THE EFFECT OF TASK COMPLEXITY AND TASK CONDITION IN WRITTEN LANGUAGE PRODUCTION BY INDONESIAN EFL LEARNERS

A Thesis

By

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ABSTRACT

THE EFFECT OF TASK COMPLEXITY AND TASK CONDITION IN WRITTEN LANGUAGE PRODUCTION BY INDONESIAN EFL LEARNERS

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 This study explores how task complexity and task condition specifically gender-based topic preferences affect the written language production of Indonesian EFL learners, within the framework of Robinson's (2001) Cognition Hypothesis. The objectives of the study were: (1) to identify the topics most and least preferred by male and female students, (2) to examine whether variations in task complexity and topic preference lead to significant differences in learners' written performance, and (3) to determine whether male and female students differ significantly in their writing performance across different task conditions.

An exploratory mixed-method design was employed, involving 60 Indonesian junior high school students. Writing tasks were developed based on resource-directing and resource-dispersing variables and were aligned with students' topic preferences identified through a gender-based survey. Students' written products were analyzed in terms of complexity, accuracy, and fluency using non-parametric statistical tests, as the normality assumption was not met. Specifically, Spearman's rho was used to examine task reliability, the Wilcoxon Signed-Rank Test was applied to compare task complexity conditions, and the Mann-Whitney U Test was used to examine gender-based differences.

The results showed that students performed better when writing on gender-preferred topics, with significant interactions between task complexity and gender-based conditions. Complex tasks encouraged greater syntactic complexity, whereas gender-preferred topics enhanced content richness and fluency. These findings highlight the importance of integrating cognitive challenge with personal relevance in task design. The study concludes that incorporating gender-sensitive and interest-based topics in Task-Based Language Teaching (TBLT) can promote better writing performance and higher learner engagement in EFL classrooms.

Keywords: *CAF measures, cognition hypothesis, students' perception, written Language performance*

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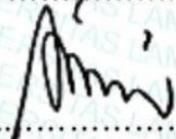   Chairperson   : **Mahpul, M.A., Ph.D.**

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Yang membuat pernyataan,

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CURRICULUM VITAE

Kamilah is a civil servant as an English teacher born on August 10, 1977, in Jakarta. She is the sixth and also the youngest child in her family.

 She earned her Bachelor's degree in English Language and Literature Education from University Lampung in 2002 and is currently pursuing a Master's in Teaching English as a Foreign Language (TEFL). With over three decades of teaching experience, she has served as an English instructor at LBPP LIA Bandar Lampung (1999–2020) and as a civil servant teacher at a junior high school in Bakauheni, South Lampung since 2002 until 2005, then she moved to SMPN 4 Natar, South Lampung in 2005 until now.

Known for her commitment, she also leads the school's computer lab and actively contributes to literacy events, teacher training, and professional development programs. As a Guru Penggerak, Pengajar Praktik, and Praktisi Mengajar, she continues to inspire peers and learners alike. Her current research explores gender topic preferences and task complexity in EFL writing, reflecting her passion for education, character building, and lifelong learning. Bravely handling the chaos and charm of teenage learners daily as the head of Computer Laboratory at her school because being an English teacher sometimes includes tech support duties

DEDICATION

In The Name of ALLAH The Most Merciful, The Most Graceful. The writer dedicates this work to :

1. My Beloved Sons, Rahardian Santigi Laut and Enrico Rumi Abdus Salam, for always being my strenght and motivation to live.
2. My lovely sister Rufaidah and her sons Hakim, Hikam, Hakam, thanks for always supporting, guiding, teaching, and praying for me.
3. My Almamater University of Lampung
4. My friends in the Master of English Education Program batch 2024.
5. English Teacher

MOTTO

"A journey of a thousand miles begins with a single step,"

(Lao Tzu's Tao Te Ching, 6th century BC)

"Live today like there's no tomorrow"

(Jerry Spinelli)

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Bandar Lampung, 26 January 2026

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I. INTRODUCTION

This first chapter the researcher presents the topic of the study. There are six sections in this chapter. Firstly, it describes the backgrounds and the burning issue underlying the current study. Secondly, the researcher formulated the research questions by finding out the gap for the burning issue. In the third section, the research objective is decided to find the solution to the research gap. The fourth section is devoted to outlining the scope of the study, followed by an explanation of its significance. Finally, the chapter is concluded with clarifications of the key terms used throughout the research.

1.1 Background of Study

In the globalized landscape of the 21st century, English language proficiency, serves as a critical gateway to academic and professional advancement. For Indonesian EFL learners, however, achieving a high level of language proficiency remains a significant challenge, often characterized by struggles with grammatical accuracy, lexical complexity, and coherent discourse structure. This issue is frequently attributed to traditional, form-focused pedagogical methods that prioritize decontextualized grammar drills over authentic language use, leading to a gap between students' passive knowledge and their ability to effectively employ the language proficiency. The learners struggle with language proficiency due to

their limited mastery of the insufficient language proficiency. These problems are compounded by traditional classroom practices that emphasize rote learning and decontextualized grammar drills, rather than communicative, practical language tasks that prioritize meaning over form and simulate actual communicative events.

In response to this persistent problem, Task-Based Language Teaching (TBLT) emerges as a promising pedagogical framework to bridge this divide. By engaging learners in meaningful, goal-oriented tasks that reflect real-world communication, TBLT shifts the focus from mere knowledge of the language to its functional application.

To address these issues, Task-Based Language Teaching (TBLT) has emerged as an effective pedagogical approach. TBLT focuses on using meaning-oriented tasks as the core unit of planning and instruction (Ellis, 2003.) Unlike form-focused instruction, TBLT provides opportunities for learners to engage in purposeful language use, allowing them to develop communicative competence through experiential learning. Researchers have shown that TBLT is particularly beneficial in developing writing skills, as it encourages learners to generate meaningful content, solve problems, and negotiate meaning within a structured framework (Skehan, 2003; Nunan, 2004; Samuda & Bygate,2008).

Furthermore, numerous previous studies have been conducted on the implementation of Task-Based Language Teaching (TBLT), particularly in the context of writing instruction, across various countries. For instance, (Lambert &

Robinson, 2014) in New Zealand, (Nhem, 2020) in Cambodia, and Chen (2025) in China have explored how TBLT enhances students' writing performance in different educational settings. Thus, according to Richards & Rodgers (2001) TBLT emphasizes the use of real-world tasks that require learner participation in meaningful communication, which helps develop their language proficiency through interaction and collaboration. Similarly, Willis (1996) outlines a task cycle consisting of pre-task, task, and post-task stages, where learners engage in activities such as brainstorming, drafting, peer reviewing, and revising their texts. These processes support the development of writing skills by focusing on idea generation, organization, grammar accuracy, and vocabulary use. In writing-focused TBLT instruction, students may work on tasks such as composing emails, writing reports, creating narratives, or summarizing articles-tasks that not only enhance fluency but also promote grammatical and lexical competence.

It has been consistently noted that increases in learners' vocabulary acquisition and the resulting improvement in their writing proficiency are frequently achieved when Task-Based Language Teaching (TBLT) is implemented. This relationship was further supported in a quasi-experimental investigation conducted by Pratiwi et al. (2023), in which two groups of junior high school students were examined. In the study, TBLT was applied to the experimental group, while the control group was instructed through conventional pedagogical procedures. A statistically significant rise in the experimental group's vocabulary mastery was revealed through the comparison of pre-test and post-test scores, indicating that the observed gains were directly attributable to the instructional treatment administered. Students exposed

to TBLT were able to use more varied and contextually appropriate vocabulary in their writing tasks. Although this method requires active teacher facilitation, it received positive feedback from learners, particularly in terms of motivation and engagement. TBLT encouraged students to interact with meaningful language input and produce output through tasks, which naturally led to vocabulary retention and more confident writing performance. In TBLT, teachers need a series of instructions as a Task. Within the TBLT framework, the preparation and provision of tasks are carried out by teachers, through whom increased learner activity is facilitated. Students' attention is guided in ways that lead to the development of a clear work plan, and a supportive learning atmosphere is intentionally created among learners.

When designing tasks, teachers should take into account three key elements: learner-related factors, cognitive factors, and interactional factors. These elements are part of Robinson's (2015) Cognition Hypothesis, which emphasizes that successful language learning is influenced by what he terms The Triadic Componential Framework. According to this framework, Robinson (2015) identifies three components: (1) task complexity, which relates to cognitive demands; (2) task difficulty, which concerns learner-related factors; and (3) task conditions, which involve interactional aspects. Additionally, distinguishes between two dimensions of task complexity: resource-directing and resource-dispersing. The resource-directing dimension focuses on drawing learners' attention to specific linguistic features necessary for task completion, while the resource-dispersing dimension refers to the psychological demands of the task, such

as memory load and time pressure. Robinson, (2001) argues that task design should primarily be based on task complexity, as learner-related and interactional factors are often difficult to control or predict.

Some researchers like Arjmand et al., (2016), Benzehaf (2016), Cho (2015), Dahlan (2019), Ishikawa (2006), Kim (2022), Luo (2022) have analyzed and recognized task complexity as a key element that affects the writing performance of EFL learners. The results showed that when the complexity of writing tasks rises, EFL learners are more likely to encounter difficulties in producing texts that are accurate and complex. So, when EFL learners are asked to do more cognitively demanding or complex tasks, it becomes harder for them to balance both being correct (accurate) and using complex language at the same time. They may make more grammar mistakes or simplify their writing just to complete the task. As task complexity is considered an important aspect within cognitive psychology, its influence on various cognitive processes and performance outcomes has been widely acknowledged.

According to Robinson's Cognition Hypothesis, increasing the cognitive complexity of tasks can promote more accurate and complex language output. This hypothesis posits that when learners are challenged cognitively through well-designed tasks, their attentional resources are stretched, leading to greater syntactic complexity and lexical variety in their writing. Robinson distinguishes between resource-directing and resource-dispersing variables. For instance, increasing task complexity by manipulating reasoning demands or the number of elements to be

considered (resource-directing variables) can push learners to produce more complex written output. Therefore, task design under the Cognitive Hypothesis should consider how complexity can be systematically increased to match learners' developmental readiness and promote interlanguage development.

Furthermore, Robinson (2001) points out that task which is made complex along with the resource- directing dimension and simple for the resource-dispersing dimension would be the most ideal task to facilitate students to improve their language production. In other words, according to the cognition hypothesis, the most ideal task to promote learning is when it is made complex along with the resource-directing and simple for the resource dispersing dimensions.

