 2019) so they could write longer and better. To create more specific, coherent, and comprehensible arguments, the participants in this study applied elaborating strategy by incorporating analogies and expanding subsidiary information. In other words, applying cognitive and metacognitive strategies enhances the writing content and quality (Pitenoee et al., 2017).

The next step was clarification and retrieval, which were two most used cognitive strategies by participants. The former was crucial to ensure themselves of the assignment, and the latter allowed authors to draw correlation between the given topic and their personal experience in order to create solid, logical arguments. When writers have a connected experience with the topic, they can understand the issue better and argue confidently. The other cognitive strategy is rehearsal, which refers to the process of checking the execution of the planned ideas in writing. In this study, rehearsal was applied by the participants

after clarification and retrieval process, although cognitive strategies can also be applied simultaneously.

Once participants realized that their argumentative essay carried weight to the readers, they would be aware that they should present clear, solid arguments. They retrieved information and revised their draft because clear writing and plain language is more likely to deliver a message successfully. The participants frequently employed monitoring strategies for the content, language, and organization of the essay to present clear, robust argument.

To gain better clarification, the participants reviewed their sentences to ensure a coherent writing/paragraph structure with a logical flow and proper diction. The participants also self-questioned their own argument to recall and argue about the issues. Self-questioning occurs when authors access information stored in their long-term memory and instigate it into their conscious awareness or working memory. When their self-questioning is satisfied, authors will be more confident with their arguments. This study indicated that these processes, which are closely related to individual learning task, could be efficiently executed when the participants had better cognitive skills, such as making predictions, linking the topics with their prior knowledge or experience, summarizing, and applying proper mechanics of writing, namely grammar rules and vocabulary (Zhang & Liu, 2008).

Regarding the mechanics of writing, this study found that the participants acknowledged the importance of mastering cognitive strategies so they could identify and minimize errors, revise grammatical and lexical issues, and clarify the content to ensure essay clarity to the readers. This study found that linguistic problems occurred due to students' poor competence in English. They were aware of this drawback, and therefore, they checked their work thoroughly for grammar, vocabulary, cohesion, and coherence at the revision stage (Richard & Renandya, 2002; Nourdad & Aghayi, 2016). As a result of applying cognitive and metacognitive strategies, the participants' language awareness improved, their linguistic competence increased, and eventually, they scored higher in writing because they submitted their best work. In short, the students in this study were motivated to eliminate the problems of writing content, linguistic, and writing strategy. It has been reported that cognitive and metacognitive strategies are considered helpful for writers to overcome the difficulties of writing through instruction (Nückles et al., 2009), minimize errors, and fix writing problems. Especially at monitoring stage, the participants solved writing problems, revised the errors, and improved their writing (Azizi & Narges, 2017). Rahmatunisa (2014) & Junianti (2020) reported that writing strategies were proven to eliminate the linguistic problems.

In a wider range of revision, evaluative strategy was applied by the participants to reconsider the written text, previous goals, planned thoughts, and changes undertaken to the text. The participants realized the importance of evaluation to enhance their writing quality of their writing, and to save time in the writing process. This study found that students revised any errors and misconceptions to make their essay comprehensible and coherent. In other words, they tried to have a complete control of their writing.

Controlling the writing process takes place throughout the stages of writing, showing that the participants tried to eliminate linguistic and cognitive problems using cognitive and metacognitive writing strategies (Rahmatunisa, 2014). To eliminate cognitive problems, the participants planned the writing by generating ideas, creating essay outline, building arguments, and clarifying information. First, the generated ideas were most likely related to their personal experience, meaning they were actively recalling previous experience and concentrating with their mind. Then, they outlined the essay, which required active cognitive processes to arrange each argument into a building block of an argumentative essay. After that, they needed to clarify what they wrote to ensure everything has been presented in coherent and logical manner. At last, before writing the concluding paragraph, the participants decided to unify and conclude the arguments stated in the body paragraphs by summarizing the main points or highlighting the key points of the whole argument. Therefore, the participants needed to use the correct dictions or vocabulary to differentiate the thesis statement from the restatement.

