# THE USE OF TASK COMPLEXITY IN WRITTEN LANGUAGE PRODUCTION BY THE TENTH GRADE STUDENTS OF SMAN 5 BANDAR LAMPUNG

**A Thesis**

**By:**
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**MASTER IN ENGLISH EDUCATION STUDY PROGRAM**
**LANGUAGE AND ARTS EDUCATION DEPARTMENT**
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**2025**

## ABSTRACT

### THE USE OF TASK COMPLEXITY IN WRITTEN LANGUAGE PRODUCTION BY THE TENTH GRADE STUDENTS OF SMAN 5 BANDAR LAMPUNG

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This research aimed to: 1) investigate the significant differences in written language production generated from two different types of tasks between low and high proficiency students, 2) examine whether low proficiency students produce different written language production when performing the two task types, and 3) determine whether high proficiency students produce different in their written language production across the two tasks. Using two distinct task types, data were collected from 30 low level and 30 high level tenth grade students of SMAN 5 Bandar Lampung and analyzed through Repeated Measures ANOVA.

The results revealed: 1) there are statistically significant differences in the CAF (Complexity, Accuracy, and Fluency) measures between the two proficiency groups across both task types. In Task 1, significant differences were found in accuracy and fluency, but not in complexity. In contrast, in Task 2, high- and low-proficiency students demonstrated significant differences across all CAF aspects. 2) Additionally low-proficiency students showed different performance when completing the two task types, with better results in simple tasks, particularly in terms of complexity and accuracy. 3) Furthermore, high proficiency students also demonstrated differences in their written production across the two task types. They produced more complex and fluent writing when performing cognitively demanding tasks (task 2), but their accuracy was negatively affected. These findings highlight the importance of aligning task complexity with learners' proficiency levels in Task-Based Language Teaching (TBLT) to enhance language learning outcomes and support more effective instructional design.



***Keywords:*** *CAF Measures, Cognition Hypothesis, Task Complexity, Written Language Production.*

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**By**

Tri Optaria

**A Thesis**

**Submitted in a Partial Fulfillment of**
**The Requirements for S-2 Degree**

**in**

**Language and Arts Education Department**
**Teacher Training and Education Faculty**


**MASTER IN ENGLISH EDUCATION STUDY PROGRAM**
**LANGUAGE AND ARTS EDUCATION DEPARTMENT**
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**2025**

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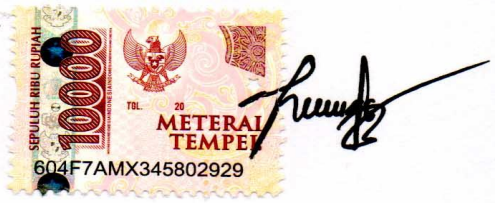


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## CURRICULUM VITAE

Tri Optaria was born in Bandar Lampung on October 23rd,1998. She is the third of four children of Mr. Efsir and Ms. Asnapuri. She has two sisters, Tesi Noviana and Mellya Putri, and a younger brother named Ahmad Taufiq Reza K.

She began her studies at SD Negeri 2 Tanjung Senang in 2004 and graduated in 2010. In the same year, she continued her education at SMP Negeri 29 Bandar Lampung, graduated in 2013. After that, she enrolled at SMA Negeri 5 Bandar Lampung in 2013 and graduated in 2016. Following her high school graduation, she pursued a bachelor's degree in English Education at Raden Intan State Islamic University Lampung (UIN) and graduated in 2020. Three years later, in 2023, she registered as a student in the Master's Program in English Education at University of Lampung.

## DEDICATION

This thesis is sincerely and wholeheartedly dedicated to:

1. Allah SWT, the Almighty for His blessings, guidance, and mercy throughout my journey
2. My beloved parents: Efsir and Asnapuri
3. My lovely sisters and brother: Tesi Noviana, Mellya Putri, and A.Taufiq Reza
4. My faboulous friends in Master of English Education
5. My almamater, University of Lampung.

## MOTTO

*"The journey of a thousand miles begins with a single step"*

-Lao Tzu

*"It's not always easy, but that's life, be strong*
*because there are better day ahead"*

-Mark Lee

## ACKNOWLEDGEMENTS

Alhamdulillah, all praises be to Allah SWT, the Most Gracious and the Most Merciful, for His endless blessings, guidance, and strength that have enabled the writer to complete this thesis entitled "The Use of Task Complexity in Written Language Production by the Tenth Grade Students of SMAN 5 Bandar Lampung " as a partial fulfillment of the requirement for S-2 Degree in English Education Study Program, Teacher Training and Education Faculty in Lampung University.

Peace and blessings are also devoted to the Prophet Muhammad SAW, the last messenger and a timeless source of wisdom and inspiration.

With sincere gratitude, the writer wishes to express her heartfelt thanks to those who have supported her throughout this academic journey:

1. First and foremost, the writer's utmost respect and deepest appreciation go to her first advisor, Mahpul, M.A., Ph.D., for his constant guidance, insightful feedback, motivation, and invaluable advice during every stage of this research.
2. Prof. Dr. Muhammad Sukirlan, M.A., as the second advisor, for his patience, thoughtful suggestions, and continued support that contributed significantly to the development of this thesis.
3. Prof. Dr. Flora, M.Pd., as the first examiner for her insightful comments, valuable suggestions, and constructive feedback that greatly contributed to the improvement of this thesis.
4. Hery Yufrizal, M.A., Ph.D., as the second examiner, for his critical evaluation, valuable input, and kind encouragement that helped refine this work.
5. Yun Anis, M.Pd., as the English teacher at SMAN 5 Bandar Lampung, for her kind assistance, cooperation, and helpful insights during the research process.

6. The writer's deepest love and appreciation go to her beloved parents: Asnapuri and Efsir, for their unconditional love, endless prayers, and unwavering support that have been the writer's greatest strength.
7. Her siblings: Tesi Noviana, Mellya Putri, and A. Taufiq Reza Kusuma, for their constant encouragement and support throughout the thesis journey.
8. Her dearest SobMag family: Mia, Besta, Putri, Masita, Ervina, Juma, Aulia, and Laksmi, thank you for the laughter, warmth, and sisterhood that made this academic pursuit less daunting and more joyful.
9. Her wonderful friends: Frisca Yunika, Sinta Rahmawati, Sherly Febrianti, Suci Berlianti, and Peggy Novita Sarie for their encouragement, empathy, and companionship.
10. To all fellow students of the Master's Program in English Education, especially MPBI 2023, and those whose names I cannot mention one by one, thank you for your support and companionship throughout this journey.
11. Finally, the writer sincerely thanks the Ministry of Education, Culture, Research, and Technology (KEMENDIKBUDRISTEK) of the Republic of Indonesia of the Republic of Indonesia for selecting her as a Beasiswa Unggulan awardee, which enabled her to pursue her Master's degree through financial support and opportunity.

At the end, the writer humbly acknowledges that this thesis is far from perfection. Constructive comments, suggestions, and criticisms for the betterment of this work are sincerely welcomed. It is her hope that this thesis will contribute positively to the field of education, serve as a reference for readers, and inspire further research.

Bandar Lampung, Juni 2025
The Writer,

Tri Optaria

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# I. INTRODUCTION

This chapter presents the background of the problems, research questions, objectives of research, uses of research, scope of research, and definition of terms. Each of them is elaborated in this section.

## 1.1. Background

Writing is a fundamental skill that plays a crucial role in communication, learning, and personal development. Hyland (2003) emphasizes that writing enables individuals to express their ideas clearly and logically while also sharing knowledge effectively across diverse contexts. Furthermore, writing is a cornerstone of academic achievement and a crucial skill in most professional fields. Graham and Perin (2007) highlight that writing proficiency is strongly linked to academic success and is often a predictor of career opportunities, as it reflects one's ability to convey knowledge effectively. By understanding the importance of writing, individuals can develop and strengthen their critical thinking skills and learn how to articulate their experiences in words, becoming more effective communicators.