Numerous studies have been conducted on investigating one dimension either in resource-directing or resource-dispersing (e.g., Cho, 2015; Shajeri & Izadpanah, 2016; Luo, 2022). Meanwhile, few explored the simultaneous manipulation of task complexity along two dimensions (e.g., Talebi, 2016; Masrom et al., 2015; Santos, 2018). With reference to the previous studies, no studies have ever been conducted to specifically explore the differences of task types simultaneously manipulated along the two dimensions according to every single aspect of the resource-directing and simple along resource-dispersing, except the study conducted by Wulandari (2023) which investigated within the speaking skill. Thus, it is worth to be followed up particularly from different view which is the written language production to

confirm whether or not the results of this study support those of the spoken data.

Most studies that have developed task complexity, by making each aspect of the resource-directing dimension complex and the resource-dispersing dimension simple, have primarily focused on listening and spoken language production, rather than writing. For example, the study conducted by Wulandari, (2023) applied this task model, but it was specifically aimed at exploring students' spoken language production.

The previous studies in relation to students' perception in task difficulty conducted by Robinson (2001), Mahdavirad (2017), and Liang (2022) focused on a certain dimension of task complexity. To the best of the researcher's knowledge, there is only one study that has conducted research in task complexity within 2 dimensions, namely as resource-directing and resource-dispersing, combined with learner's perception in relation to task difficulty (affective factors) in oral production. It is conducted by Mahpul (2018). Furthermore, Maharani (2024) has conducted a research studies related to students' perception with respect to task difficulty.

In accordance to cognition hypothesis, a task made complex along the resource-directing could lead to learners' better performance in their linguistic aspects or competence. Meanwhile a complex task made along the resource-dispersing could emerge a worse result in learners' performance. Thus, in other words,

a task made along complex in resource-directing and simple in resource-dispersing could generate good result of language performance. Furthermore, task complexity in writing skill has proved to be thought-provoking and beneficial for students. Moreover, very few studies of task complexity investigated the relationship between the degree of different types of task complexity and task condition focus on the students' gender.

An often-overlooked aspect of task design is task condition, including variables such as the gender of learners and their topic preferences. Gender as a task condition plays a significant role in language learning, particularly in writing, where affective factors such as interest, topic engagement, and personal experience influence language production (Tavakoli & Foster, 2011; Holmes, 1995). Studies in educational psychology have confirmed that learners write more fluently and creatively when the topics resonate with their identity, background, and personal relevance (Hidi and Boscolo, 2007).

In the relation to Task Condition, the current research will focus on Gender. There some previous researchers have shown some interesting facts about the differences between genders. Those facts make gender as an interesting topic to be explored. Gray (1992) explores the differences between how men and women communicate, think and behave, using the metaphor of men being from Mars and women from Venus to suggest that they are fundamentally different in many ways. If men are from Mars and women from Venus, so their language is bound to be different, as well. Gray says in his book that "Women are over- reacting while man

is not listening". Men mistakenly offer solutions and invalidate feelings while women offer unsolicited advice and direction. Women like to communicate while men are not listening . Tannen (1990) came up with the term 'genderlect' to contain all such discussion. This controversial hypothesis suggests that social stereotypes are reinforced because of these proposed linguistic differences between men and women. The genderlect hypothesis believes that there are differences in men and women language usage marking it stereotypically masculine or feminine, and has been a focus of much research. Giddens (1989) believes that the word sex suggests biological differences between men and women while gender is a more social concept which refers to psychological and social distinctions.

Research on individual differences (IDs), particularly gender, in relation to task conditions and task complexity in second language acquisition (SLA) has been given substantial scholarly attention over recent decades (e.g., Ellis, 1994; Fairooz, 2023; Mohammad and Alwi, 2023; Atai and Zaré, 2017). Gender has been regarded by Brantmeier (2007) as one of the most significant individual and social variables influencing language learning. Nevertheless, the literature has not yet produced conclusive findings regarding whether male or female learners hold consistent advantages, indicating that further empirical inquiry into gender-related patterns in language learning remains necessary.

Differences in boys' and girls' writing performance and writing preferences have also been identified as a persistent concern, as studies have reported a consistent proficiency gap between the two groups (Alkhrisheh et al., 2019). This disparity is

not only relevant to issues of educational equity but also poses pedagogical implications for language instruction. As noted by (Lillis et al., 2018), teachers must be aware of the factors contributing to such gaps so that appropriate instructional strategies, particularly in the context of task design for TEFL, can be developed. While several researchers have examined the influence of task complexity on writing complexity, accuracy, and fluency (CAF), there remains a need for studies that explore how task complexity interacts specifically with gender differences to shape EFL learners' writing performance. As emphasized by Arjmand et al.,(2016), further research is essential to understand how gender and task design jointly influence EFL writing outcomes. By investigating these gender-related patterns, future studies including the present one, are expected to contribute to a clearer understanding of the persistent gender-based disparities observed in writing performance (Alkhrisheh et al., 2019).

A recent investigation by Alwi and Mohammad (2023) examined the effects of task complexity and task conditions on the written language production of learners from different gender groups. Their findings indicated that the influence of task complexity on EFL learners' writing varied across genders, with both shared and distinct effects observed in the CAF measures for different writing tasks.

However, their study primarily focused on statistical comparisons of task complexity variables across gender groups without incorporating learners' topic preferences into the analysis. Given these considerations, it is crucial to design tasks that are both cognitively demanding and affectively engaging. Good task

design in TBLT should balance cognitive load (as per Robinson's framework) with learner-centered content that reflects individual differences, including gender. For example, a task requiring argumentation on a familiar and interest-based topic may be both challenging and motivating, resulting in richer language output. As Robinson & Gilabert (2007) emphasizes, individual differences such as working memory, motivation, and topic familiarity mediate the effect of task complexity, and educators must be sensitive to these variables when designing tasks.

Moreover, integrating gender-responsive pedagogy within TBLT allows for more inclusive practices that cater to diverse learners. Designing writing tasks with gender-relevant topics not only fosters inclusivity but also supports equity in classroom participation and performance (UNESCO, 2015). In the Indonesian context, where traditional gender roles may still influence classroom dynamic, such considerations are particularly important to ensure all learners have equal opportunities to express themselves and develop their writing skills.

Based on all of the previous researchers, we can conclude that the selection of writing as the focus of this study stems from its significance and the persistent difficulties faced by Indonesian EFL learners. TBLT, grounded in Robinson's Cognitive Hypothesis, provides a promising framework to enhance written language production by incorporating both task complexity and gender-sensitive task conditions. Through well-structured tasks that consider cognitive and affective dimensions, EFL learners can be better supported in developing their writing proficiency, ultimately leading to more effective and equitable language education.

Furthermore, this current research will focus on two dimensions of task complexity, namely as resource-directing and resource-dispersing, combined with learners' writing preference in relation to task condition within written language production focus on gender especially different gender preferences. Hence, the writer sees the importance to do so. The purpose of this study is going to investigate the role of gender especially the effect of topic preferences in EFL learners' output complexity as they were performing the written tasks.

1.2   Research Questions.

This current study arises several research questions that the researcher investigated and sought the answers during the process of the study. These research questions are as followed:

1. What topics of the tasks were the female and male students most and least interested in?

2. Was there a statistically significant difference of written language productions generated from the task complexity with the gender's the most and the least topic preference?

3. Was there a statistically significant difference of genders' written language productions generated from task complexity with different topic preferences?

1.3 Research Objectives

1. To explore the topics of tasks that female and male students are most and least interested in.

2. To investigate whether or not complex tasks with different topics of interest generate statistically significant differences of written language productions.

3. To find out whether or not there is a statistically significant difference of language productions generated from the complex tasks with different topics of interest between female and male students.

1.4 Uses of the Research

The current research is practically and theoretically beneficial in the context of designing task related to Cognitive Hypothesis of Robinson. The researcher expects that this study provided the following benefits

1.4.1 Theoretical Use

This research aims to expand the study of task-based language teaching method (TBLT) combined with 2 dimensions of task complexity and also learner's topic preference related to gender as participation variable in task condition.

1.4.2 Practical Use

This research aims to introduce exciting learning for teachers and students to further facilitate their L2 written production, and to inform the teacher about the relationship between the students' written language production and their preference of the types of tasks. The research also aims to give information to teachers about the effects of gender in Second Language Acquisition especially in written language production.

1.5 Scope of Study

This study centers on investigating the written language production of every single aspect in task complexity made complex along the resource-directing and simple along the resource-dispersing and the relationship between students' gender topic preference (The participation variable of task Condition) and their written language production.

1.6 Definition of Terms

Task-based Language Teaching is a teaching method to enhance a language skill by doing a task that is closely related to daily activity. (Prabhu, 1987). According to Richards and Rodgers (2001), TBLT is "an approach based on the use of tasks as the core unit of planning and instruction in language teaching." This approach encourages learners to focus on the meaning and purpose of writing tasks, rather than solely on grammatical accuracy. By doing so, learners develop their writing skills in a context that mirrors real-life communication.

Task: task is a classroom exploration in which students utilize, comprehend its meaning, manipulate, and produce the target language while their attention is principally focused on meaning rather than form (Nunan, 1989).

Task Complexity: It is cognitive factors, a result of the attention, memory, reasoning, and processed information demands within the structure of a task on the language learner. Task complexity refers to the cognitive demands

placed on a learner by the features of a task. In the context of written language production, task complexity influences how learners allocate their attentional and linguistic resources during writing (Robinson, 2001).

Task Condition: Task condition refers to the external factors influencing how a language task is performed. These conditions are categorized into two main types: participation variables and participant variables. It is interaction factors, the type and quality of interaction during task performance, which in turn affects opportunities for language development. In written tasks, the gender composition of participants can impact the writing process and outcomes. For example, same-gender groups might exhibit more cohesive collaboration, leading to more coherent texts, while mixed-gender groups might bring diverse perspectives, enrich the content but potentially introduce challenges in consensus-building (Robinson, 2001).

T-Unit: a short unit that contains one independent clause and its independent clause. It is a way to measure the syntactic complexity of written language, particularly in language development and composition studies (Hunt, 1970).

Complexity: It is the lexical diversity and grammatical structures within the task. Complexity is often operationalized through measures such as the use of subordinate clauses, variety of sentence structures, and diversity of vocabulary. These indicators provide insights into the learner's language production

development and their capacity to produce more sophisticated written texts (Bui &
Skehan, 2018).

Accuracy: Accuracy is often measured by the frequency of errors in written texts,
such as the proportion of error-free clauses or the number of error words. These
metrics provide insights into a learner's ability to produce grammatically correct
and target-like language. The ability to determine error sentences or to be able
to recognize correct use of tenses, and articles (Bui & Skehan, 2018).

Fluency: Fluency refers to the learners' ability in using the target
language. In writing tasks, fluency is typically operationalized as writing speed
(words per minute), text length (total words or characters), flow and coherence of
ideas and correction (Bui and Skehan, 2018).

