# THE USE OF TASK COMPLEXITY IN WRITTEN DATA

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## *Abstract*

*Penelitian ini bertujuan i) untuk menginvestigasi efek dari jenis task yang komplex terhadap hasil menulis siswa dalam bentuk kompleksitas, akurasi, dan kelancaran, ii) untuk mencari perbedaan aspek yang siknifikan di setiap tugas. Subjek dari penelitian ini adalah murid-murid SMAN 7Bandar Lampung. Alat yang digunakan adalah tiga jenis task menulis yang dimanipulasi dan dikombinasikan antara 'resource directing' i.e. –few elements,-there and then, -reasoning demands) dan resource depleting (+planning, +single task, +prior knowledge). Hasil nya menunjukan bahwa task yang dibuat 'reasoning demands' berpengaruh dikompleksitas dan kelancaran. Lalu, task yang berbentuk 'there and then' mempunyai pengaruh yang positif di keakurasian hasil menulis siswa. ii). Aspek CAF di task 3 dan task 2 memiliki perbedaan yang siknifikan dari task 1. Bisa disimpulkan bahwa memanipulasi dan menggabungkan 'resource directing dan resource depleting' mempunyai efek yang positif dan juga siknifikan terhadap hasil menulis siswa.*

*This study was aimed i)to investigate the effect of types of task complexity in students' written performance in terms of complexity, accuracy, and fluency, ii) to find out the significant different aspect of task. The subjects of this research were the tenth grade students of SMAN 7Bandar Lampung. The instruments were three types of written task that manipulated and combined along resource directing (i.e. –few elements,-there and then, -reasoning demands) and resource depleting (+planning, +single task, +prior knowledge).The result showed that i)the task which was designed -reasoning demands affected on complexity and fluency.Then, the task in form of -there and then had positive effect on accuracy in student written performance. ii) The aspect of CAF in task 3 and task 2 had significant different than task 1.  It can be said that manipulating and combining resource directing and resource depleting had positive and significant effect in students' written performance.*

***Keywords:*** *Task complexity, Resource directing-Resource depleting, CAF*

# INTRODUCTION

Task-based approaches, which primarily focus on meaning rather than on forms, are believed to facilitate learners' development of their language (Samudra and Bygate, 2008) as cited in Mahpul (2014). Besides that Lin (2009) suggested that task-based approach aims at presenting opportunities for learners to master language both in speaking and writing via learning activities designed to engage learners in the natural, practical and functional use of language for meaningful purpose. It indicated that tasks were designed to encourage learners to pay primary attention to meaning and simultaneously attend to the form that was necessary to convey meaning.

Additionally, the main objective of task based is to engage language learners in authentic language use through carrying out a series of tasks while interacting with other learners. It also assists students to learn new linguistic knowledge and organize their existing knowledge (Ellis, 2003). It assumes that task based puts much emphasis on requiring learners to fulfill meaningful tasks and the use of authentic language by using the target language. Then task based enables the students to communicate but it does not ignore the grammar of the target language.

The recent years have seen a growing interest in task-based language teaching, and the role of tasks in second or foreign language acquisition. Most of experts investigated the effect of second language learners' oral and written task performance. Rahimpour (1997) explained that when second or foreign language learners speak or write, their speed of production and complexity of their utterances will be affected in different linguistic domains by many factors such as anxiety of the L2 learners, planning time, familiarity with the topic, genre of the tasks, learners' proficiency level, task type, task structure, task condition, and the degree of cognitive complexity of the tasks that they are trying to perform.

Robinson is one of the researchers who has a strong interest in the effects of inherent task characteristics on learners' language production. He proposed the Triadic Componential Framework composed of three aspects, those are; task complexity (cognitive factors), task conditions (interactive factors), and task difficulty (learner factors) (Robinson, 2001b: 30). Robinson (2005) claims that increasing task cognitive complexity has the potential to generate linguistic complexity along certain dimensions of production. He also argues that when tasks are cognitively and functionally demanding or difficult, learners will be encouraged to produce more complex and more accurate language production.