Despite its importance, writing represents the most challenging skill for learners to acquire. As Brown (2007) states, writing is considered as the difficult skill to master since it involves several components which need to be employed (i.e the

content, organization, vocabulary, language use and punctuation). Similarly, Nunan (2003) indicates that writing is an extremely complex cognitive activity, requiring writers to demonstrate control over a number of variables simultaneously at the sentence level, these variables include content, format, sentence structure, vocabulary, punctuation, spelling, and letter formation. Beyond the sentence, writers must be able to structure and integrate information into cohesive and coherent paragraphs and texts. Consequently, even though writing is essential for communication and critical thinking, many students struggle to develop their skills to a proficient level, which impacts the quality of their writing.

In point of fact, many EFL learners struggle with writing because they find it difficult to produce fluent, accurate, and complex texts. Their limited vocabulary and weak grammar knowledge make it hard for them to express ideas smoothly, leading to frequent pauses and repetitive sentence patterns (Skehan, 2009). Studies have shown that learners often produce simple sentence structures and commit frequent errors, which hinder the development of complexity and accuracy in writing (Housen, Kuiken, & Vedder, 2012).

Several factors contribute to students' low writing proficiency, including insufficient practice, a lack of engaging and meaningful writing tasks, and ineffective instructional approaches (Nation, 2009). Farizka et al., (2020) state misunderstanding task instructions can hinder engagement. Clear, structured guidance is essential for students to feel confident and involved in writing activities. Similarly, Mahpul and Oliver (2018) point out that many teachers persist in employing traditional teaching methods and find it difficult to decide

and choose the appropriate learning instruction for their students. These traditional methods emphasize form-focused drills and grammar rules, which stand in contrast to TBLT's emphasis on meaningful communication and real-life language use, ultimately limiting students' ability to express ideas effectively.

To address these issues, an instructional approach that systematically develops fluency, accuracy, and complexity in writing is essential. One promising framework is Task-Based Language Teaching (TBLT), which emphasizes the use of tasks as the foundation for examination, organization, and instruction (Richards, 2001). Nunan (2006) highlights that TBLT promotes meaningful and authentic communication by engaging learners in real-world language use. In this approach, learning materials and teaching sessions are structured around completing tasks that require students to use the target language in practical situations, such as visiting a doctor, conducting an interview, or calling customer service for assistance.

A key component in optimizing TBLT for language learning is task complexity. Robinson (2015) proposes the Triadic Componential Framework (TCF), which identifies three factors that influence language learning: task complexity (cognitive factors), task difficulty (learner-related factors), and task condition (interactional factors). Among these, Robinson (2001a) argues that task complexity should be the primary basis for task design, as the other two factors are more difficult to predict and control.

Within task complexity, Robinson (2003) distinguishes between two dimensions: resource-directing and resource-dispersing. The resource-directing dimension guides learners toward specific linguistic aspects, fostering grammatical and lexical development. In contrast, the resource-dispersing dimension influences learners' psychological conditions, such as their attentional capacity and working memory.

Robinson's Cognition Hypothesis (2001, 2011) further suggests that manipulating task complexity can affect students' writing by directing their cognitive resources toward different linguistic features. It means more cognitively demanding writing tasks can stimulate better language by focusing students' mental effort toward more advanced linguistic features. Carefully designed tasks can be a powerful tool in helping learners grow. Robinson (2005) believes that increasing task complexity in the resource-directing dimension (e.g., +/-here and now, +/-reasoning demands, +/-few elements) leads to higher accuracy and complexity, but will lead to a lower fluency. In contrast, increasing complexity in the resource-dispersing dimension (e.g., +/-planning, +/ prior knowledge, +/-single task) leads to higher fluency, but can negatively impact accuracy and complexity. By carefully designing tasks with varying levels of complexity, instructors can help students gradually improve their writing skills in a structured and effective way.

Since Task Complexity, as suggested by Robinson plays a crucial role in supporting the learning process. Numerous studies have examined task complexity for writing. They have investigated one dimension, either in resource-

directing or resource-dispersing (Cho, 2015; Shajeri & Izadpanah, 2016; Luo, 2022). Meanwhile, few explored the simultaneous manipulation of task complexity along two dimensions. Mustika et al., (2019) explored the effect of tasks that are manipulated and combined along complex resource directing (i.e. – few elements,-there and then, -reasoning demands) and simple resource dispersing (+planning, +single task, +prior knowledge). The result showed that the task which was designed -reasoning demands affected complexity and fluency. Then, the task in form of -there and then had a positive effect on accuracy in student written performance.

Ishikawa (2006) explored the effects of manipulating task complexity with respect to (here ± and-now & there-and-then) elements. He found that increasing task complexity with respect to the here-and- now dimension increased the accuracy, fluency, and complexity of written language production. Similar to Ishikawa, Hosseini and Rahimpour (2010) explored the effect of (here/now, there/then) elements in resource-directing. They revealed that the demanding task of there/then covers higher accuracy and syntactic complexity in the complex condition, while no effect was found on fluency.

Additionally, Mohammadabadi et al. (2013) explored two tasks that were manipulated along the resource-directing dimension of the ±here-and-now, and the other two were manipulated along the resource-dispersing dimension of ±planning time. The findings showed no significant differences in the tasks manipulated by the ±here-and-now variable. As for the tasks manipulated by the

±planning time variable, they showed higher accuracy in the planned (simple) task. The results partially supported the Robinson Cognition Hypothesis, suggesting that certain types of tasks can lead to students producing more complex and accurate language.

On the other hand, Salimi et al. (2011) conducted tasks manipulated by the ±few elements and ±reasoning demands factors in resource directing. The results showed significant increases in both complexity and fluency in the complex task with no differences in accuracy. It implies that the results do not fully support the Cognition Hypothesis.

The contradictory finding above is important intervening factors, such as level of proficiency, are often overlooked. The distinction between low and high proficiency levels in writing is critical because learners at these levels exhibit different needs and challenges. According to Skehan (1998), students with low proficiency often face difficulties due to limited linguistic resources, including vocabulary and grammar. They struggle to express their ideas clearly and often produce texts with numerous errors, which can affect coherence and accuracy. These limitations may lead to frustration and a lack of confidence, further diminishing their motivation to write (Nation, 2009).

In contrast, high proficiency students possess a broader range of vocabulary, better grammatical knowledge, and stronger cognitive strategies for organizing their ideas (Robinson, 2001). While they can produce more accurate and complex writing, they may still face challenges with tasks that demand advanced reasoning,

creativity, or multitasking, such as integrating multiple elements or handling abstract topics. This aligns with Ellis (2003), who notes that even advanced learners can struggle with tasks that exceed their cognitive capacity or require high levels of processing.

Skehan's LAC model posits that humans have limited information processing capacity and that more demanding tasks require more attention resources, resulting in trade-off effects among accuracy, fluency, and complexity in language production (Skehan & Foster, 1999, 2001, 2005). Skehan (1998) argues that increased cognitive task complexity diverts learners' attention to the task content, rather than the complexity and accuracy of their language production.

Robinson's Cognition Hypothesis predicts that increased task complexity engages learners' cognitive resources, such as attention and memory, pushing them towards more complex and modified output (Robinson, 2001, 2011). To accommodate these theories, tasks should be tailored to learners' proficiency levels, ensuring they are both challenging and manageable. Low proficiency learners might benefit from simple tasks that focus on fluency, while high learners can handle more complex tasks that promote accuracy and complexity.

Based on the findings from existing studies, the manipulation of task complexity has become a topic of interest among researchers, particularly in writing. However, previous studies have not explored this area comprehensively, as they typically focus on the effects of manipulating task complexity in either resource-directing or resource-dispersing dimensions, primarily within the domain of

speaking skills. To date, there are very few studies, if any, that investigate task manipulation involving both dimensions of resource-directing and resource-dispersing. In this current research, the writer created two tasks: one combining simple resource-directing and simple resource-dispersing, and another combining complex resource-directing with simple resource-dispersing, to examine their effects on learners' writing skills. This is important to reveal, as such a study has not been conducted in the context of writing skills before.