Gender: Gender is participant variables in Task Condition of Triadic Componential
Framework which is considered to affect interaction patterns during task
performance, thereby shaping the linguistic outcomes. In written language
production, gender may influence how learners collaborate on tasks, how they
structure their discourse, the preference of topic, the perception of the process and
the degree of assertiveness or elaboration in their writing, especially during
collaborative or paired writing tasks (Robinson, 2007).

Writing Skill means producing a written message as a purpose to communicate with
other people. Writing is a process that helps the students not only produce and

develop their ideas but also think logically. Writing is the process of thinking to invent ideas, thinking about how to express them into good writing, and arranging the ideas into statements and paragraphs clearly (Harmer, 2004).

Resource-directing dimensions: Resource-directing dimensions of task complexity are those that increase cognitive demands in a way that requires learners to attend to specific linguistic forms or conceptual distinctions, thereby promoting interlanguage development. These dimensions direct attention to meaning and form simultaneously, encouraging the use of more complex grammar and vocabulary. The examples of the dimensions are Tasks requiring reasoning (e.g., cause-effect, decision-making), tasks involving many elements and tasks referencing the there-and-then (past or imagined contexts) (Robinson, 2001).

Resource-dispersing dimensions: Resource-dispersing dimensions are those that increase task difficulty by making it harder to perform, but do not contribute directly to language development. These aspects consume cognitive resources (e.g., planning, memory) and may reduce performance fluency or accuracy but don't inherently promote more complex language. The examples of the dimensions are time pressure (e.g., no planning time), dual tasks (doing two things at once) and unfamiliar tasks or topics (Robinson, 2001). These definitions serve the function to define the terms in a brief but concise way to fully assist the readers of the terms used in the research.

II. LITERATURE REVIEW

This chapter outlines the conceptual foundation, theoretical perspectives, and earlier research relevant to the variables examined in this study. These include Task-Based Language Teaching (TBLT), the concept of tasks, the Cognition Hypothesis, gender-related factors, and the CAF (Complexity, Accuracy, and Fluency) framework in writing. The discussion begins with an overview of writing and its conceptualizations, followed by an exploration of TBLT and its pedagogical implications for learners' writing performance. The chapter concludes with theories related to cognitive task design and how CAF measures are applied to enhance EFL learners' writing proficiency.

2.1 Task Based Language Teaching

Prabhu, an Indian scholar and educator, pioneered the development of Task-Based Language Teaching (TBLT) in the 1980s. He argued that meaningful tasks could cognitively stimulate learners and thereby facilitate second-language acquisition (SLA) (Ji & Li, 2021). His framework highlights the value of engaging students in purposeful, collaborative, and cognitively demanding activities that promote genuine language use.

Often referred to interchangeably as task-based language learning (TBLL) and task-based language instruction (TBLI), TBLT emerged from the broader communicative approach promoted by Brumfit and Johnson (1979) and later expanded by scholars such as Long and Crookes (1992), Prabhu (1987), Nunan (1989, 2004), Ellis (2003, 2009), Van den Branden et al. (2009), and Shehadeh & Coombe (2010).

Ellis (2003) views TBLT as an instructional approach in which tasks function as the core unit of classroom activity, providing opportunities for authentic language acquisition. These tasks typically relate to real-life situations familiar to learners such as ordering food, asking for directions, writing a formal letter, or making a phone call, thereby bridging classroom instruction with everyday communication.

Effective teaching requires creativity. Routine or monotonous teaching practices may lead to student disengagement. Thus, teachers are not only responsible for presenting content but also for designing meaningful and engaging tasks that maintain students' interest. TBLT allows teachers to be inventive and enables students to develop critical thinking as they actively participate in task completion. While teachers maintain a role as facilitators, TBLT positions learners as active contributors.

According to Breen and Candlin (1980), learners play a central role in TBLT because they exercise autonomy in selecting linguistic resources and exploring

options to complete tasks. This autonomy encourages responsibility and independence, ultimately strengthening critical thinking skills. TBLT therefore prioritizes learner participation and communicative fluency, while still acknowledging the importance of accuracy. It is a learner-cantered approach that nevertheless allows teachers to provide guidance, creating a naturalistic learning environment (Ellis, 2009).

On top of that, according to Sholeh (2022), teachers have three roles in TBLT. The first one is the one who determines the task for the classroom. In this role, the teacher examines the students' capability and needs. The second one is that the teacher prepares the students by introducing the foundation of the material, explaining the basic material of the task; explore all the wordings that could be used. The third one is the review. In this last role, the teachers supervise the ongoing progress of the students and give them feedback on what they should revise and hold on to.

2.2 Definition of Tasks

The term *task* has increasingly been adopted in place of the earlier expression *communicative activities*, which had been regarded as the central unit of the communicative approach (Skehan, 2003). This shift has been motivated by the view that tasks constitute "a holistic activity capable of playing a major role in second language learning, teaching, and assessment" (Samuda & Bygate, 2008). Accordingly, various definitions of tasks have been proposed and will be elaborated upon in the following discussion.

In this context, Nunan (2004) employs the term *task* rather than *activity*, and a task is characterized by him as a classroom-based assignment that requires learners to comprehend, manipulate, produce, or interact using the target language while maintaining a primary focus on meaning rather than on linguistic form. According to his perspective, task-based work highlights communicative language use by directing learners' attention toward meaning instead of structural features. Willis' distinctions, cited by Nunan (2004), further contrast tasks with grammar exercises. Unlike drills that prescribe specific linguistic forms, tasks allow learners flexibility in choosing the language needed to meet task objectives. Thus, tasks serve as a methodological framework supporting meaningful language use.

A task, therefore, is a series of instructions of structured classroom activity designed to promote language acquisition in a meaningful context. For a task to be effective, it must meet solid academic standards before being assigned. It should be clearly defined, appropriately challenging, and realistically achievable based on students' current abilities. A well-designed task should also incorporate varying levels of difficulty to help students track their progress and deepen their understanding. Moreover, it must consider both the learners' diverse needs and the intrinsic nature of the task itself.

Furthermore, Nunan (2004) differentiates between two major types of tasks: real-world or target tasks, which correspond to language use outside instructional settings, and pedagogical tasks, which are carried out within the classroom environment. Meanwhile, Richards & Rodgers (2001) describe a task is a classroom activity which uses a language. Ellis (2003) also creates distinctions

between traditional pedagogy and task-based pedagogy. These distinctions could

be seen as followed:

Table 2.1 The distinctions between traditional and task-based pedagogy

Traditional form-focused pedagogy	Task-based pedagogy
Rigid discourse structure consisting of IRF (initiate respond-feedback) exchanges.	Loose discourse structure consisting Of adjacency pairs
Teacher controls topic development	Students able to control topic development
Turn-taking is regulated by the teacher	Turn-taking is regulated by the same rules that govern everyday conversation (i.e., speakers can self-select).
Display questions (i.e., questions that the questioner already knows the answer)	Use of referential questions. (i.e., questions that the questioner does not know the answer to)
Students are placed in a responding role and consequently perform a limited range of language functions.	Students function in both initiating and responding roles and thus perform a wide range of language functions (e.g. asking and giving information, agreeing and disagreeing, instructing).
Little need or opportunity to negotiate meaning.	Opportunities to negotiate meaning when communication problems arise
Scaffolding directed primarily at enabling students to produce correct sentences.	Scaffolding directed primarily at enabling students to say what they want to say.
Form-focused feedback (i.e., the teacher responds implicitly or explicitly to the correctness of students' utterances)	Content-focused feedback (i.e., the teacher responds to the message content of the students' utterances).
Echoing (i.e., the teacher repeats what a student has said for the benefit of the whole class)	Repetition (i.e., a student elects to repeat something another student or the teacher has said as private speech or to establish inter subjectivity).

2.3 The Difference between Task and Exercise

Nowadays, a great number of people use the term task and exercise interchangeably, even teachers use the terms as if they have the same meaning. However, task and exercise are two different terms. Nunan (1989) explains that the major difference between a task and an exercise is the outcome. A task is nonlinguistic matter; but, an exercise is a linguistic matter. Moreover, a task is usually closely related to daily activities that are realistic.

Furthermore, Ellis (2003) outlines several key features of a task: (1) it is meaning-focused, (2) it involves real-world language use, (3) it can be applied to any of the four English language skills, (4) it engages cognitive processes, (5) it results in a communicative outcome, and (6) it serves as a work plan for learners.

Ellis (2003) also emphasizes that tasks and exercises are fundamentally different and should not be used interchangeably. These differences are outlined as follows:

Table 2.2 The Difference 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 focusses 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

In accordance to the definitions of the terms above, it could be concluded that a task is more closely related with daily activity and it focuses on the meaning of the language. However, exercise puts a definite focus on the structure or the linguistics aspects of the language.

2.4 Types of Tasks

Prabhu (1987) characterizes a task as an activity through which learners are required to reach an outcome by processing and using information. Within his framework, three major task types are distinguished.

An information-gap task is conceived as an activity in which information must be transferred from one individual, source, or format to another. Such tasks typically involve encoding or decoding information. Common examples include the verbal description of incomplete illustrations or the completion of tables based on written input.

A reasoning-gap task is defined as an activity in which learners are expected to generate new information by drawing inferences, making deductions, applying practical reasoning, or recognizing patterns and relationships. Cases in point include constructing a teacher's schedule from several class timetables or selecting the most efficient or economical option within a set of constraints. Although these tasks require comprehension and information exchange, the information ultimately

conveyed differs from the original input because a reasoning process mediates between the two.

An opinion-gap task involves the expression of personal viewpoints, attitudes, or preferences, such as completing narratives or engaging in discussions on social issues. These tasks do not yield outcomes that are objectively right or wrong, as responses vary according to individual perspectives. Factual information or argumentation may be used to justify learners' positions, yet uniform outcomes across individuals or occasions are neither expected nor required. In the present study, the writing activity is situated within the opinion-gap category, as learners are instructed to recount personal experiences. Consequently, emphasis is placed on meaning-making and subjective interpretation.

Ellis (2003) further delineates a set of essential characteristics that define pedagogically effective tasks, including the existence of a work plan, an emphasis on meaning, relevance to real-world communication, the integration of multiple language skills, cognitive engagement, and the requirement for a communicative outcome. These principles must be taken into account to ensure that tasks support clear objectives, appropriate levels of complexity, and meaningful learner involvement.

A task, according to Ellis, is fundamentally a *work plan* that provides the basis for learner activity. This plan may take the form of prepared instructional materials or may emerge spontaneously during instruction. The actual performance that unfolds

may not necessarily match the initial plan, demonstrating the dynamic nature of task implementation.