This study found that in addition to linguistic and cognitive issues, the psychological problems, which may have stemmed from laziness and demotivation, were also faced by the participants. The application of cognitive and metacognitive writing strategies helped lazy and demotivated participants in two stages. First, at the planning stage, cognitive-metacognitive strategies helped participants see every step of composing an argumentative essay, and follow these steps accordingly. Therefore, they were encouraged to maximize their thoughts to get ideas, arrange all arguments, and ensure they were valid and logical. Second, the psychological problems could be eliminated at the evaluation stage. At this stage, the participants needed to reread all the text to ensure the relevance of the message and an effective delivery of their argument. This study confirmed the previous studies by Nückles et al. (2009) on the positive effect of cognitive and metacognitive strategies on students writing. The implementation of both cognitive strategies and metacognitive strategies assisted students to self-regulate their understanding of the subject matter (Maftoon & Seyyedrezaei, 2012)., and positively impacted students' habits and writing competence (Chien, 2012).

Another important element found in the study was the presence of digital platforms, such as online dictionaries, search engines, and grammar-checker apps which enabled the students to generate ideas, clarify information, and elevate their writing proficiency. Digital tools are helpful to explore ideas (Karpova, 2020) from various sources and perspectives (Luna et al., 2020; Khunaifi, 2015). Combined with participants' self-experience and opinions, robust online sources are powerful tools for the participants to independently revise their writing and overcome linguistic problems. In other words, the digital platform is a tool to obtain appropriate writing support, to compose arguments, and to evaluate the writing quality (Karpova, 2020). Therefore, this study demonstrated that digital tools and cognitive-metacognitive strategies assisted the participants to independently improve their writing skill and quality before submitting the work, instead of relying on their teachers to check their writing (Al-Sawalha et al., 2012). Various metacognitive writing strategies have significantly impacted the teaching and learning of ESL academic writing (Aripin & Rahmat, 2020). This research also showed that writing is an important skill to amass students (Jubhari et al, 2022; Kleemola et al., 2022) to make them an independent text producers (Hyland, 2009; Johnson, 2008).

In terms of applying cognitive and metacognitive strategies in performing argumentative essay, this study confirms the previous studies about the positive impact of cognitive and metacognitive strategies in writing activity. As an added value, this study provides a more transparent method to capture what happens in the students' minds while undertaking the writing process. The outcome has two-sided benefits: provides a potential alternative to explore the mental process and production process in writing and helps determine the best strategy to improve students' writing skills. It is recommended that active thinking and awareness of the strategies be emphasized in the teaching to encourage learners to undergo every step in writing, harness the strategies to produce a proper argumentative essay, and eventually, be an independent writer.

6. Conclusions

It can be concluded that cognitive and metacognitive strategies enable the participants to elevate their writing habits and writing quality. It is undeniable that this strategy should be applied differently to each student because it directly relates to individual thinking activity and decision making. Regardless, the application of cognitive and metacognitive strategies in writing proves the students' control over their writing activities, so they can overcome writing difficulties and self-regulate their writing habit. As a result, students are able to put their understanding of subject matter into practice, and convey their ideas clearly and logically in written

language. The benefits of cognitive and metacognitive strategies include building self-regulated learning in the steps of writing activity and strategy, creating awareness of readership, and eliminating linguistics problems. This study provides an alternative way to observe the students' minds while applying those writing strategies by using TAP, SRM, students' work, and interviews to allow investigation of the cognitive processes. The implication of the study is significant to the pedagogical teaching of writing for EFL learners. It is recommended that future research identify students' perception and strategy when assigned a writing task, especially when they feel under pressure of developing an academic text. To make students internalize the writing process, the teaching can focus on cognitive and metacognitive strategies, and teachers are advised to support independent students' writing process in order to help raise their proficiency level. As a final thought, the findings from this study provide valuable insights into EFL teaching programs elsewhere in Indonesia to perceive writing as a multistage process leading to the use of varied writing strategies for effective outcomes.

References

Abbas, M. F. F., & Herdi, H. (2018). Solving the students' problems in writing argumentative essay through collaborative writing strategy. *English Review: Journal of English Education*, *7*(1), 105-114. https://doi.org/10.25134/erjee.v7i1.1499.

Alharbi, M. A. (2019). Saudi Arabia EFL university students' voice on challenges and solution in learning academic writing. *Indonesian Journal of Applied Linguistics.* 8(3), 577-588. https://doi.org/10.17509/ijal.v8i3.15276

Alamri, M. M. (2019). Students academic achievement perfomance and satisfaction in a flipped classroom in Saudi Arabia. *International Journal of Technology Enhanced Learning*, 11(1), 103-119.