However, the cognitive complexity of tasks may be manipulated in various ways so as to achieve differential effects. Robinson argues that when tasks are made more cognitively demanding along resource-directing factors, such increased demands address or "direct" our attentional and memory resources to the way certain concepts are expressed (i.e. the complexity and the accuracy of the linguistic code). More importantly, the Cognition

Hypothesis predicts that along resource-directing dimensions more interactive complex tasks will result in greater amounts of interaction, and negotiation for meaning.

He also claims that increasing the cognitive demands of tasks along certain dimensions will; (a) push learners to greater accuracy and complexity of L2 production in order to meet the greater functional and conceptual communicative demands they place on the learner; (b) promote interaction, and heightened attention to and memory for input, so increasing learning from the input; as well as (c) longer term retention of input; and that (d) performing simple to complex sequences will also lead to automaticity and efficient scheduling of the components of complex L2 task performance (Robinson, 2003).

A number of studies have interested with the implementation of task based especially in task complexity in terms of complexity, accuracy and fluency. The majority of previous empirical studies have examined the effects of task complexity on second learners' oral task performance but relatively few studies who investigated the role of task complexity in written performance. As well in reviewing task complexity studies on written language production, most of the studies have examined the effects of manipulating the resource-directing factors than resource-dispersing factors.

Ishikawa (2006) examined the effects of manipulating task complexity with respect to here and-now & there-and-then and he found that increasing task complexity with respect to here-and-now dimension increased the accuracy,

fluency, and complexity of written language production.

With respect to L2 writing, Yuan & Ellis, (2004) studied the effects of pre-task planning, on-line planning, and no planning on accuracy, fluency, and complexity of Chinese Narration writings. They found that pre-task planning led to increased fluency and syntactic variety, on-line planning led to increased accuracy. Kang (2005) reported the results of the study done on pre-task planning on L2 learners' written performance. Pre-task planning produced greater fluency and complexity of the learners.

Based on the review of the theories and result of the previous researches, task based have a good impact in language production both oral and written. The evidence of the influence of task design and task complexity manipulation has drawn researchers' attention on the central concept of task complexity with the Cognition Hypothesis as its theoretical framework.

However, there was a gap from the previous research that there have not yet a study that manipulated and combined the two dimensions of task complexity, whereas by manipulating and combining the dimensions of task complexity can encourage the learners to produce language more complex and more accurate. Therefore, as for this research, it deals with the manipulation and combination two dimensions of the task complexity along resource directing (-few elements. -here and now, -reasoning demands) and resource depleting (+planning, +single task, +prior knowledge) in written language production.

## METHOD

In this study, the researcher designed three types of task to one group of students in three meetings. These types of task were in form of complex simple task that developed from Robinsons' cognition hypothesis. Then it carried out one group repeated measure analysis. The independent variables were the three types of task complexity and the dependent variables were complexity, accuracy and fluency. The population of this research was the tenth grade students of SMAN 7 Bandar Lampung. The researcher only took one class as the sample. Three types of task complexity were used as instrument, then the data was analyzed based on CAF formula and ANOVA.

## RESULTS AND DISCUSSION

This section reports the result of 30 students who performed three types of written tasks in terms of complexity (syntactic complexity), accuracy, and fluency.

**Table 1. Means of CAF for the Three Types of Task**

| Task/Measure | Task 1 (-few elements/ +planning, +single task, +prior knowledge) | Task 2 (-there and then/+planning, +single task, +prior knowledge) | Task 3 (-reasoning demands/-/+planning, +single task, +prior knowledge) |
|---|---|---|---|
| **Complexity** | | | |
| Syntactic complexity | 1.177 | 1.167 | 1.307 |
| **Accuracy** | | | |
| Percentage of Error-Free Clause | 68.937 | 77.687 | 73.417 |
| **Fluency** | | | |
| The Number of Words | 7.627 | 6.060 | 9.572 |

The table shows that in syntactic complexity, task 3 (reasoning demands/ planning, single task, prior knowledge) had the highest score compared to the other two types of task. It was around 1.307. Meanwhile, the second highest mean was task 1 (many elements/ planning, single task, prior knowledge). The mean of the task was 1.177.The lowest mean score of complexity is the task 2 (there and then/ planning, single task, prior knowledge) and it is 1.167.