A task is also understood as requiring a primary focus on meaning, encouraging learners to employ language communicatively rather than merely display linguistic forms. To promote such meaning-focused use, tasks typically incorporate a gap—whether informational, reasoning-based, or attitudinal—that learners must bridge through language. While the work plan outlines the activity, it does not prescribe specific linguistic forms; instead, learners select linguistic and non-linguistic resources needed to achieve the intended communicative outcome. In doing so, tasks generate a semantic and cognitive space that prompts the activation of relevant mental processes and linguistic choices.

Tasks additionally simulate real-world language use, requiring learners to engage in language practices analogous to those beyond the classroom—such as completing forms—or in controlled simulations like identifying differences between two images.

Further, tasks may draw on any of the four language skills, involving receptive or productive abilities, or both. They may require monologic or dialogic performance and share certain surface similarities with exercises, though they differ fundamentally in purpose and orientation. Engagement in cognitive processes—including selecting, organizing, evaluating, and reasoning with information—is

also required. These processes influence, though do not predetermine, the linguistic forms learners employ, thereby shaping but not restricting their language choices.

Finally, tasks are distinguished by their communicative outcomes, which function as the non-linguistic goals that signal task completion. Such outcomes guide the learners' efforts and provide a means for evaluating whether the purpose of the activity has been fulfilled.

Drawing on the criteria proposed by Prabhu (1987) and Ellis (2003), it is essential that task designers consider these features when developing instructional tasks. In particular, clearly defined communicative outcomes and careful calibration of task complexity and difficulty in relation to learner characteristics are crucial for ensuring that tasks effectively support language development.

2.5 Methodology of Task-Based Language Teaching

Willis (1996) outlines a task-based instructional framework that is organized into three sequential phases—the pre-task phase, the task cycle, and the post-task or language focus phase—each of which is designed to create optimal conditions for language learning. These phases collectively foster an environment in which learners are encouraged to engage with language meaningfully and reflectively.

The pre-task phase is used to introduce learners to the topic and to the task that will be performed. During this stage, relevant vocabulary, expressions, and thematic content are activated so that learners are equipped with the linguistic resources necessary for task completion.

The subsequent task cycle provides opportunities for learners to utilize any linguistic knowledge they already possess to complete the task. This cycle supports a holistic experience with language use and is composed of three interrelated components:

1. **Task Performance**

   Learners work individually, in pairs, or in small groups to accomplish the task objectives using whatever language resources they can access. The emphasis in this stage is on meaning-focused communication rather than linguistic accuracy.

2. **Planning:**

   Once the task has been completed, learners plan how to report their outcomes. Teachers act as language advisers during this stage by offering guidance that enables students to refine their ideas and prepare more effective written or oral reports.

3. **Report:**

   Learners present the results of their task performance to the class. This reporting process creates a communicative challenge that encourages learners to upgrade their language use and to convey their ideas clearly, accurately, and appropriately to the communicative context.

Finally, the post-task or language focus phase allows for a closer examination of linguistic features that naturally emerged during the task cycle. In this phase, learners analyse form, meaning, and usage patterns of lexical or grammatical items that were noticed during task performance.

Taken together, these three phases constitute a practical and interactive pedagogical model that emphasizes meaningful communication while also incorporating opportunities for focused language analysis. Willis's (1996) framework thus supports the development of communicative competence and deeper understanding of language use.

Ellis (2009) additionally identifies several criteria that tasks should meet within language teaching, including:

(1) a primary emphasis on meaning;

(2) the inclusion of a gap whether informational, reasoning-based, or attitudinal;

(3) reliance on learners' own linguistic and cognitive resources; and

(4) the presence of a clearly defined non-linguistic outcome.

Complementing these principles, Nunan (2004) proposes seven task-based learning principles, which guide instructional design. These include:

1. **Scaffolding**, ensuring that instructional materials provide appropriate support and that learners are not expected to produce unfamiliar language prematurely;

2. **Task dependency**, whereby each task builds upon preceding tasks;

3. **Recycling**, which increases learning opportunities by reintroducing linguistic items;

4. **Active learning**, highlighting the importance of using language actively, particularly in writing tasks;

5. **Integration**, emphasizing the connection between linguistic form, communicative function, and meaning;

6. **Reproduction to creation**, encouraging learners to progress from controlled to creative language use; and

7. **Reflection**, allowing learners to evaluate their progress and understanding.

These principles underscore why the design of task-based instruction requires careful consideration of the stages involved, particularly when writing tasks serve as the core component. Task-based lessons are intended to create communicative needs that naturally motivate language use. Through task completion, learners generate language that facilitates acquisition, especially when attention is temporarily shifted away from explicit form-focused instruction. Although accuracy remains important, opportunities for feedback and language analysis are integrated into each phase of the lesson. Teachers therefore play a crucial role in enriching learners' language development, while learners are encouraged to use English in a manner that mirrors their natural use of their first language.

2.6 Cognition Hypothesis- Triadic Componential Framework

The Cognition Hypothesis was introduced by Robinson in 1995. He proposed that pedagogic tasks should be designed based on task complexity, with cognitive factors intentionally manipulated. In other words, the Cognition Hypothesis is a task-based pedagogical approach that integrates cognitive processes to enhance task performance. It posits that increasing cognitive demands along specific dimensions can lead to improved second language (L2) production. To support this theory,

Robinson (2001) developed the Triadic Componential Framework, which outlines the key components involved in task complexity and cognitive processing.

It is also believed that the focus shall be on cognitive factors since the other two factors are unpredictable. Thus, in cognitive factors, there are two known dimensions which are resource-directing and resource-depleting. These two dimensions have their own variables that could be manipulated to create a task for learners.

Table 2.3 Cognition Hypothesis- Triadic Componential Framework

Task Complexity (Cognitive Factors)	Task Conditions (Interactive Factors)	Task Difficulty (Learners 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-depleting	**b) participant variables**	**c) ability variables**
+/- planning	gender	aptitude
+/- single task	familiarity	proficiency
+/- prior knowledge	power/solidarity	Intelligence
Sequencing criteria	--	Methodological criteria
Prospective decisions task unit		on-line decision about pairs and group

The variables can be seen on Table 2.3. Resource-directing variables are related to the cognitive demands. Thus, it focuses on vocabulary and syntax encoding. On the other hand, resource- depleting variables are related to performativity demands such as the timing or known as planning time, single task or dual tasks, with prior knowledge or no prior. Thus, when the variables

are increased, the task will demand more of learners' memory resources. In other words, resource-depleting makes the learners are to pay more attention to task, while resource-directing centers around the linguistics aspects.

Furthermore, Robinson (2001) proposes a task-based framework consisting of three phases: pre-task, task cycle, and language focus. He 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.

Thus, in the present study, following Robinson's (2001) Cognition Hypothesis, tasks will be designed to optimize language development by increasing complexity along the resource-directing dimensions—aimed at promoting interlanguage development—while minimizing demands along the resource-dispersing dimensions to prevent cognitive overload. Specifically, the researcher will construct tasks that are complex in every aspect of the resource-directing dimension, yet simple in every aspect of the resource-dispersing dimension, in order to effectively support learners' written language performance.

2.6.1 Task Complexity- Cognitive Factors

Task complexity is conceptualized as the cognitive demands imposed by a task's inherent structure on a language learner's attentional capacity, memory, reasoning abilities, and information processing (Robinson, 2001). Within this framework, two

primary dimensions are delineated. First, resource-dispersing facets of task complexity elevate attentional and cognitive loads broadly, without channeling memory or attention toward language elements essential for task fulfillment—such as the elimination of pre-task planning time. Second, resource-directing facets introduce targeted cognitive demands, exemplified by the need to comprehend and articulate causal relationships between events, while simultaneously orienting learners' focus toward pertinent second language features that facilitate task execution, including causal conjunctions like because and therefore that integrate subordinate clauses.

Several studies have been conducted in exploring task complexity. Hosseini and Rahimpour (2010) explored the effect of here/now, there/then variables in resource-directing toward L2 learners' writing performance on narrative task. They revealed that demanding task of there/then had no significant effect on learners' accuracy. Salimi et al., (2011) focused on resource-directing dimension, they stated that complex task increased fluency compared to simple task. In addition, complex task enhances the complexity of the task itself. Attarzade & Farahani (2014) also investigated task complexity. They unveiled that learners' performance in listening comprehension was better in simple task compared to the complex task. This study revolved only in the dimension of resource-depleting. Thus, the researchers only manipulated the variables of planning time and prior knowledge under simple and complex task.

Moreover, Salimi (2015) states that task complexity and focus on form on the accuracy of L2's oral performance made the oral performance of the learners significantly improved. The research only focused on simple and complex task.

Furthermore, Afshar & Tofighi (2021) investigated the effect of task complexity in terms of resource-directing dimension toward lower-intermediate and advance language learners on argumentative tasks. They explained that task complexity in complex task created an effect in which the accuracy was decreased for lower-intermediate learners while fluency was increased in simple task. On the other hand, advance learners, task complexity boosted their accuracy but decreased their fluency. The higher the complexity of task, the more enhanced the accuracy and complexity for both of the learners and the task.

Wang & Jin (2022) say that when learners had less prior knowledge and the task only contained few elements, their lexical variation was higher. On the other hand, when learners had prior knowledge and the task had few elements, the lexical variation was lower. Meanwhile, Kim (2022) argued that a simple task made along the resource-directing generated a better score compared to complex task. Robinson & Gilabert (2007) discussed Long's idea which he believes that the complex tasks give greater use compared to the simple tasks.

Robinson (2001) states that task complexity is the outcome of memory, reasoning and also attentional processing demands during the learning process toward the learners. Thus, when these dimensions are combined, they create effects on accuracy, fluency and complexity. Cognition Hypothesis claims that will help the learners to achieve higher accuracy and also complex L2 communication.

2.6.2 Task Difficulty (Students factors)

Robinson (2001) discovered that cognitive complexity had a significant impact on how learners perceived task difficulty in terms of stress and difficulty. He explored how cognitive complexity of tasks affects learners' perceptions of task difficulty. He requested the research participants to undertake two versions of a simple and complex task on giving directions using a map. In the simple challenge, the map only covered a limited, recognizable area. Meanwhile, despite the difficult effort, the map covered a large territory in a familiar setting.

As mentioned in Ishikawa's (2006) study that manipulating task difficulty improves learners' low-proficiency writing skills. However, L2 learners indicated that complicated tasks were stressful since they required greater mental work. Furthermore, the measure of task difficulty used in this study focuses on emotive characteristics. Thus, task difficulty has two components: affective variables (motivation, stress, interest, confidence, difficulty) and ability variables (intelligence, working memory).