Thus, it is worth to be followed up particularly from a different view which is the written language production to confirm whether or not the results of this study support the cognition hypothesis theory. Moreover, comparing the two groups of students' low and high levels proficiency using types of tasks, simple and complex combining the dimensions of resource-directing and resource-dispersing is still important to reveal. By exploring this area, it can contribute to theories related to the Cognition Hypothesis, whether tasks designed as simple or complex align with students' proficiency levels or challenge them appropriately. Additionally, many studies do not cover this area by manipulating task types, which is why this area is important to explore.

The present investigation is going to fill the discrepancies on the previous studies which should have conclusively discussed the use of manipulating task complexity and compare in which the participants of the research have a different proficiency level consisting of low and high proficiency levels.

### 1.2. Research Questions

Based on the problems stated above, the problems are formulated below:

1. Is there a statistically significant difference of written language production generated from two different types of tasks between the low and high level of proficiency?
2. Does low level proficiency produce different written language production generated from two types of tasks?
3. Does high level proficiency produce different written language production generated from two types of tasks?

### 1.3. Objectives

By relating to the formulation of the problems, the objectives of the research as follows:

1. To find out whether there is a statistically significant difference in written language production generated from two different types of tasks between low and high levels of proficiency.
2. To investigate whether low level proficiency students produce different written language production generated from two types of tasks.
3. To investigate whether high level proficiency students produce different written language production generated from two types of tasks.

## 1.4. Uses

This research is practically and theoretically beneficial in the context of CAF. The researcher expects that this study provided the following benefits:

### *1.4.1. Theoretically*

The researcher expects that the results of this study are able to expand and validate the theory of cognitive hypotheses by providing empirical data on how the three primary aspects of writing performance assessment complexity, accuracy, and fluency are impacted by the combination of varying task complexity in different proficiency levels.

### *1.4.2. Practically*

This research offers practical insights for educators who can use these findings to design tasks that are more effective in developing students' writing skills with different proficiency levels. Ultimately, the findings of this research have the potential to inform curriculum development and pedagogical strategies aimed at fostering the accuracy, fluency and complexity of student writing through a more systematic and evidence-based approach.

## 1.5. Scope

This research focused on the manipulation of task complexity and emphasizes comparing the written language production of two types of tasks with varying complexity simple and complex along the dimensions of resource-directing and resource-dispersing. The comparison conducted between two groups of students with low and high proficiency levels.

### 1.6. Definition of Terms

Some terms are defined to give basic understanding of the related variables and concepts. These are stated below:

1. TBLT is an approach where the planning of learning materials and teaching sessions are based around doing a task to help students engage in learning.
2. Cognition Hypothesis refers to cognitive factors which involve the mental process required to complete a task.
3. Task complexity refers to how challenging or cognitive demands are during the performance tasks.
4. Limited Attention Capacity refers to an individual's ability to allocate cognitive resources for attention-demanding tasks, emphasizing that the human brain can process only a limited amount of information at a time.
5. Complexity refers to the richness and sophistication of lexical and syntax.
6. Accuracy refers to how correct the language is, including grammar, spelling, vocabulary, and punctuation.
7. Fluency refers to the flow of message and how smoothly and effortlessly language is produced.

This chapter has briefly explained about the background of this study, the research questions, research objectives, uses of the research, scope of the research, as well as the definition of terms.

# II. LITERATURE REVIEW

This chapter presents the theories related to the research. It covers related to literature about the concept of task based language teaching, concept of task, the differences between task and exercise, methodology of task based teaching, the cognition hypothesis, Limited Capacity Model, previous studies of task complexity, and measures of complexity, accuracy, and fluency (CAF), theoretical assumption, and hypotheses.

## 2.1. Concept of Task Based Language Teaching

Task-Based Language Teaching (TBLT) is an innovative approach that has gained significant attention, initially introduced by Prabhu in the 1980s. According to Prabhu (1987), language form is best learned when learners focus on the meaning of tasks rather than on linguistic rules and structures. This suggests that learning becomes more effective when learners prioritize understanding the task's meaning over the structure of language.

In line with that, Nunan (2006) emphasizes that TBLT promotes meaningful and authentic communication, which is essential for effective language learning. Ellis (2003) and Richards (2001) further support this by noting that TBLT revolves around using tasks as the core activity to facilitate language acquisition. Richards and Schmidt (2010) describe TBLT as an approach that is centered on communicative and interactive tasks, which play a key role in planning and

delivering instruction. In this approach, tasks are the foundation of language learning activities, making them the primary focus of instruction.

Furthermore, TBLT engages learners in meaningful activities that use the target language, enhancing their interest and willingness to communicate (Van der Zwaard & Bannink, 2020; Ghaderi et al., 2022). These tasks are designed to mirror real-world situations, such as visiting a doctor, conducting an interview, or making a customer service call, allowing learners to practice language in practical contexts.

Regarding these definitions, TBLT is an approach that focuses on using meaningful tasks to teach language, with tasks playing a central role in instruction. This approach encourages learners to use the language authentically, improving their ability to apply language skills in real-life situations

### 2.2. Concept of Task in Language Teaching

In the field of language education, experts have proposed different definitions of a task, all of which emphasize its role in promoting meaningful communication and language use. Nunan (1989) defines a task as classroom work that involves learners in comprehending, manipulating, producing, or interacting in the target language, with a primary focus on meaning rather than form. This highlights the main goal of these tasks is to focus on conveying meaning rather than concentrating on the correct structure or grammar (form) of the language. Similarly, Willis (1996) describes tasks as activities where learners use the target language for communication to achieve a specific outcome. Learners are engaged

in tasks that require them to use the language for communication, prioritizing understanding and conveying meaning over grammatical accuracy.

Ellis (2003) further elaborates that tasks require learners to process language in a practical way to achieve an evaluable outcome based on the correctness or appropriateness of the content conveyed. This is consistent with Bagheri et al. (2012), who emphasize that the immediate demands of real-time communication in tasks force learners to pay attention to both form and meaning simultaneously. In other words, learners are challenged to focus on grammatical accuracy while also ensuring meaningful communication.

In accordance with it, Hismanoglu and Hismanoglu (2011) argue that tasks are activities with clear objectives, where communicative language is used to achieve specific goals. This reinforces the idea that tasks are designed to help students communicate effectively while drawing on their grammatical knowledge.

As outlined by experts, a task is an activity, where learners use their language abilities to achieve a specific meaningful outcome which is closely tied to real-world activities. Further, the focus of the task is on the meaning of the language and its context, rather than on its form. These activities help students achieve their communication goals.

### 2.3. Differences between Task and Exercise

Differentiating between task and exercise is necessary for instructors. Their goals are distinct, as are the outcomes they produce. The emphasis on tasks and real-world activities is one of the most subtle features of modern approaches to English language instruction. More than only requiring correct language use, syllabus designers are focused on meeting learners' demands for proper communication in authentic contexts. Along with language exercises that result in accurate language use, the majority of textbooks now incorporate tasks and activities that have a communicative effect.

Nunan (1989) explains that the major difference between a task and an exercise is the outcome. A task is a nonlinguistic matter; but, an exercise is a linguistic matter. In addition, a task is typically tightly tied to practical everyday activities. Thus, the notion of task is suitable because TBLT requires real-world tasks. Ellis (2000) the distinctions differences between task and exercise as follows:

**Table 2.1. The Differences between Task and Exercise**

| | **Exercise** | **Task** |
|---|---|---|
| Orientation | Linguistics skills should exist first in order to learn communicative skills | Linguistics skills expand through the communicative project |
| Focus | It focus on the form of the language | It only focuses on the meaning |
| Goal | Representation of knowledge | To attain communicative competence |
| Outcome | Evaluated by its adherence to the standards or structures | Evaluated by seeing whether the communicative goal has been successfully attained or not |
| Real World Relationship | To be used for future scenarios | A close relationship between real world activity and a task |

Based on the distinction above, exercises emphasize mastering the form and structure of a language, serving as a foundation for developing linguistic skills that can be applied later in communicative situations. Tasks, on the other hand, prioritize meaningful communication and are closely tied to real-world activities, aiming to develop communicative competence directly through practical use of the language.