Referring to accuracy measure, it can be seen on the pattern of Error-Free Clause in three types of task is shown in the table 2. It shows that the greatest mean score of accuracy is task 2 (there and then/ planning, single task, prior knowledge) in contrast with other tasks. The mean score of task 2 is 77.687. Then, the second position of accuracy mean is task 1 (many elements/ planning, single task, prior knowledge), that is 73.417. The last position is task 3 (reasoning demands/ planning, single task, prior knowledge). The mean score of the task is 68.937.

While for fluency measure, the highest position is task 3 (reasoning demands/ planning, single task, prior knowledge)

compared with others. It is around 9.572. After that, the second highest of fluency mean score is task 1 (many elements/ planning, single task, prior knowledge) that is 7.627. Then, task 2 (there and then/ planning, single task, prior knowledge) has the lowest mean score of fluency, it is only 6.060.

Based on the results of the research, it was found out that the effect of types of task complexity which contained reasoning demands/planning, single task and prior knowledge (Task 3) affected more complex and more fluent in students' written performance but it was not in accuracy. Besides that, this type of task had the significant difference on complexity and fluency than other types.

It was in line with Yuan and Ellis (2003) who asserted that pre-task planning can directly have a positive influence on language production in terms of fluency and complexity. The results showed that grammatical complexity will be enhanced by pre - task planning while accuracy and grammatical complexity will be influenced by on-line planning. Furthermore pre-task learners will produce fluent language in comparison with online learners.

Meanwhile, types of task complexity which was designed there and then/ planning, single task and prior knowledge (Task 2) had positive effect in accuracy but it did not have significant effect in complexity and also fluency. It was supported that the significance difference of fluency in this type was the highest than others.

Ishikawa (2006) which examined the effect of task complexity and language proficiency on task-based writing

performance. Task complexity was manipulated along here-and-now / there-and-then dimension. The results showed that increasing task complexity for high-proficient learners had positive effects on accuracy, structural complexity and fluency, though; it had negative effects on lexical complexity. The results of increasing task complexity for low-proficient learners, however, showed the positive effects on four modes of production metrics

In contrast, the task which was manipulated in many elements/ planning, single task and prior knowledge (Task 1) did not have significant effect on complexity, accuracy and fluency in compared to the two existing tasks. It can be concluded that the tasks made in the form of complex simple task (i.e. many elements, there and then, reasoning demands – planning, single task, prior knowledge) resulted in different effects from each other. It might be happened because each task had different instruction.

From the discussion above, it can be concluded that manipulating task complexity in form of complex simple task had positive and significant effect in students' written performance. Even if the result of this study did not fully support Robinson' Hypothesis but increasing dimension of task complexity were able to encourage the learners to produce language more complex and more accurate in specific task. Additionally, manipulation of resource directing guides the learners to focus on linguistic while manipulating resource depleting can facilitate the learners to meet the additional task demands.

## CONCLUSIONS

The students got higher complexity and fluency if the task was designed with reasoning demands and also planning, single task and prior knowledge. While the accuracy increased when the task was in form of there and then and planning, single task and prior knowledge. Actually, the effects of those aspects were not only influenced one dimension which has an important contribution.

In planning time, the students had a chance to make an outline so that they can produce language more complex, accurate and fluent. Then, single task helped them to focus in doing one thing. The last was prior knowledge which assisted the students to analyze the topics they already known.

In spite of all the aspects cannot increase simultaneously at one time but manipulating and combining task complexity in two dimensions have positive effect in students' written performance in terms of complexity, accuracy and fluency.

The current research suggests to English teacher who want to design task complexity on students' written performance. In getting the better result for them, the task that can make the students produce more complex and fluent should contain reasoning demands because they can justify their reason. In producing more accurate in students' written performance, the task had better design on there and then.

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