Al-Sawalha, A. M. S., Chow, A. M.S., & Foo, T. V. (2012). The effects of writing apprehension in English on the writing process of Jordanian EFL students at Yarmouk University. *International Interdisciplinary Journal of Education*, *1*(1), 6–14.

Anaktototy, K. (2019) Improving students' argumentative writing skill through rubric and group feedback. *Language Circle: Journal of Language and Literature 14*(1), 9-18.

Aripin, N., & Rahmat, N. H. (2020). Metacognitive writing strategies model used by ESL writers in the writing process: A study across gender. *International Journal of Asian Social Science*, 11(1), 1–9. https://doi.org/10.18488/journal.1.2021.111.1.9.

Azizi, M., Nemati, A., & Narges, T. E. (2017). Meta-Cognitive awareness of writing strategy use among Iranian EFL Learners and its impact on their writing performance. *International Journal of English Language and Translation Studies*, *5*(1), 42–51.

Benetos, K., & Bétrancourt, M. (2020). Digital authoring support for argumentative writing: What does it change? *Journal of Writing Research,* *12*(1), 263-290. https://doi.org/10.17239/jowr-2020.12.01.09

Chien, S. C. (2012). Students' use of writing strategies and their English writing achievements in Taiwan. *Asia Pacific Journal of Education*, 32(1), 93-112. https://doi.org/10.1080/02188791.2012.655240.

Diaz-Larenas, C., Leiva, L.R., & Navarette, M. O. (2017) Rhetorical, metacognitive, and cognitive strategies in teacher candidates' essay writing. *Profile*,19(2), 87-100. https://doi.org/10.15446/profile.v19n2.60231

Easwaramoorthy, M., & Zarinpoush, F. (2011). Interviewing for research. *APAP 2011 - Proceedings: 2011 International Conference on Advanced Power System Automation and Protection*, *1*, 507–511.

Ferretti, R & Graham, S. (2019). Argumentative writing: Theory, assessment, and instruction. *Reading and Writing 32*, 1345–1357. https://doi.org/10.1007/s11145-019-09950-x

Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College composition and communication*, 32(4), 365-387. https://doi.org/10.2307/356600

Graham, S., & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools*. Alliance for Excellent Education.

Güneyli, A. (2016). Analyzing writing anxiety level of Turkish cypriot students. *Education and Science*, *41*(183), 163–180. https://doi.org/10.15390/EB.2016.4503

Harmer, J. (2004). *The process of teaching writing*. Pearson Education limited

Harmer, J. (2007). *The practice of English language teaching* (4th Edition). Longman

Hyland, K. (2003). *Second language writing*. Cambridge University press

Jennifer, J. M., & Ponniah, R. J. (2017). Investigating the levels, types and causes of second language writing anxiety among Indian freshmen. *Journal of Asia TEFL*, 14(3), 557-563. http://dx.doi.org/10.18823/asiatefl.2017.14.3.13.557

Johnson, A. P. (2008). *Teaching reading and writing: A guidebook for tutoring and remediating students.* Rowman & Littlefield Education

Junianti, R., Pratolo, B. W., & Tri Wulandari, A. (2020). The strategies of learning writing used by EFL learners at a higher education institution. *Ethical Lingua: Journal of Language Teaching and Literature*, 7(1), 64-73.

Jubhari, Y, Sasabone L., & Nurliah (2022) The effectiveness of contextual teaching and learning approach in enhancing Indonesian EFL secondary learners' narrative writing skills. REilA: *Journal of Research and Innovation in Language*. 4 (1), 54-66. https://doi.org/10.31849/reila.v4i1.8633

Karvopa, K. (2020) Integration of "write and improve" awe tool into EFL at higher educational establishment: A case study. *Celtic: A Journal of Culture, English Language Teaching, Literature, and Linguistics* 7(2) 137-150 https://doi.org/10.22219/celtic.v7i2.14036

Kellogg, R. T. (2008). Training writing skills: A cognitive developmental perspective. *Journal of writing research*, 1(1), 1-26.