Tavakoli (2009) also conducted research in exploring learners and teachers' perceptions of task difficulty. Both groups of the participants were asked to complete four oral narrative tasks. In the interview session, it was revealed that cognitive and linguistics demands, task structure and also the needed information to complete the task influenced the learners and teachers' perception of task difficulty. Furthermore, affective variables (confidence, motivation, stress) may affect and alter the performance of the learners during completing the task.

2.6.3   Task Condition (Interactive Factors)

Task conditions, or the interactive demands of tasks, involve not only task and learner factors, but also participation factors such as the direction of information flow (one-way or two-way) and the communicative goals (one or many solutions) of task performance (Long 1989). Participant factors include, e.g. gender, familiarity with each other and with task role, and relative status, as well as task goal and task interpretation. The context of task performance, which is another part of the task's conditions, certainly impacts learners' views of role and status, affecting collaboration and production during interactive activities (Robinson, 2001).

Robinson (2003) distinguished task condition into two specifications, which are specified in terms of information flow in classroom participation (e.g., one versus two- way tasks, convergent/ divergent, open / closed) and in terms of the grouping

of participants (e.g., same versus different gender, familiarity, and power/ solidarity).

2.6.4 The Roles of Gender

"Men Are from Mars, Women Are from Venus" was popularized by John Gray (1992), an American author and relationship counselor, through his best-selling book titled *Men Are from Mars, Women Are from Venus*. The book explores the differences between how men and women communicate, think, and behave, using the metaphor of men being from Mars and women from Venus to suggest that they are fundamentally different in many ways. Gray said in his book that "Women are over- reacting while men are not listening".

Tannen (1990) explores how men and women use language differently in conversation, which often leads to misunderstanding and miscommunication—not because one gender is better or worse at communication, but because they follow different conversational styles rooted in gendered socialization. Tannen argues that the way men and women produce language reflects different cultural norms rather than biological differences. These differences are shaped by how boys and girls are socialized from a young age. Understanding these differing "genderlects" (gender-based dialects) can improve communication and reduce conflict between men and women.

Different learners are influenced by different social factors and different ways of thinking in Second Language Acquisition (Dong et al., 2023). Xu et al. (2020)

determined gender related to the cognitive individual brain module and Second Language Acquisition. He found that Male has more left hemisphere dominance so they will focus more on the rules and structure (grammar, verb agreement and sentence structure). Meanwhile, female involves both left and right hemisphere so it affects the speed to pick up on informal, colloquial expression and social context of language use.

Sunderland (2000) stated that gender roles, relations and identities' impacts are everywhere. Ironically, because of this, in much writing and thinking on English language teaching, gender appears nowhere. The claim was that, paradoxically, because gender tends may seem normal and natural, it often appears not to exist at all. At the start of the new millennium, we are perhaps less blind to the fact that much social life, including our educational life, is gendered in some way, but the claim still holds.

Fairclough (1989) which is stated in Aydınoğlu (2014) as a part of our lives, gender isn't a biological factor like sex but a social product. We know we are not born men and women but we learn the behaviors and beliefs that are assigned to our sex by our culture.

Gender as a part of our identity is not stable but under continual construction with the influence of the elements we are exposed to. The elements are family, school, and media. Language is a factor that is existent in all them. Like gender, language is a social institution and language use is a social practice. All the beliefs

and systems of a culture are embedded in its language. The relationship between gender and language is a mutual one; that is, gender is both reflected and constructed by language.

However, Mohammad & Alwi (2023) distinguish between two types of differences among males and females in written text. These two types are referred to as involved and informative writing. They describe females as being involved in the sense that they assume that the reader knows the references in their written texts, as the result, the reader needs to be involved from the females 'p e r s p e c t i v e . As a result, the reader senses a kind of personal and the writer intention on the text.

 Males, on the other hand, tend to be informative in the sense that they provide more details about the things that are mentioned in the text because they assume that the reader needs background information, no matter how little, about the things being discussed in the text.

As the conclusion, gender takes an important part to be consider as an element in designing tasks for teaching English as foreign language. Since the different gender students will have different preference and sense in writing, and gender affects would be difficult to predict, but still the relationship between gender and language is a mutual one; that is, gender is both reflected and constructed by language.

2.7 Measures of CAF

The complexity, accuracy, and fluency (CAF) triad was first studied in the 1980s to investigate the contrast between accuracy and fluency mainly in second language performance, especially English as a second language (ESL), but complexity emerged in the 1990s (Craven, 2017). These are the definitions of the CAF measures:

2.7.1 Complexity

Complexity in a task-based is measured by lexical diversity and grammatical structures within the task. It is typically measured as structural complexity (the length of a clause or T-unit) or lexical complexity (lexical diversity, lexical sophistication, and lexical density) (Bui & Skehan, 2018).

2.7.2 Accuracy

Accuracy concerns about the ability to determine error sentences or to be able to recognize correct use of tenses, articles etc. In other words, it refers to the extent how the learners follow the system's rule of the target language such as the use of article, verb forms, and past-tense (Bui & Skehan, 2018).

2.7.3 Fluency

Fluency refers to the ability to produce written language efficiently and with ease, typically measured by the amount of language produced within a given time or the speed of production. Fluency is primarily performance-based, concerned with real-time language use, and is distinguished from complexity (variety and sophistication of language) and accuracy (correctness of language). In writing, it focuses on how much learners can write, how quickly they can do so, and how little they pause or

hesitate (Bui & Skehan, 2018). In other words, fluency refers to the learners' ability in using the target language without extensive pauses and correction (Kim, et.al, 2016). Thus, in this research, in analyzing the fluency of the students' written language production could be analyzed through the number of T-Units produced by them.

The Complexity, Accuracy, and Fluency (CAF) framework has become one of the most influential analytical models for assessing second language (L2) performance, both in spoken and written modalities. CAF captures three major dimensions of L2 proficiency: linguistic elaboration (complexity), conformity to target language norms (accuracy), and ease or efficiency of production (fluency). Leading scholars such as Skehan (2003), Housen, Kuiken (2012), Robinson (2015), Tavakoli and Foster (2011) have emphasized that CAF is not a rubric-based scale but an analytical measurement system built on quantitative linguistic indicators, to compare task, compare groups, and measure improvement.

2.8 Theoretical Assumption

Task-Based Language Teaching (TBLT) puts a significant focus on form and meaning instead of only one of them. Therefore, TBLT believes in the importance of communicative and linguistics competences, it promotes real-world task. It is a task that has a close connection to real life activities. Thus, TBLT brings the real-world situation to the classroom.

TBLT is also correlated with Cognition Hypothesis which was proposed by Robinson (2003). By manipulating the variables within the dimensions, a complex

task could be created. Robinson also deduces that a complex task will increase the accuracy and complexity of learners' performance, but it decreases the fluency of the learners. In accordance to this current study, which focuses mainly on writing skill, thus the researcher assumes by combining both dimensions of resource-directing and resource-depleting can have an effect on learners' writing skill.

2.9 Hypotheses

Based on the theoretical assumption above, the researcher has her hypothesis as followed:

Research Question 2

Alternative Hypothesis (H1): The manipulated tasks with different types of task complexity (made complex along with the resource- directing dimension and simple for the resource-dispersing dimension) and different topics of interest do generate to statistically significant differences in written language production (complexity, accuracy, fluency).

Null Hypothesis (H0): The manipulated tasks with different types of task complexity (made complex along with the resource- directing dimension and simple for the resource-dispersing dimension) and different topics of interest do not generate to statistically significant differences in written language production (complexity, accuracy, fluency).

Research Question 3

Alternative Hypothesis (H1): The manipulated tasks with the integration of complex resource-directing and simple resource-dispersing show significant interaction effect in terms of complexity, accuracy and fluency between female and male students.

Null Hypothesis (H0): None of the manipulated tasks with the integration of complex resource- directing and simple resource-dispersing show significant interaction effect in terms of complexity, accuracy and fluency between female and male students. Based on the previous studies and supporting theories, the hypotheses of this current research can be seen as above.

III. METHODS

This chapter discusses the methodology adopted in the present study. It then describes the research design, participants, instruments, research procedures, data collection procedure, data analysis, result of try-out test and hypothesis testing.

3.1 Design

As cited in Leedy and Ormrod (2001), research is a sequence of process that require data being collected, analyzed, and interpreted. Meanwhile, research design is a research segment that must exist in every research. It is one of the most pivotal parts in research because it will significantly affect the research itself. Based on the definition, research design is a structure of research that puts together all of the aspects of certain research (Akhtar, 2016).

In this research the researcher is going to conduct Exploratory mixed method for her study. *Exploratory mixed method* is a research design that integrates both qualitative at the first phase and quantitative data collection and analysis techniques next (Creswell &Plano, 2018). At this exploratory mixed method design, the researcher started with and prioritize the collection and analysis of qualitative data about students' topic preference for their writing based on different gender in the first phase, using questionnaire. Building from the exploratory results at the

first phase, the researcher conducted a development phase by designing a quantitative feature based on the qualitative results. Based on the qualitative data from the questionnaire, the researcher designed writing task with the topic based on the result of the questionnaire. This feature was the form of 4 tasks. Each task has different topic based on each gender's group preferences and has the same instruction based on the categories of task complexity variables (resource – directing and resource-dispersing).

Finally, in the third phase the researcher quantitatively analyzed the students' writing tasks result that reflecting the learners' competence through the manipulation of task complexity in writing skill to see its effect on the learners' CAF. Furthermore, the exploratory mixed-method research was applied here because the researcher needed both quantitative and qualitative methods to investigate the proposed research question number 1, 2 and 3 of this current study. Thus, the data were in the form of numerical statistically data. Therefore, it was in line with the research design which is quantitative research design. Meanwhile, the qualitative method at the first phase showed the preference of the students' topic for different gender groups.

3.2 Data (Variables)

There are two variables in total of this research, dependent and independent variables which are explained as follow:

3.2.1. Dependent Variable

The dependent variables of this research are students' written language production (to analyze the task complexity variables) and learner's topic preference (base on the task condition variables of gender's preference). Questionnaire was used to explore students' topic preferences. Meanwhile, reflecting the learners' competence through the manipulation of task complexity in writing skill, the students' writing tasks results were also used to see its effect on the learners' CAF.

3.2.2. Independent Variable

On the other hand, the independent variable is the task-based language teaching (TBLT) as the approach to assist the classroom activity to make the teaching and learning progress to be more compelling and the cognition hypothesis.