### 2.4. Methodology of Task Based Language Teaching

Tasks serve as a research tool for studying L2 acquisition and as a construct studied independently, playing a central role in SLA. They are crucial in both SLA research and language pedagogy. Under lesson design and participatory structure, two strategies will be examined for selecting and organizing tasks, as well as creating appropriate work schedules.

The stages of a task-based lesson are designed with tasks as the primary component. These stages include pre-task, during-task, and post-task, providing a clear structure that benefits both teachers and students. This framework offers distinct organization while allowing flexibility and variety in each phase, thereby enhancing the overall learning experience.

**Table 2.2. Task Based Methodology Design**

| | | |
|---|---|---|
| 1 | **Pre Task** (Consciousness – raising activities) | Framing the activity (e.g. establishing the outcome of the task) |
| | | Regulating planning time |
| | | Doing similar task as the During task |
| 2 | **During Task** | Time Pressure |
| | | Regulating Topic |
| 3 | **Post Task** | Number of participants |

| | | |
|---|---|---|
| | (Focused communication activities) | Learner reports |
| | | Repeat task |
| | | Reflection |

*Source: A framework for designing task-based lessons (Ellis, 2003)*

### *2.4.1. Pre Task*

The researcher began by introducing the writing task, clearly explaining its objectives and expected outcomes. To support students' understanding, the researcher activated their prior knowledge to ensure familiarity with the topic. Since the task required the use of the present tense without reasoning demands, relevant vocabulary and sentence structures were provided. Students were also given planning time to organize their ideas, structure their responses, and gather necessary language resources. During this phase, the researcher conducted task modelling to promote language input and clarify task expectations.

### *2.4.2. During Task*

During the task phase, students engage in the writing activity with a focus on meaningful communication and language use. This phase is the core of Task-Based Language Teaching (TBLT), emphasizing authentic language production in a structured but realistic setting. Time constraints are introduced to simulate real-life writing conditions, encouraging students to balance fluency and accuracy in their responses. Controlled time management helps students practice writing within a limited timeframe, promoting spontaneity and reducing excessive focus on perfection. Another essential aspect of this phase is topic regulation, where the researcher ensures that the task remains relevant to students' proficiency levels. By maintaining a balance between challenge and accessibility, students remain

engaged and motivated (Willis & Willis, 2007). Throughout this phase, students work independently on the task while applying language structures learned during the pre-task stage. The role of the researcher is to monitor progress, provide minimal guidance if necessary, and encourage students to complete the task with the language resources available to them.

### *2.4.3. Post Task*

In the final stage, students reviewed their writing reflected on their own writing. They took time to think about what they had written, what parts they were confident about, and what parts they felt needed improvement. By reviewing their own work, they could notice mistakes, think about better word choices, and consider how to make their ideas clearer. This self-reflection helped students become more aware of their writing habits and develop strategies to improve in the future. It also gave them the chance to recognize their progress and set goals for their next writing task.

In short, Ellis's Task-Based Language Teaching (TBLT) methodology consists of three interconnected phases: pre-task, during task, and post-task. Each phase is crucial for promoting meaningful language use and facilitating both communicative and linguistic development in teaching learning process.

## 2.5. Cognition Hypothesis

Cognition Hypothesis was proposed by Robinson (2015), he argues that when tasks are cognitively and functionally demanding or difficult, learners will be encouraged to produce more complex and more accurate language production. This is known as the cognition hypothesis. The Cognition Hypothesis claims that more complex tasks will push development, and greater complexity and accuracy of production (Robinson, 2003). Hence, the Cognition Hypothesis highlighted the importance of manipulating the demands of cognitive task complexity.

Cognition plays a crucial thing to use to develop the forms of language test (Iwashita et al., 2001). It is because effective language tests should measure not just basic language skills but also the ability to use language in real-world, mentally demanding situations. Therefore, tests should include tasks that reflect these cognitive challenges to truly assess someone's language proficiency. The aim of the cognition hypothesis is increasing demands heightens second language speaker's attention pushing the grammatical accuracy and linguistics complexity of their 12 production (Robinson, 2001a). In other words, students' language productions are facilitated by giving pedagogical tasks by channeling their attention toward more complex discourse to meet the linguistic and functional demands imbedded in a particular task.

Thus, Robinson specifies the Triadic Componential Framework composed from those three aspects. Robinson argues that these three factors influence learners' L2 performance in terms of CAF. The components of Robinson's Triadic Framework can be seen as in Figure 1 below:

| **Task complexity** (Cognitive factors) | **Task conditions** (Interactive factors) | **Task difficulty** (Learner factors) |
|---|---|---|
| **a) resource-directing** | **a) participation variable** | **a) affective variables** |
| +/- few elements | one-way/two way | motivation |
| +/- here and now | convergent/divergent | anxiety |
| +/- no reasoning demands | open/closed | confidence |
| **b) resource-dispersing** | **b) participant variables** | **b) ability variables** |
| +/- planning | gender | aptitude |
| +/- single task | familiarity | proficiency |
| +/- prior knowledge | power/solidarity | Intelligence |

Sequencing criteria ---------- Methodological criteria

Prospective decisions about task unit

on-line decision about pairs and group

*Figure 1: Robinson's Triadic Componential Framework*

Robinson (2001) claims that pedagogic task should be designed and sequenced on the basis of task complexity, specifically in terms of the manipulation of cognitive factors. Robinson distinguishes between the term task complexity (cognitive factors) and task difficulty (learner factors), which were previously used interchangeably. Besides, he further distinguishes task complexity and task conditions (interactive factors).

In this current research, the researcher created two tasks in every single two dimensions: one combining simple resource-directing and simple resource-dispersing, and another combining complex resource-directing with simple resource-dispersing, to examine their effects on learners' written language production in terms of complexity, accuracy, and fluency (CAF).

*2.5.1. Task Complexity*

Robinson (2001) defines task complexity as the result of attention, memory, reasoning, and other information processing demands imposed by the structure of the task on the language learner. He divides task complexity into resource-directing and resource-dispersing dimensions. Resource-directing dimension refers to cognitive, conceptual requirements, including few/many elements, here-and-now/there-and-then, +/-reasoning demands, while resource-dispersing dimension refers to procedural and behavioral requirements, including +/-planning, task structure, single/dual task, +/-prior knowledge. Robinson (2005) argues that increasing task complexity in the resource-directing dimension (e.g., +/-here and now, +/-reasoning demands, +/-few elements) leads to higher accuracy and complexity of L2 performance, but will lead to a lower fluency. On the other hand, increasing complexity in the resource-dispersing dimension (e.g., +/-planning, +/-prior knowledge, +/-single task) leads to higher fluency, but can negatively impact accuracy and complexity.

Task complexity in this Triadic Componential Framework encompasses two key dimensions, resource-directing and resource-dispersing, which are thought to impact task performance and learning differently. The resource-directing dimensions make conceptual demands whilst the resource-dispersing dimensions make procedural demands on learners. In his task complexity framework (Robinson, 2003, 2005), the resource-directing dimensions include whether the task requires learners to make reference to events in the past or events in the present, whether the task requires learners to make reference to few or many

elements, and whether the task requires learners to use spatial reasoning. The resource-dispersing dimensions include whether or not planning time is given to learners, whether or not prior knowledge is provided in the task, and whether a single task or multiple tasks are carried out concurrently by learners.