Khunaifi, A. R. (2015). The effects of teaching critical thinking on students' argumentative essay *Journal on English as a Foreign Language. 5*(1), 45-55. https://doi.org/10.23971/jefl.v5i1.91

Kleemola K., Hyytinen H., & Toom A. (2022) The challenge of position-taking in novice higher education students' argumentative writing. *Frontiers in Education 7*(885987), 1-14. https://doi.org/10.3389/feduc.2022.885987

Latifi S., Noroozi O., Hatami J. & Biemans H J.A. (2021). How does online peer feedback improve argumentative essay writing and learning?, *Innovations in Education and Teaching International*, 58(2), 195-206. https://doi.org/10.1080/14703297.2019.1687005

Liu, X., & Li, M. (2020). Investigating the impact of cognitive and metacognitive writing strategies on Chinese EFL learners' writing performance. *Language Teaching Research*, 24(1), 5-28.

Lu J. & Zhang Z. (2013). Assessing and supporting argumentation with online rubrics. *International Education Studies*, 6(7), 66-77

Luna, M., Villalón, R., Mateos, M., & Martín, E. (2020). Improving university argumentative writing through online training. *Journal of Writing Research*, 12(x), 233-262. https://doi.org/10.17239/jowr-2020.12.01.08

Mastan, M. E. B., Maarof, N., & Embi, M. A. (2017). The effect of writing strategy instruction on ESL intermediate proficiency learners' writing performance. *Journal of Educational Research and Review*, 5(5), 71-78.

Maftoon, P., & Seyyedrezaei, S. H. (2012). Good language learner: A case study of writing strategies. *Theory and Practice in Language Studies*, 2(8), 1597–1602.

Manchon, R. (2018). Past and future research agendas on writing strategies: Conceptualization, inquiry methods, and research findings. *Studies in Second Language Learning and Teaching*. 8(2), 247-267.

Marques, M. & Signes, C. (2018). Learning from learners: A non-standard direct approach to the teaching of writing skills in EFL in a university context. *Innovation in Language Learning and Teaching*. 12(2), 164-176.

Mu, C. (2005). A Taxonomy of ESL writing strategies. *Proceedings Redesigning Pedagogy: Research, Policy, Practice*, January 2005, 1–10.

Mu, C., & Carrington, S. (2007). An investigation of three Chinese students' English writing strategies. *Technology*, 11(1), 1–23.

Nourdad, N., & Aghayi, E. T. (2016). A comparative study on the effect of instruction through powerpoint presentation and whiteboard on EFL learners' essay writing ability. *Modern Journal of Language Teaching*, 6(4), 46–55.

Nückles, M., Hübner, S., & Renkl, A. (2009). Enhancing self-regulated learning by writing learning protocols. *Learning and Instruction*, 19(3), 259–271.

Oshima, A., Hogue, A. (2006). *Introduction to academic writing*. Pearson Longman

Pitenoee, M. R., Modaberi, A., & Ardestani, E. M. (2017). The effect of cognitive and metacognitive writing strategies on content of the Iranian intermediate EFL learners' writing. *Journal of Language Teaching and Research*, 8(3), 594–600.

Qadir, S. M., Bensen Bostanci, H., & Kurt, M. (2021). Writing apprehension among English as a foreign language postgraduate students. *SAGE Open*, April-June 2021, 1-14

Rahmatunisa, W. (2014). Problems faced by EFL learners in writing argumentative essay. *English Review: Journal of English Education*, 3(1), 41-49.

Raimes, A. (1983). *Techniques in teaching writing*. Oxford University Press.

Ramadhan, B. 2019. Writing Argumentative Essay: How Far They Can Go? *Journal of Research and Innovation in Language. 1*(2). 61-67

Richards, J. C., & Renandya, W. A. (2002). *Methodology in Language teaching: An anthology of current practice*. Cambridge University Press.

Sanu, L. O. (2016). The EFL students' narrative paragraph writing of the second semester students of State Institute of Islamic Studies (IAIN) Samarinda: A syntactic analysis. *Script Journal: Journal of Linguistic and English Teaching*, *1*(1), 36. https://doi.org/10.24903/sj.v1i1.15

Sethuraman, M., & Radhakrishnan, G. (2020). Promoting cognitive strategies in second language writing. *Eurasian Journal of Educational Research*, *2020* (88), 105–120. https://doi.org/10.14689/ejer.2020.88.5

Wingate, U. (2012). 'Argument'! Helping students understand what essay writing is about. *Journal of English for Academic Purposes 11*, 1-10. https://doi.org/10.1016/j.jeap.2011.11.001

Zhang, W & Liu, M. (2008). Investigating cognitive and metacognitive strategy use during an english proficiency test. *Indonesian Journal of English Language Teaching*, 4(2), 32-49. https://doi.org/10.25170/ijelt.v4i2.1573