3.3 Source Data

As locating in a suburb area, Natar, South Lampung, the Junior High school was the data source of the research. The level of the school was chosen because it seems that most of previous research about task complexity were conducted in higher level (e.g., Afshar & Tofighi, 2021; Arjmand & Khorasani, 2016; Attarzade & Farahani, 2014; Benzehaf, 2016; Cho, 2015) but it has rarely found in junior high school level

3.3.1. Subjects

The subjects of the research will be 30 females and 30 males of junior high school students in third grade. So, the subject were 2 groups of a male group and

a female group consist of 30 students each which the total will be 60 students grouped into two, male and female.

Moore, McCabe & Craig (2017), state that one of the core points they emphasize is that a sample size of at least 30 is often sufficient for many statistical methods to produce reliable results. This is especially important in relation to the Central Limit Theorem (CLT). The CLT states that, for a sufficiently large sample size (usually $n \geq 30$), the sampling distribution of the sample mean will approximate a normal distribution, regardless of the shape of the population distribution. This assumption is crucial for conducting many common statistical tests (such as t-tests or confidence intervals). Based on the CLT, the researcher decided to have 30 students for each group.

3.3.2 Setting

The research was conducted at one of the Junior high schools in Natar, South Lampung, as the representative of Indonesian junior high school students who lives in suburb.

3.4 Research Instruments

This research has 2 research instruments. These instruments could be seen as followed:

a. Written language production of the students was acquired through the completion of a task with different topics for each gender which consists of the three types of task complexity, made complex along with the resource-directing and resource-dispersing.

Table 3.1. The Tasks Complexity variables

(TASK 1)	Many Elements (complex) – Planning time, Single Task, Prior Knowledge (Simple)
	Reasoning Demands (complex) - Planning time, Single Task, Prior Knowledge (Simple)
Female Preferred Topic	There/Then (complex) - Planning time, Single Task, Prior Knowledge (Simple)
(TASK 2)	Many Elements (complex) - Planning time, Single Task, Prior Knowledge (Simple)
	Reasoning Demands (complex)- Planning time, Single Task, Prior Knowledge (Simple)
Female Not Preferred	There/Then (complex) - Planning time, Single Task, Prior Knowledge (Simple)
(TASK 3)	Many Elements (complex) – Planning time, Single Task, Prior Knowledge (Simple)
	Reasoning Demands (complex) - Planning time, Single Task, Prior Knowledge (Simple)
Male Preferred Topic	There/Then (complex) - Planning time, Single Task, Prior Knowledge (Simple)
(TASK 4)	Many Elements (complex) - Planning time, Single Task, Prior Knowledge (Simple)
	Reasoning Demands (complex)- Planning time, Single Task, Prior Knowledge (Simple)
Male Not Preferred Topic	There/Then (complex) - Planning time, Single Task, Prior Knowledge (Simple)

In accordance with the model, the 4 tasks had the same variable within the task complexity variables, complex task of resource – directing and simple task of resource dispersing dimensions. The four tasks had many elements as the complex variable within the resource- directing and the simple variable within the resource-dispersing. Thus, the students were required to describe about details in written form provided within the tasks. The model of the tasks is described in Table 3.1.

b. The learners' preferences were explored through questionnaire. This research conducted a questioner between to the subjects of the research. The questioner was aimed to explore the first research question which was to investigate the

relationship between learners' gender, preferences of the topic and their written production. In other words, the questioner was aimed to collect the data of the learners' preference topic of tasks. It explored the most and the least interested topic of the tasks. The questionnaire instrument inspired by Sandra Bem's Gender Schema Theory (1981) and Albert Bandura's (1977) Social Learning Theory, which emphasize how gender influences preferences and behaviors.

Instead of using interview, the researcher chose questioner due to the fact that interview could take long term exploration, deeper exploration of the learners' perception, was taken also trough questionnaire since the researcher could give open ended question to the students in the questionnaire.

3.5 Validity and Reliability

3.5.1 Validity of the Content and Construct

There is an instrument used in this research that is writing tasks. Since the tasks are manipulated, modified and made by the researcher, so it needs to be tried out to measure their validity in order to get valid data. The following are the explanation of validity of writing tasks.

Validity is the pivotal instrument of the research that determine the accuracy of the data and whether these data could be held responsible or not. In this research, the data is going to be taken in the form of numerical and also statement. The numerical data is going to be acquired through meticulous analysis of CAF

aspects within the written production of the learners. Meanwhile, the statements are going to be acquired through the questionnaire.

The instrument is considered valid if it measures the object to be measured and it is suitable with the criteria. There are two basic types of validity, namely content validity and construct validity. Therefore, in order to measure whether the instruments are valid, those two types of validity were analyzed. The researcher designed a writing task to measure students' writing ability based on the official curriculum that is usually implemented at formal school. Thus, in this research the validity of the content is related to the Cognition Hypothesis and its principle in the making of a complex task. Furthermore, the researcher was guided by the expert in the field during constructing the content for Expert's judgments. The tasks were reviewed to ensure content validity by Expert Judgments from the lecture of Magister English Education faculty of Lampung University.

3.5.1.1. Content Validity of Writing Task

The content validity of the task is concerned with whether it is adequately representative and comprehensive for the test (Setiyadi, 2018). It refers to the measure in which the test defined a representative sample of the subject matter material. The quality of the sample, rather than the form of the examination, reflected the focus on content validity. This research focuses on the syllabus *Kurikulum Merdeka* of English subject at the ninth grade in Junior High School. In *Kurikulum Merdeka* for Grade 9 (Fase D), the writing element emphasizes producing texts that are contextual, coherent, and communicative. Students are expected to write narratives, descriptive texts, recounts, reports, and simple

argumentative or expository texts that reflect real-life communication. In addition, the researcher selected the sample of her research at SMPN 4 Natar.

To fulfill the content validity of writing tasks, the teaching materials are also adapted and related from the learning sources of the students' level as stated in learning objectives, the students are asked to make descriptive and simple argumentative text to the given topics (Special events and Sport for females; Sport and Fashion style for Males). The given topics are based on the result of the questionnaire which is asked about the least and the most preferred topic between female and male. The instrument is considered valid in content validity since the instruments constituted a representative sample of the language skill and structure.

3.5.1.2. Construct Validity of Writing Task

Construct validity is concerned with whether the instrument is actually in line with the theory. It would be examined whether the instrument given actually reflect what it means to know the language being measured. To measure the construct validity of writing task in this research, the researcher made the instruction and writing task based on the theory of Task Complexity variable by Robinson (220) and craven (2017) which relates to triad components of CAF (complexity, Accuracy, Fluency). Thus, in this research, in analyzing the fluency of the students' written language production could be deciphered through the number of T-Units produced by them. Before the writing tasks is used, it is going to consult to an expert on writing to make sure whether it is valid or not.

3.5.2 Reliability

This study investigates students' writing performance with a specific focus on the dimensions of Complexity, Accuracy, and Fluency (CAF). To examine gender-based differences in written language production, the researcher designed four writing tasks and analysed the performance of male and female learners. In essence, the study aims to identify how written output varies across genders when learners engage in tasks of differing conditions. The reliability of the instrument refers to the degree to which it yields consistent results across different ratters. To ensure the reliability of the data and minimize subjectivity in the scoring process, inter-rater reliability was employed. This procedure involves having two or more independent ratters evaluate the same writing tasks, thereby confirming the consistency and objectivity of the scoring system.

To measure whether writing task is reliable or not, the researcher used reliability inter- rater by using SPSS 27. After gaining the data, the researcher consulted the result of reliability into scoring criteria proposed by Setiyadi (2018) as in the following Table 3.2.

Table 3.2 Criteria of Reliability as Interpretation from r Value.

0.800-1.000	Very high reliability
0.600-0.800	High reliability
0.400-0.600	Fair reliability
0.200-0.400	Low reliability
0.00-0.200	Very low reliability

According to Hatch & Farhady (1982), reliability refers to extend to which the test is consistent in its score and gives us an indication of how accurate the statistical data is. Inter-rater reliability is implemented if the test score is independently

assessed by two or more examiners or raters. The researcher asked the English teacher from SMPN 4 Natar or a postgraduate student who was also immersing herself in the field of Cognition Hypothesis as the second rater, while she was the first rater. Both of raters were given the key definition and the instruction for scoring before assessing the students' writing achievement. Then, the scores from the raters were calculated using Reliability Spearman's rho Correlation test of SPSS 27.

Key Definitions

- *T-unit (Terminable Unit):* An independent clause plus any dependent clauses attached to it.
- *Independent Clause:* A clause that expresses a complete thought and can stand alone.
- *Dependent Clause:* A clause that cannot stand alone and depends on an independent clause.
- *Error-Free T-unit (EF):* A T-unit with no grammatical, lexical, or mechanical errors.
- *Syllable:* A unit of pronunciation containing a vowel sound, with or without surrounding consonants.

Instructions for Scorers

1. *Identify T-units:* Break the text into independent clauses plus any dependent clauses.
2. *Count Clauses:* Record total independent + dependent clauses.
3. *Mark Error-Free T-units (EF):* Count T-units with no grammatical, lexical, or mechanical errors.
4. *Count Syllables:* Record total syllables in the text.
5. *Record Time:* Note the total seconds taken to complete the writing task.
6. *Calculate CAF Values:*

Complexity (C) = Total Clauses ÷ Total T-units
Accuracy (A)   = (Error-Free T-units ÷ Total T-units) × 100
Fluency (F)   = (Total Syllables ÷ Time in seconds) × 60

Table 3.3 Reliability of the Tasks
Inter-Rater Reliability Results Based on Spearman's rho Correlation

Task Condition	Rater Comparison	Spearman's ρ	Sig. (2-tailed)	N	Interpretation
Female – Most Preferred (MP)	Rater 1 vs Rater 2	.917	< .001	30	Very strong, significant correlation – excellent reliability
Female – Least Preferred (LP)	Rater 1 vs Rater 2	.915	< .001	30	Very strong, significant correlation – excellent reliability
Male – Most Preferred (MP)	Rater 1 vs Rater 2	.968	< .001	30	Extremely strong, significant correlation – excellent reliability
Male – Least Preferred (LP)	Rater 1 vs Rater 2	.800	< .001	30	Strong, significant correlation – good reliability

Note. ρ = Spearman's rho correlation coefficient; $p < .01$ (2-tailed).
A correlation coefficient above .80 indicates high inter-rater consistency (Cohen, 1988).

Based on the normality Test result, Spearman's rho (ρ) values between two raters were computed for each task in this research. The result can be seen in the table above on Table 3.3.

The inter-rater reliability analysis, conducted through Spearman's rho correlation, revealed a consistently high and statistically significant agreement between the two evaluators across all four writing task conditions ($p < .001$). Specifically, for the Female Most Preferred (MP) task, the correlation coefficient reached $\rho = .917$ ($p < .001$), reflecting a very strong positive alignment in scoring. This suggests that both raters applied the assessment criteria in a highly consistent manner when reviewing female students' writing on topics they found personally engaging.