The task complexity can be used to predict the task difficulty in advance, whereas the learner factors such as motivation, anxiety, confident. It cannot be used to predict it. Thus, in designing the task, it will be better if the task complexity becomes the main consideration. Furthermore, Robinson (2001a) suggests that raising complexity along the resource-dispersing would negatively impact the complexity, accuracy and fluency aspects of students' performance. On the other hand, Robinson (2003) believes that increasing cognitive demands of a task in resource-directing will enhance accuracy and complexity of L2 production.

Additionally, in the Triadic Componential Framework, features affecting the cognitive complexity of the tasks can essentially be manipulated along two types of variables that affect resource allocation differently during L2 task performance:

1. Resource-dispersing variables: related to performative and procedural demands (e.g. planning time, single/double task, or prior knowledge of task or topic). Increasing these variables makes great demands on learners' intentional and memory resources and, consequently, disperses them.

2. Resource-directing variables: related to cognitive and conceptual demands (e.g. number of elements, few elements, reasoning demands). It draws learners' attention to vocabulary and syntax encoding.

Resource-dispersing variables aim to promote quicker and more automatic access to and use of L2, thereby approximating real-life demands. However, they do not direct resources to language code features. In contrast, resource-directing variables guide learners' focus towards linguistic forms necessary to meet task requirements. Consequently, learners tend to employ a broader lexical range, more complex grammatical structures, and more accurate speech, often at the expense of fluency.

Given this understanding, the research focused on designing tasks that manipulate task complexity solely through the resource-directing dimension and resource-dispersing aspects. This approach addresses cognitive and conceptual demands by directing attention and utilizing working memory to focus on linguistic form, thereby promoting faster and more automatic access and use of the language.

To sum up, the previous statements implied that task complexity affect language production. By combining tasks of varying complexity levels in language teaching, teachers can provide learners with opportunities to enhance their language skills and promote more effective language learning.

### *2.5.2. Manipulating Task Complexity*

As explained earlier, this research manipulated and combined two dimensions of task complexity to compare students' written language production with respect to

two types of task complexity: one combining simple resource-directing and simple resource-dispersing, and another combining complex resource-directing and simple resource-dispersing. This comparison conducted between two groups representing low and high proficiency levels.

Thus in manipulating the task complexity there are six variables of the dimensions, that is, number of elements, here-now/there-then, reasoning demand, planning time, single task and prior knowledge combined and sequenced in simple and complex task. In other words, in manipulating the tasks, the current research expected increase and decrease the task complexity of all variables in the resource-directing and resource-dispersing simultaneously. The two tasks manipulation designed as follows:

**Table 2.3: Manipulation of Task Complexity**

| Task | Resource-directing | Resource-dispersing |
|---|---|---|
| Task 1 | + Few elements<br>+ Here and now<br>+ No reasoning demand | + Planning time<br>+ Single task<br>+ Prior knowledge |
| Task 2 | - Few elements<br>- There and then<br>- No reasoning demand | + Planning Time<br>+ Single Task<br>+ Prior Knowledge |

Note:

- : complex task
+ : simple task

Many Elements : Contain more elements
Few Elements : Contain fewer elements
There & Then : Use past tense
Here & Now : Use present tense
Reasoning Demand : Need to state the reason

| | |
|---|---|
| No Reasoning Demand | : Do not need to state the reason |
| Planning time | : Has planning time |
| No Planning time | : Has no planning time |
| Single task | : Single task |
| Dual task | : Dual task |
| Prior knowledge | : Has background knowledge/schemata |
| No Prior knowledge | : Has no background knowledge/schemata. |

Based on the table, Task 1 designed by combining simple resource directing and simple resource dispersing, which involves a few elements, a here-and-now, no reasoning demands, combined along with planning time, a single task, and prior knowledge. The task asked students to compare and contrast two canteens in their school in terms of menu, price, taste, and cleanliness. No reasoning is required, and students given 15 minutes to plan what they going to write.

Task 2, on the other hand, combining complex resource directing with simple resource dispersing, which involves many elements, there and then, reasoning demands, as well as planning time, a single task, and prior knowledge. In this task, students asked to compare and contrast a series of family photos of Susilo Bambang Yudhoyono (SBY) from the past 10 years, providing reasons for their observations. They have 15–20 minutes to plan their writing.

### 2.6. Limited Attention Capacity Model

The Capacity Model by Skehan (1998) suggests that language learners have limited cognitive resources that must be carefully managed during task performance. He argues that learners have limited attention resources which have adverse effects on fluency, accuracy and complexity when tasks become more demanding, they consume more cognitive resources, leading to a potential trade-

off between accuracy, fluency, and complexity. This can lead to reduced performance if the task demands exceed their cognitive capacity. For low proficiency learners, this means that overly complex tasks can overwhelm their cognitive resources, hindering effective language use. Simple tasks that require less cognitive load are more appropriate for these learners, allowing them to focus on key language aspects without overload.

In contrast, high proficiency learners possess greater cognitive resources and can handle more complex tasks that demand more effort, improving their language skills by engaging with tasks that challenge their cognitive capacity. These ties into the Cognition Hypothesis, which suggests that task complexity enhances learning by pushing learners to engage more deeply with the language. However, both Skehan's model and the Cognition Hypothesis stress that task complexity must match the learner's cognitive capacity too simple a task may not provide enough challenge, while too complex a task may result in cognitive overload.

Supporting this view, Sweller's Cognitive Load Theory (1988) argues that tasks should be designed to manage cognitive load, ensuring that learners are not overwhelmed. Robinson's Cognition Hypothesis (2001) also stresses that task complexity should be tailored to the learner's proficiency level, as too complex a task may hinder learning for lower proficiency learners, while higher proficiency learners can handle greater complexity. Additionally, VanPatten (2004) emphasizes that learners need to process input without exceeding their cognitive limits.

Therefore, task design should carefully consider the learner's proficiency level to optimize learning outcomes by providing an appropriate balance of challenge and cognitive manageability. To sum up, while both theories highlight the importance of cognitive capacity, the Limited Capacity Model sets the boundaries within which the Cognition Hypothesis can be applied, ensuring that task complexity is matched to the learner's proficiency level for optimal learning.

### 2.7. Previous Studies

Numerous studies have examined task complexity for writing**.** They have investigated one dimension, either in resource-directing or resource-dispersing (Cho, 2015; Shajeri & Izadpanah, 2016; Luo, 2022). Meanwhile, few explored the simultaneous manipulation of task complexity along two dimensions. Mustika et al., (2019) explored the effect of task that are manipulated and combined along complex resource directing (i.e. –few elements,-there and then, -reasoning demands) and simple resource dispersing (+planning, +single task, +prior knowledge). The result showed that the task which was designed -reasoning demands affected complexity and fluency. Then, the task in form of -there and then had a positive effect on accuracy in student written performance.

Ishikawa (2006) explored the effects of manipulating task complexity with respect to (here ± and-now & there-and-then) elements. He found that increasing task complexity with respect to the here-and- now dimension increased the accuracy, fluency, and complexity of written language production. Similar to Ishikawa, Hosseini and Rahimpour (2010) explored the effect of (here/now, there/then) elements in resource-directing. They revealed that demanding tasks there/then

covers higher accuracy and syntactic complexity in the complex condition, while no effect was found on fluency.

Additionally, Mohammadabadi et al. (2013) explored two tasks that were manipulated along the resource-directing dimension of the ±here-and-now, and the other two were manipulated along the resource-dispersing dimension of ±planning time. The findings showed no significant differences in the tasks manipulated by the ±here-and-now variable. As for the tasks manipulated by the ±planning time variable, they showed higher accuracy in the planned (simple) task. The results partially supported the Robinson Cognition Hypothesis, suggesting that certain types of tasks can lead to students producing more complex and accurate language.

On the other hand, Salimi et al. (2011) conducted tasks manipulated by the ±few elements and ±reasoning demands factors in resource directing. The results showed significant increases in both complexity and fluency in the complex task with no differences in accuracy. It implies that the results do not fully support the Cognition Hypothesis.

Referring to the previous studies on task complexity, especially in writing, have mainly focused on either resource-directing or resource-dispersing dimensions, mostly in speaking skills. Few studies have explored both dimensions together in writing tasks. This research aimed to create two tasks: one combining simple resource-directing and resource-dispersing, and the other combining complex resource-directing with simple resource-dispersing to examine their impact on

writing skills. This study is significant as it fills a gap in existing research. By comparing low and high proficiency students across these task types, it examines whether the tasks align with or challenge students' proficiency levels. This could contribute to the Cognition Hypothesis theory and further our understanding of task manipulation in writing.

## 2.8. Measures of Complexity, Accuracy, and Fluency (CAF)

Measures of complexity, accuracy, and fluency (CAF) in writing are essential dimensions used to assess the proficiency of English language learners. Mahpul (2014) argues in TBLT research, complexity, accuracy, and fluency are regarded as the manifestation of learners' language performance. Therefore, the written production of this research measured in terms of CAF. They are explained in following below:

### *2.8.1. Complexity*

Complexity refers to the level of sophistication and variation in language use, including sentence structure, lexical choice, and syntactic elaboration. This research used T-units (dependent and independent clause) to measure complexity of writing performance.

### *2.8.2. Accuracy*

Accuracy in second language (L2) writing refers to the degree to which language production is free from errors in grammar, vocabulary, and pronunciation. To measure these aspects of accuracy, Samuda and Bygate (2008) measured the accuracy of writings of EFL learners by counting: the number of error-free

clauses, as a percentage of the total number of clauses (implying that non-clausal elements were not included).

*2.8.3. Fluency*

Fluency in writing refers to the ability to produce written text smoothly, efficiently, and with minimal hesitation**.** It involves speed, coherence, and ease of expression, allowing writers to generate ideas and structure sentences without excessive pauses, revisions, or disruptions. This research, Speech Rate B was chosen as a more precise measure of fluency since it excludes repetitions, reformulations, false starts, and other comments in L1 writing. To measure fluency, the number of syllables is divided by the total number of seconds that were used to complete the task and then multiplied by 60 (Mahpul, 2014).

Briefly, CAF (Complexity, Accuracy, and Fluency) are key measures in measuring writing production. Complexity involves using varied and advanced syntax and lexical choices. Accuracy focuses on error-free clauses, considering grammatical structures and vocabulary. Fluency assesses the ease and flow of writing, often measured through the number of syllables

**2.9. Theoretical Assumptions**

This study is theoretically grounded in Task-Based Language Teaching (TBLT), particularly in Robinson's Cognition Hypothesis. TBLT views language learning as a result of engaging learners in meaningful, goal-oriented tasks that simulate real-life communication. Rather than focusing on isolated forms and grammar drills, TBLT emphasizes the use of language for achieving communicative

outcomes. Within this framework, tasks are seen not merely as exercises, but as central units of learning that activate cognitive, linguistic, and communicative resources.

Robinson's Cognition Hypothesis expands on TBLT by asserting that the cognitive complexity of a task can affect the quality of language output, especially in terms of complexity, accuracy, and fluency (CAF). The hypothesis predicts that increasing task complexity through manipulating factors such as the number of elements, reasoning demands, or familiarity will lead to more complex and accurate language production, particularly among higher-proficiency learners. This is because cognitively demanding tasks are believed to push learners to restructure their interlanguage and allocate greater attention to both form and meaning.

Furthermore, Robinson emphasizes the interaction between task complexity and learner variables, such as proficiency level. Higher-proficiency learners are assumed to have more attentional and cognitive resources to manage complex tasks effectively, resulting in richer, more accurate, and more fluent output. In contrast, lower-proficiency learners may experience cognitive overload when faced with complex tasks, which could negatively affect their language production.

This study does not involve any teaching intervention or treatment. Instead, it examines how students with different levels of English proficiency (low and high) perform on two writing tasks; one simple and one complex. The main assumption

is that students' writing performance, seen through aspects such as complexity, accuracy, and fluency, will be affected by how difficult the task is and how proficient the learners are. Based on Robinson's Cognition Hypothesis, the study assumes that complex tasks may encourage higher-proficiency students to produce more complex and accurate writing, while lower-proficiency students might face challenges due to the higher cognitive demands. Although the study does not aim to show improvement over time, it believes that differences in performance across task types can help us understand how task design and learner ability affect writing outcomes. The results are expected to support, or provide new insights into, the idea that both task complexity and student proficiency play an important role in shaping language performance.

### 2.10. Hypotheses

Based on the theoretical views and assumption above, the hypotheses of this research are formulated as follows:

1. There is a statistically significant difference of written language production generated from two different types of tasks between the low and high level of proficiency.
2. Low level of proficiency produces different written language production generated from two types of tasks.
3. High level of proficiency produces different written language production generated from two types of tasks.

This chapter has elaborated the relevant theories regarding task based language teaching, concept of task, the differences between task and exercise, methodology of task based teaching, the cognition hypothesis, task complexity, students' perception, previous studies of task complexity, limited attention capacity model, measures of complexity, accuracy, and fluency (CAF), theoretical assumption, and hypotheses.

# III. METHODS

This chapter deals with subchapters consisting of design, variables, research population and sample, research instrument, data collecting techniques, data analysis, and hypotheses testing.

## 3.1. Design

This research employed a quantitative method to examine the effects of task complexity on students' written performance, focusing on three dimensions: complexity, accuracy, and fluency (CAF). A repeated-measures design was used, where the same participants completed two writing tasks under different conditions within a single session. The tasks, given to students from two different proficiency levels, were designed based on Robinson's (2001) theory of task complexity, which includes both resource-directing and resource-dispersing elements. The dependent variables in this research were (1) complexity, (2) accuracy, and (3) fluency. The two writing tasks represented variations in task complexity and served as the independent variable as follows:

1. Condition 1: Few elements, here and now, no reasoning demand (simple) - Planning time, single task, prior knowledge (simple).
2. Condition 2: Many elements, there and then, reasoning demands (complex) - Planning time, single task, prior knowledge (simple).

With regard to the design, the researcher aimed to determine whether there were statistically significant differences in students' written production between the two

proficiency levels. Furthermore, the study investigated whether there were significant differences in written language production between the two tasks within each proficiency group (high and low).

## 3.2. Data Source

The sources of the data in this research were elaborated below:

### *3.2.1. Population and Sample*

The population of this study was the tenth-grade students of SMA Negeri 5 Bandar Lampung. There were ten classes in the tenth grade, each consisting of 30-32 students. Three classes, XE.8, XE.9 and XE.10, were selected purposively. The sample was determined based on periodic scoring data and teachers' recommendations to assess students' proficiency levels. Subsequently, the sample divided into two distinct groups: 30 low-proficiency students and 30 high-proficiency students were identified as the sample.

### *3.2.2. Setting of the Research*

This research was conducted in SMA Negeri 5 Bandar Lampung in one meeting involving 30 low-proficiency students and 30 high-proficiency students as subjects.

## 3.3. Research Instrument

The main instrument of this research was a writing task designed to evaluate students' written language production across different task complexities and proficiency levels. It assessed through the completion of two types of tasks, each

made simple and complex by combining all resource-directing and resource-dispersing elements. The task models were described below:

1. Task 1: Few elements, here and now, no reasoning demand (simple) - planning time, single task, prior knowledge (simple).
2. Task 2: Many elements, there and then, reasoning demands (complex) - planning time, single task, prior knowledge (simple).