A strong correlation was also found for the Female Least Preferred (LP) task (ρ = .915, p < .001), confirming that inter-rater consistency remained high across conditions. The Male Most Preferred (MP) task produced the highest reliability coefficient (ρ = .968, p < .001), which indicates near-perfect agreement between raters. Such precision suggests that the raters shared a consistent interpretation of the scoring rubric, particularly when evaluating writing samples produced by male students on topics of personal relevance. In contrast, the Male Least Preferred (LP) task yielded a slightly lower, though still substantial, correlation (ρ = .800, p < .001). According to Cohen (1988), correlation values above .70 are generally considered strong, while he emphasizes that coefficients exceeding .80 demonstrate high reliability in educational and psychological measurement. Therefore, despite being lower than the other tasks, the Male LP task still meets the accepted standards for reliability.

In sum, the analysis confirms strong inter-rater reliability across all conditions, with all coefficients surpassing the benchmark of ρ > .80. These findings support the reliability of the scoring procedures and indicate that the writing scores obtained are dependable for subsequent quantitative analysis and interpretation. This means that the scoring system and rubrics used by both raters were consistently applied, and the obtained writing performance scores can be considered reliable for further statistical analysis**.**

3.6 Data Collecting Techniques

This study applied an Exploratory mixed method, a research design that integrates both qualitative at the first phase and quantitative data collection and analysis techniques next (Creswell & Plano, 2018). At this exploratory mixed method design, the researcher started with and prioritize the collection and analysis of qualitative data about students' topic preference for their writing based on different gender in the first phase, using questionnaire as the first instrument. The questionnaire instrument inspired by Sandra Bem's Gender Schema Theory (1981) and Albert Bandura's (1977) Social Learning Theory, which emphasize how gender influences preferences and behaviors. The researcher tried out the questionnaire into 20 students (10 female and 10 male students) to check the validity and the consistency.

Then the researcher applied the adapted questionnaire to 60 ninth grader students (30 female and 30 male students) of SMPN 4 Natar South Lampung as the Subjects. The instrument will be in the form of writing task. Written language production of the students would be acquired through the completion o f a Task with different topic for each gender which consists of the four types of tasks made complex along with the resource-directing and tasks made simple along resource-dispersing.

3.7 Research Procedures

Before the data were analyzed, several preparatory procedures were conducted. The following steps outline the data collection process used to obtain the task-related

data. Below are the procedures of the data collection for acquiring the data for tasks:

3.7.1. *Determining the subject of the research*

The population of this research were 30 male and 30 female students of the ninth grade of SMPN 4 Natar. The sample in this research were two groups of the ninth grade of SMPN with the same gender in each group, grade, proficiency and competency level. They were chosen as the purposive sampling.

3.7.2. *Explore Students' topic preference based on gender groups.*

The researcher tried out the questionnaire to 10 female students and 10 male students twice, to check the construct validity and the consistency of the students' answers. Then, the researcher conducted questionnaire related to preference gender on different gender group, and chose of the most and the least interested topic for each gender group as the tasks' topic which were designed.

3.7.3. *Deciding the material of the research*

The material of the Tasks was based on *Kurikulum Merdeka* for the ninth-grade students of Junior High School. The writer selects the most chosen topics about past experience based on the questionnaire of students' preference based on gender group in designing the tasks.

3.7.4. *Administering the Task*

The researcher conducted Task Based Language Teaching in teaching writing to the samples. Here the researcher used the TBLT steps based on Willis (1996), as cited in Ruso.

Pre-task

As with most lesson introductions, this is writing step where there is a chance for teacher to explore the most and the least preferred topics between female and male students. After that, to brainstorms ideas, and to give instructions as simple task for planning. It can also be helpful to pre-teach any useful vocabulary and let students ask any questions that they might have.

Furthermore, the tasks consisted of planning time in which the students had 10 minutes to prepare what they wrote about. It was also single tasks which mean that the tasks were only one (one skill) and the students also had prior knowledge during doing the tasks. The tasks had reasoning demands as the complex variable in which the students were instructed to give their reasons why they chose the topic.

Task Cycles

This is the part where students actually do the manipulated tasks which is designed by the teacher based on the questionnaire result and consist of the variables of Task complexity. The step where the students do drafting and revising in writing are conducted. As tasks can be complex, there are three stages to Task, Planning and Reporting.

The **Task** stage is when students work together in pairs or small groups. The teacher can monitor and take notes of examples of interesting communication. There is no need to correct students' language at this point as the purpose is fluency, confidence

building, and task completion. Here, students can work and discuss in pairs or group.

The **Planning** stage is when students get ready to tell others about their task. Students make notes of what they'd like to share (e.g., their findings, how they did the task, how they solved any problems that arose, etc.) and decide how they present the information. They may wish to allocate speakers or scribes.

The **Reporting** stage is when students present their work in front of the class.

Thus, the students were required to think critically to come up with some reasons during the process of completing the tasks. Furthermore, the tasks had complex variable of there/then in which the students were asked to describe their past experiences by giving details (many elements). This means that the task required the students to use simple-past tense in their complex- task.

Language focus (Post Task)

The final stage of the lesson is an analysis and practice of the language. Here the students conducted the process of finalizing and publishing in writing steps. The teacher can share some interesting examples of emergent language that the students used throughout the lesson. Students can also make suggestions for other useful languages. They can then add these words and phrases to their notebooks and practice them.

3.8 Data Analysis

The data of this research were in the form of written language production and also the students answer of the questioners to explore the topic preference based on the gender groups. First of all, the researcher administered the four manipulated tasks to the two different gender groups. Thus, after collecting all the needed data, the researcher proceeded to analyze them. Below were the steps in analyzing the data:

1. After collecting the students' written language production, the researcher proceeded in analyzing the data manually with respect to CAF measures. The calculation for each measure i s different. Thus, the researcher followed the following formula to gain the scores for complexity, accuracy and fluency:

   a. *Complexity*

   The complexity's calculation is created by Foster and Skehan (1996) to measure the complexity of the written language production, a s cited in Dahmardeh & Shahmirzadi (2016) could be seen as followed:

   I had holiday last weekend. (C) ‖ I visited my relatives, especially my uncle. (C) ‖ Not only it was fun and unforgettable, (C) this activity is also entertaining (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 T- Unit as a short unit that contains one independent

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:

Total number of clauses	
Total T-units	***4:3 = 1.33***

Based on the calculation above, the complexity value of the paragraph is 1.33. Based on scoring criteria in Table 3.4, the student has more complex clauses in their written language production. This indicates that the greater the number of clauses a student includes in their writing, the higher their complexity score will be. In other words, a higher number of clauses reflects greater syntactic complexity in the student's paragraph.

b. Accuracy

The calculation of accuracy adapts to Oliver & Mahpul's (2018) research. However, in this research, it focuses on written data. Thus, instead of AS units they become T-units. The example of the text could be seen as followed:

My mother cooked chiffon cake yesterday. (EF)‖ It *is*soft and delicious.‖

She made it for my birthday. (EF)‖ I celebrated my birthday with my friends.
(EF)‖ I ate the cake with my friends at the party. (EF)‖

In accordance to the text above, "EF" refers to error-free T-unit and "‖" refers to a T-unit. Thus, there are 4 error free T-units and 5 T-units. The calculation could be seen as followed:

$$\frac{\textit{Number of error-free T-units}}{\textit{Number of T-units}} \quad x\ 100$$

$$= 4: 5\ x\ 100 = 80.00$$

Based on the calculation above, the accuracy of the text above is 80.00. It means that the written language production has more error free clauses, good and high accuracy.

c. *Fluency*

Based on Mahpul (2014), the number of syllables is divided by the total number of second that were used to complete the task then multiplied by 60. Calculation of the fluency shall be calculated by the total number of T-units. Thus, it could be seen below:

The (1) technique (2) in (1) football (2) is (1) more (1) difficult (3) than (1) Volleyball (3). We (1) need(1) more(1) space(1) for (1) football(2) field (1) than(1) volleyball (3) field(1). I(1) love(1) football (2) more (1) than (1) volleyball (3) because (2) football(2) is(1) easier(3) to (1) play(1).

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

$$\frac{Number\ of\ Syllables}{the\ total\ seconds\ taken\ to\ complete\ the\ writing} \times 60 \qquad \frac{48}{180} \times 60 = 16$$

In accordance to the calculation above, the fluency of the written language production has strong and high fluency within 3 minutes.

Below are the ranges for EFL learners, adapted from Housen & Kuiken (2009), and more recent CAF literature (Table. 3.4). These are not official scores, but research-based ranges used to interpret results and helpful for categorizing low/medium/high proficiency.

Table.3.4. Range Score of C A F.

1. Complexity Range Score (0-2)

Level	Complexity Score Range	Interpretation
Low	0– 1	More Simple Clauses (MSC)
High	1.1 - 2	More Complex Clauses (MCC)

2. Accuracy Range Score (0-95)

Level	Accuracy Score Range	Interpretation
Low	0 - 47	More Error Clauses (MEC)
Medium	48 - 95	More Error Free Clauses (MEFC)

3. Fluency Range Score (0-22)

Level	Fluency Score Range	Interpretation
Low	0–11	Less Fluent (LF)
Medium	12–22	More Fluent (MF)

2. After the researcher had attained the score of the written language production of the students in relation to the CAF, the researcher would analyze the acquired data through SPSS 27 to find out the statistical difference among the four tasks to answer the second and third research questions.

Furthermore, the researcher analyzed the data acquired through the questionnaire in the form students' answers in the form of Google form. The analysis of the acquired data could be seen as follows:

The students were asked several questions adopted the questionnaire instrument inspired modified from Sandra Bem's Gender Schema Theory (1981) and Albert Bandura's (1977) Social Learning Theory, which emphasize how gender influences preferences and behaviors.

The responses are divided into four categories. They are Preferred- Non-Preferred female topics and Preferred- Non-Preferred male topics. The highest and the lowest percentage of the responses are going to be the ones selected to be presented in the research to be further explored on topic, as preferred and not- preferred topics. Hence, this process of analysis requires qualitative method of research because the data are in the form of paragraph instead of numerical form. Thus, the learners' preferences (of the most and least interested topics) of the tasks were described to ensure the relationship between the students' written language production and their gender.

Furthermore, after the data between raters were categorized into four groups, they were analyzed by using Normality test SPSS 27 to find out the data's normality. This research also tested its normality based on the students' writing language production with respect to CAF using Saphiro-Wilk since the subject of each task are 30 students less than 50. The results of the normality are indicated as followed:

Table 3.4 Normality Test.

Measures	Task 1	Task 2	Task 3	Task 4
Complexity	< 0.001	< 0.001	<0.001	< 0.001
Accuracy	< 0.001	0.337*	<0.001	0.932*
Fluency	0.07*	0.008	0.001	< 0.001

*Shapiro-Wilk

As shown in Table 3.3, the normality tests reveal that for Complexity in all four tasks (Tasks 1–4) the Shapiro–Wilk statistic is significant ($p < .001$), indicating that the data distributions for complexity are not normally distributed. For Accuracy, Tasks 1 and 3 likewise show significant non-normality ($p < .001$), whereas in Task 2 ($p = .337$) and Task 4 ($p = .932$) the distributions did not significantly deviate from normality. It means they are normally distributed. For Fluency, only Task 1 shows a non-significant result ($p = .07$), suggesting approximate normality, while Tasks 2–4 show significant departures ($p = .008, .001$ and $< .001$). Given these findings, the assumption of normality is violated for most of the variables and tasks in the study. Because the normality assumption is fundamental to many parametric statistical procedures, these results signal that caution should be applied: non-parametric alternatives or transformations may be required.

The data were found to be non-normal, in that the samples were selected through a purposive sampling technique. In this technique, students were chosen based on similar proficiency levels, grade, and gender, rather than being randomly drawn from the population. As purposive sampling is a non-probability method, the representativeness of the population distribution of writing performance could not be ensured. If the sample is intentionally made homogeneous in terms of proficiency, gender, and grade, the distribution of scores is likely to become narrower and less variable, which may lead to non-normality such as skewness or restricted variance (Creswell & Creswell, 2018).

Writing performance, particularly under tasks involving complexity, accuracy, fluency, and gender topic preference, is often characterized by variability and subjectivity, in that it is influenced by multiple interacting factors. Even when analytic rubrics are employed, variations may be introduced through rater judgments, task conditions, and learner motivation, resulting in score distributions that contain outliers, skewness, or kurtosis (e.g., a few extremely high or low scores). Consequently, the assumption of a normal distribution may be violated. As noted by Mishra et al. (2019), testing for normality is essential, in that real-world data frequently deviate from Gaussian assumptions. The tasks in this study were designed to vary in complexity and condition (most/least preferred topics) within the theoretical framework of the Triadic Componential Framework and the Cognition Hypothesis (Robinson, 2001). If learners respond differently to task demands based on these conditions, it is plausible that their performances would be distributed non-normally, in that clusters of lower scores may appear under

more complex tasks, whereas ceiling effects may occur under simpler ones. Such tendencies indicate departures from the ideal normal distribution.

Based on the normality Test result, the researcher used non-parametric statistical tests. Spearman's rho Test for the reliability of the tasks, Wilcoxon Signed-Rank Test for Related Samples for Research question 2, and she used the Mann-Whitney U Test to compare two independent groups on a continuous or ordinal variable and the assumptions of the independent samples t-test are violated, especially normality, for the Research Question 3.

3.9 Hypothesis Testing

Hypothesis testing aims to test the possible outcome of the research. Here, the research aims to explore the effects of 3 task complexity with the integration of two dimensions, resource-directing and resource-dispersing, toward learners' writing skill and also their preference, for example regarding the writing task. Below are the hypothesis testing that the researcher proposes:

Research Question 2

Was there a statistically significant difference of written language productions generated from the task complexity with the gender's the most and the least topic preference?

Alternative Hypothesis (H1): The manipulated tasks with different types of task complexity (made complex along with the resource- directing dimension and

simple for the resource-dispersing dimension) and different topics of interest do lead to statistically significant differences in written language production (complexity, accuracy, fluency).

Null Hypothesis (H0): The manipulated tasks with different types of task complexity (made complex along with the resource- directing dimension and simple for the resource-dispersing dimension) and different topics of interest do not lead to statistically significant differences in written language production (complexity, accuracy, fluency).

Research Question 3

Was there a statistically significant difference of genders' written language productions generated from task complexity with different topic preferences?

Alternative Hypothesis (H1): The manipulated tasks with the integration of complex resource-directing and simple resource-dispersing show significant interaction effect in terms of complexity, accuracy and fluency between female and male students.

Null Hypothesis (H0): None of the manipulated tasks with the integration of complex resource- directing and simple resource-dispersing show significant interaction effect in terms of complexity, accuracy and fluency between female and male students.

In accordance to the hypothesis above, those are the hypothesis testing provided by the researcher. In other words, the researcher has the purpose to investigate the effect of task complexity with the integration of two dimensions, made

complex along with the resource- directing dimension and simple for the resource-dispersing dimension, toward learners' writing skill and explore the statistically significant differences of written language production with the most and the least interested topics of the tasks between female and male students.

The study examined the hypotheses by analyzing the statistical results of the CAF triad—Complexity, Accuracy, and Fluency—based on Bui & Skehan (2018). To address RQ2, the researcher compared the CAF scores from students' written work on their most-preferred and least-preferred topics within the same gender groups. To address RQ3, the researcher compared the CAF scores for the most-preferred and least-preferred topics between male and female students.

V. CONCLUSION AND SUGGESTION

This chapter discusses the conclusion of this research. Thus, it revolves around the theories that support the results of the research. Furthermore, it also suggests further researches in a similar field to extend the knowledge and also studies regarding Cognition Hypothesis.

5.1 Conclusion

This study shows task complexity and topic preference strongly affect how students write in English. The study demonstrates that gender and topic preference jointly influence CAF outcomes in Indonesian EFL learners' writing language production.

Female students write more accurately when the topic was personally meaningful, such as special events. Male students wrote more fluently and used more valid words when the topic was mentally challenging, such as sport.

These findings show that both emotional involving (how much the students care about the topic) and mental effort (how much thinking the topic regulates) influence writing performance in different ways, depending on the student's background and prior knowledge.

Therefore, teachers should not see deigning task as the same as everyone. They should consider three factors of Triadic componential Framework (Task complexity, Task condition and Task difficulty). The cognitive factors, interactive factors and learners' factors work together to affect writing. Task that combines personal relevance and mental challenge can help students improve the complexity, accuracy and fluency in writing.

Based on Research Question 1, female learners preferred socially expressive and affective topics (e.g., Special Events, Music), while male learners favored competitive and action-oriented topics (e.g., Sports). This confirms that topic preference operates as a task-condition variable influencing engagement and performance.

Based on Research Question 2, female learners achieved significantly higher accuracy and fluency on preferred topics, reflecting stronger affective engagement and efficient resource allocation toward grammatical precision. Male learners demonstrated significantly higher complexity and fluency on preferred topics, but slightly higher accuracy on least preferred topics, suggesting a compensatory focus on form control under low engagement.

Based on Research Question 3, statistically significant gender differences were observed. Female learners excelled in accuracy and fluency on preferred topics, while male learners produced greater complexity on least preferred topics. These

outcomes substantiate Robinson's *Cognition Hypothesis* and *Triadic Componential Framework*, showing that task complexity interacts with gender and topic preference to shape written language production.

Female learners' performance is enhanced by affective involvement, while male learners adapt through structural elaboration under low engagement. These findings underscore the pedagogical importance of designing writing tasks that balance cognitive challenge with affective relevance, thereby optimizing learning opportunities across genders.

5.2 Suggestion

5.2.1. Suggestions for Further Research

Several implications for future studies can be derived from the findings of this research.

First, the current study examined task condition (topic preference) and task complexity as key variables influencing written language performance. However, the task type variable (e.g., narrative, argumentative, descriptive) was not incorporated. If future research were to integrate task type as an additional factor, a more comprehensive understanding could be achieved regarding how rhetorical demands interact with gender and topic preference in shaping learners' CAF performance.

Second, subsequent research would benefit from adopting mixed-method designs that combine quantitative data (such as CAF indices and inferential statistics) with qualitative approaches (e.g., interviews, think-aloud protocols, or learner diaries). If both cognitive and affective perspectives were examined simultaneously, deeper insights could be gained into how learners process, plan, and monitor their writing performance under varying task conditions.

Third, since this research focused on junior high school learners, future studies should consider extending the investigation to higher level students like senior high or tertiary EFL contexts. Broader participant demographics would allow for comparisons across proficiency levels and developmental stages, thus strengthening the external validity of findings regarding the cognitive and affective mechanisms proposed in Robinson's framework. If these additional variables were investigated, a more nuanced and comprehensive understanding of how gender, topic preference, and task complexity interact to shape written performance among EFL learners could be obtained.

5.2.2. Suggestions for Pedagogical Application in TEFL Classrooms

From a pedagogical standpoint, the findings of this research hold meaningful implications for Task-Based Language Teaching (TBLT) in Indonesian EFL classrooms. If teachers were to design writing tasks that are cognitively complex in the resource-directing dimension (requiring reasoning, elaboration, and planning) yet simple in the resource-dispersing dimension (minimizing affective strain and lexical unfamiliarity), it is likely that learners' written performance across the CAF

dimensions would improve. Such design would be consistent with Robinson's (2003) assertion that well-calibrated task demands promote efficient allocation of cognitive resources and minimize extraneous processing load.

Moreover, gender and topic preference should be recognized as pedagogically relevant factors. If students were given opportunities to choose or negotiate writing topics based on their interests, engagement and motivation could be enhanced. Specifically, socially expressive and emotionally engaging topics might be more effective for female learners, whereas analytical or action-oriented topics may better stimulate male learners' interest and cognitive involvement.

To promote balanced language development, teachers are encouraged; First, to increase affective engagement and ownership of writing tasks Incorporate student-centered topic selection. Second, facilitate collaborative writing activities that combine social interaction and structural organization, enabling both genders to enhance complementary strengths in accuracy and complexity. The third, provide explicit instruction in metacognitive and cognitive writing strategies, such as planning, monitoring, and revising, to support learners' ability to manage task demands effectively.

If such instructional practices were systematically implemented, it could be expected that Indonesian EFL learners would demonstrate improved written performance across the CAF dimensions while simultaneously developing higher metacognitive awareness and self-regulated learning behaviors. The incorporation

of Robinson's Cognition Hypothesis into EFL classroom design, combined with gender-sensitive task selection, would therefore contribute significantly to enhancing writing pedagogy and learner outcomes in the Indonesian context.

In expanding the field of Cognition Hypothesis, further studies need to be made. This research focuses on the written language production and also the topic preference of different gender of the 9th graders of junior high school students in South Lampung suburb area. Further research may undertake research in a similar field in the context of Indonesian EFL undergraduate students or even postgraduate students in relation to their written language production. Furthermore, it would be best if future researches create tasks to be complex resource-directing and simple in resource-dispersing in relating to individual gender's topic preference and other variables of task condition toward the undergraduate or postgraduate students to investigate their cognitive ability in relation to CAF.

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