### 3.4. Validity and Reliability

Validity is the pivotal instruments of the research that determine the accuracy of the data and whether these data could be held responsible or not. In this study, the validity of the tasks was assessed using both content validity and construct validity. The test's overall validity was determined by combining its content and construct validity. Expert Judgment Validation was used in this research to see the content and construct validity of the test. Thus, the explanations and consideration of validity and reliability aspects of the instrument in terms of CAF in following section:

#### *3.4.1. Content Validity*

Content validity is concerned with whether the test is sufficiently representative and comprehensive for the test. In the content validity, the material which is given must be suitable with the curriculum (Setiyadi, 2006). In this research, the test aimed to measure tenth-grade senior high school students' written language production in terms of CAF (complexity, accuracy, and fluency), reflecting what they have learned from the curriculum. To ensure content validity, the writing

tasks selected from topics outlined in Merdeka curriculum that are relevant to the study.

### *3.4.2. Construct Validity*

Construct validity is comprehensive, encompassing all sources of evidence supporting specific interpretations of a score from a measure as well as actions based on such interpretations (Strauss and Smith, 2009). It means construct validity focuses on the suitability of the test used to measure students' abilities or skills. In measuring students' writing production in terms of CAF (complexity, accuracy, and fluency), the researcher design two types of task complexity, manipulated and combined to increase complexity by dispersing and directing resources in simple tasks. The students' written language productions evaluated based on CAF measures. Specifically, complexity (syntactic) manually assessed by analyzing T-Units (dependent and independent clauses). Accuracy assessed manually by calculating the Percentage of Error-Free Clauses. Finally, fluency determined manually by counting the total number of syllables.

### *3.4.3. Reliability*

Reliability refers to whether the test is consistent in its score and gives us an indication of how accurate the test score is (Setiyadi, 2018). A test is called reliable if the score gained by the examiners is constant whenever and whomever the test conducted. A test is not a good parameter unless the test is suitable or constant. In scoring the students' of CAF writing language production, the researcher focuses on accuracy, complexity and fluency to get the reliability of the

test. The reliability of the tasks examined through SPSS statistical to see the significance effect of the tasks in form of numerical. The coefficient of rank correlation examined using the reliability standard in the following manner after the coefficient between raters has been determined according to Setiyadi (2018) as follows:

Reliability range from 0.81 up to 1.00 is very high

Reliability range from 0.61 up to 0.80 is high

Reliability range from 0.41 up to 0.60 is average

Reliability range from 0.21 up to 0.40 is low

Reliability range from 0.00 up to 0.20 is very low

Furthermore, two raters examined the reliability of the students' written language production. The first one was the researcher and the second one was an English teacher. The results of reliability could be seen as followed:

**Table 3.1. Result of Reliability Statistic**

| Proficiency Level | Task Type | Reliability | Decision |
|---|---|---|---|
| High | Task 1 | .978 | Very high |
| High | Task 2 | .996 | Very high |
| Low | Task 1 | .917 | Very high |
| Low | Task 2 | .997 | Very high |

Thus, according to the results above, all tasks demonstrate high reliability. Task 1 showed a reliability score of 0.978 for the high level and 0.917 for the low level. Similarly, Task 2 had a reliability score of 0.996 for the high level and 0.997 for the low-level. These findings indicate that both task types across different proficiency levels display very high reliability.

### 3.5. Normality Test

The main goal of the normality test is to find out whether the data are normally distributed or not. To determine the value, the researcher utilized the Saphiro Wilk to analyze the data as follows:

$H_0$: The distribution of the data is normal.

$H_I$: The distribution of the data is not normal.

The level of significance used is 0.05. H0 is accepted if the result of the normality test is higher than 0.05 (sign > 0.05). Saphiro Wilk test is SPSS was used to measure the complexity, accuracy, and fluency in task 1 and task 2 across different level. The results are as follows:

**Table 3.2. Result of the Normality of Task 1 and Task 2**

| **Tests of Normality Task 1** | | | | |
|---|---|---|---|---|
| | Groups | Shapiro-Wilk | | |
| | | Statistic | df | Sig. |
| Complexity | high | .943 | 30 | .359 |
| | low | .847 | 30 | .334 |
| Accuracy | high | .927 | 30 | .280 |
| | low | .966 | 30 | .360 |
| Fluency | high | .972 | 30 | .402 |
| | low | .900 | 30 | .298 |
| *. This is a lower bound of the true significance. | | | | |
| a. Lilliefors Significance Correction | | | | |

| **Tests of Normality Task 2** | | | | |
|---|---|---|---|---|
| | Groups | Shapiro-Wilk | | |
| | | Statistic | df | Sig. |
| Complexity | high | .843 | 30 | .282 |
| | low | .889 | 30 | .295 |

| | | | | |
|---|---|---|---|---|
| accuracy | high | .958 | 30 | .401 |
| | Low | .947 | 30 | .567 |
| fluency | High | .897 | 30 | .271 |
| | low | .926 | 30 | .240 |
| *. This is a lower bound of the true significance. | | | | |
| a. Lilliefors Significance Correction | | | | |

The data in the tables above illustrate that the results of the normality test for complexity, accuracy, and fluency in Task 1 and Task 2 show a significance value sig.(2- tailed) > 0.05. Therefore, the Ho is accepted, confirming that the data for Task 1 and Task 2 in both low and high proficiency levels are normally distributed.

### 3.6. Research Procedures

The current research outlines the procedures that followed sequentially to obtain the data. These procedures were as follows:

*3.6.1. Selecting and determining the subject*

To determine the research sample, the researcher conducted interviews and a pre-observation with the English teacher to identify which students belonged to the high-proficiency and low-proficiency groups by examining students' English scores and teachers' recommendations. Students who scored below 78 on the Minimum Passing Grade (KKM) were categorized as low proficiency, while those who scored 78 or above were classified as high proficiency. As a result, 30 high-proficiency and 30 low-proficiency students were selected using purposive sampling.

*3.6.2. Designing the Tasks*

There were two type tasks given to the student. The tasks were combined and manipulated with two dimensions of task complexity. (1) few elements, here and now, no reasoning demand + planning time, single task, prior knowledge and (2) many elements, there and then, reasoning demands + planning time, single task, prior knowledge.

a. Task 1 (Few elements, Here and Now, No reasoning demand + Planning time, Single task, Prior knowledge)

   Task 1 involved two pictures of different school canteens. Students were instructed to describe, compare and contrast these canteens based on several aspects, including menu, price, taste, cleanliness, and service. Since the task was based on familiar school settings (here and now) and no reasoning demand, it was expected to be cognitively less demanding. Students were given 15 minutes to complete their descriptions.

b. Task 2 (Many Elements, There and Then, Reasoning Demands + Planning time, Single task, Prior knowledge)

   Task 2 involved analyzing a series of four family portraits of Susilo Bambang Yudhoyono (SBY) taken over the past ten years. Students were asked to describe and compare how the physical appearances, clothing styles, seating arrangements, and other observable elements changed across the images while explaining possible reasons for these changes. Since this task involved many elements, past-time (there and then), and reasoning demands, it was cognitively more complex. Students were given 20 minutes to complete their descriptions.

According to Robinson's Cognition Hypothesis, Task 2 was expected to be more complex due to the higher reasoning demands and greater number of elements involved, whereas Task 1 was simple as it focused on present-time descriptions with fewer cognitive constraints.

*3.6.3. Administering the trial*

To see the strengths and weaknesses of the tasks, the tasks were tried out on a different group of students before being administered to the sample. There were two students of high and low-level proficiency in English. Two students administered the two designed tasks. After that, the researcher identified the strengths and weaknesses for improvement within the tasks.

In the first task, which required the students to compare and contrast two canteens at their school, the first student understood the instructions well and efficiently used the planning time to organize her ideas. She managed to cover the main points, such as menu, taste, price, place, service and cleanliness. The second student, however, was slightly confused by terms like service and struggled to complete all aspects of the comparison in the allotted time.

In the second task, students describe four family photos of Susilo Bambang Yudhoyono (SBY) by comparing and describing different features. The first student understood the instructions well and used her planning time to organize her ideas, but she found it difficult to cover everything such as hairstyles, body shapes, facial features, poses, and clothing within the time limit. She also felt

uncertain about deciding which features were the best or worst because it was a subjective task that required personal judgment.

The second student found the instructions and the number of features to cover overwhelming. He needed more time to complete the task and struggled to understand terms like body shape and facial features, which slowed him down. As a result, he could only focus on a few aspects, like hairstyles and clothing, and couldn’t finish comparing all features and give the reasons within the time allowed.

The trials of both tasks highlighted several strengths and weaknesses in the instructions. A key strength was that the instructions were structured clearly, guiding students to focus on specific elements, which kept them organized and on task. However, several weaknesses became apparent. The large number of aspects required for comparison made it challenging for students to fully address everything within the time limits. For instance, in Task 2, the second student found terms like body shape and facial features unclear, as he did not know the equivalent terms in Indonesian, which affected his ability to respond accurately and complete the task. Additionally, the second student needed more time to finish all aspects due to these language difficulties. Simplifying the instructions by reducing the number of features, using simple terms, or providing translations or examples could improve clarity and allow students to complete the tasks more confidently and effectively.

*3.6.4. Conducting the tasks*

The tasks were administered in a single meeting. The students were divided into two groups based on their proficiency levels: high and low. The researcher then explained the instructions for both tasks, allowing 10 minutes for this. During this time, students had the opportunity to ask questions about the instructions, and they were also permitted to use dictionaries to look up any vocabulary they needed. After the instructions, students were given 15 minutes to complete Task 1. Following Task 1, they were given 15-20 minutes to complete Task 2. Following the completion of the tasks, the researcher collected the students' worksheet.

**3.7. Data Collecting Technique**

The data for this study were collected through two tasks administered to students based on their proficiency levels, categorized into high and low proficiency groups. Each group completed two tasks: Task 1 involved comparing and contrasting two canteens in their high school, while Task 2 focused on comparing and contrasting a series of family photos of Susilo Bambang Yudhoyono (SBY) and his family members. Each task was given 15-20 minutes to complete respectively. After students finished the tasks, their worksheets were collected by the researcher for analysis.

### 3.8. Data Analysis

In this research, data analysis conducted to analyze each measure of complexity, accuracy, and fluency in written form. Process analysis involved several important steps to ensure accurate and reliable results. The following steps explained in detail:

1. *Classifying the CAF scores on student' worksheet*

   Analyze the written language production in terms of complexity, accuracy, and fluency (CAF) of each task.

   *1. Complexity*

   This research used T-units to measure complexity of writing performance. Samuda & Bygate (2008) prescribed the following necessitated criteria as the agenda for counting the complexity of writing production of EFL learners as followed:

$$\frac{\text{Total number of clauses}}{\text{Total T-units}}$$

   *There are two canteens in my school.(C)‖ There are similarities and differences in the menus of the two canteens (C)‖ In canteen one, we have sausage, mineral water, coffee, fried food, siomay and noodles (C) while in canteen two, we have ice cream, thai tea, dimsum, siomay, and noodles.(C)‖Both canteens serve delicious food (C)‖ The price in canteen one is cheaper than canteen two.(C)‖*

   In accordance to the example above, "(C)" refers to clause and "‖" refers to T-unit (terminable unit). T-unit is developed by Hunt in 1965. Hunt (1970) defines it as a short unit that contains one dependent clause and its independent

clause. Thus, it is a piece of discourse that can be separated. Thus, in accordance to the example above the text contains 4 clauses and 3 T-units. Thus, the syntactic complexity of the text could be calculated as followed:

$$\frac{6}{5} = 1.2$$

*2. Accuracy*

Samuda and Bygate (2008) measured the accuracy of writings of EFL learners by counting: the number of error-free clauses, as a percentage of the total number of clauses (implying that non-clausal elements are not included).

$$\frac{\text{Number of error-free T-units}}{\text{Number of T-units}} \times 100$$

The example of the text could be seen as followed:

*The taste of food in ~~the~~ both canteens is ~~well~~.* ‖ *The price in canteen 1 is ~~more cheaper~~ than canteen 2.* ‖ *Both canteens are very comfortable. (EF)* ‖ *In terms of service, canteen 1 has better service compared to canteen 2 which takes a little longer to serve. (EF)* ‖ *Also, canteen 1 is ~~more better clean~~ than canteen two.* ‖

In accordance to the text above, "EF" refers to error-free T-unit and "‖" refers to a T-unit. Thus, there are 2 errors free T-units and 5 T-units. The calculation could be seen as followed:

$$\frac{2}{5} \times 100 = 40$$

3. Fluency

To measure fluency, the number of syllables is divided by the total number of seconds that were used to complete the task and then multiplied by 60 (Mahpul, 2014). Thus, it could be seen below:

$$\frac{\text{Number of syllables}}{\text{Total number of second}} \times 60$$

*The(1) taste(1) of(1) food(1) in(1) canteen(2) one(1) is(1) better(2) than(1) the(1) canteen(2) two(1). The(1) price(1) of(1) the(1) food(1) in(1) canteen(2) two(1) is(1) more(1) affordable(4) than(1) canteen(2) one(1). Canteen(2) one(1) and(1) canteen(2) two(2) both(1)have(1) comfortable(3) places(1). (00.60)*

Based on the text above, there are words. Thus, the calculation of the fluency could be calculated as seen below:

$$\frac{49}{60} \times 60 = 49.00$$

2. Calculating and analyzing the scores of each task by using Repeated Measures ANOVA in SPSS
3. Comparing the task as measured by complexity, accuracy, and fluency.

### 3.9. Hypotheses Testing

Based on the research questions, hypotheses are proposed in this study. The hypotheses of the research are drawn as follows:

$H_o$: There is no statistically significant difference in written language production generated from two different types of tasks between low and high levels of proficiency.

$H_1$: There is a statistically significant difference in written language production generated from two different types of tasks between low and high levels of proficiency.

Those are the explanations of this chapter which are concerned with research design, population and sample, research instruments, validity and reliability, data collecting technique, data analysis, and hypotheses testing.

# V. CONCLUSION

This section summarizes the findings of the research questions and offers recommendations. Suggestions are provided for English teachers aiming to design writing tasks based on task complexity to support students' learning, as well as for researchers interested in conducting similar studies.

## 5.1. Conclusion

This research set out to explore how different levels of task complexity affect the written language production of low- and high-proficiency EFL students, focusing on the three dimensions of Complexity, Accuracy, and Fluency (CAF). The findings confirm that task complexity interacts differently with learners' proficiency levels and has varied impacts on their writing performance.

First, significant differences in CAF outcomes were observed between low and high proficiency students across both task types, particularly in accuracy and fluency for the simple task, and across all CAF aspects in the more complex task. Second, low-proficiency students performed better in the simple task, producing more accurate and syntactically complex writing, which challenges the Cognition Hypothesis but supports the Limited Attentional Capacity Model. Third, high proficiency students responded more positively to the complex task, generating more complex and fluent writing, although with reduced grammatical accuracy aligning with the predictions of the Cognition Hypothesis.

These results suggest that task complexity should be carefully matched with students' proficiency levels. For lower-level learners, simple tasks may provide more room to focus on form and accuracy, while more complex tasks may better stimulate advanced learners' language development in terms of fluency and syntactic complexity. Hence, this research highlights the importance of task design in Task-Based Language Teaching (TBLT) and offers empirical support for tailoring task demands to learner capacity to maximize language learning outcomes.

### 5.2. Suggestions

Despite its valuable findings, this study did not include teacher feedback or peer feedback after the task process, which limits insight into how learners approached and responded to the tasks. Another important limitation is the short planning time given during pre-task, which may not have been enough especially for low proficiency learners to organize their ideas and prepare their writing. For future research, it is suggested to include teacher and peer feedback to explore their cognitive strategies during task performance. It is also recommended to examine the effect of extended planning time across different proficiency levels to better accommodate learners' needs. Consequently, task complexity, coupled with adequate planning support, offers a promising instructional strategy to improve students' writing performance regarding CAF, while accommodating the varied needs of learners in EFL classrooms.

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