

Influences of Task Complexity Manipulation on L2 Students' Writing

Meishan Chen

Department of English, Northern Arizona University

**Abstract**

A TBLT framework was adopted by manipulating task factors with respect to the dimensions of a) planning time, and b) reasoning demands in order to examine the relationship between task complexity and L2 writing performance. Thirty upper-intermediate level students (with proficiency scores corresponding to 57-69 on the TOEFL iBT) were assigned to two groups (one group with + planning and + reasoning demands; another group with – planning and – reasoning demands) and asked to write an essay based on a picture story. Traditional methods were used to measure syntactic complexity (number of coordinated and subordinated phrases/clauses, non-finite phrases/clauses), accuracy (grammar, punctuation) and fluency (text length and words/minute) of the L2 written output. Significant differences were found in fluency, with the less complex group performing much better by producing longer essays with higher overall quality, but not in syntactic complexity and accuracy. A corpus-based approach was then used to see whether there were other language features that distinguished the writings of the two groups. The results showed that students in the less complex group used more attributive adjectives, modal verbs, and pronouns. The implications of measuring complexity by adopting a bottom-up approach as opposed to a top-down approach are discussed.

*Keywords:* complexity, corpus approach, language features, TBLT

## **Background**

Many research studies investigated the role of Task-based Language Teaching (TBLT) in second language acquisition research and pedagogy (see Bygate, 1999; Ellis, 2003; Robinson, 2003, 2005; Schmidt, 1993; Skehan & Foster, 2001; Tavakoli & Foster, 2008). While most task-based research has focused on spoken language production, the relationship between task complexity and written language production still remains understudied. This paper adopts a TBLT framework by manipulating task factors with respect to the dimensions of a) planning time, and b) reasoning demands in order to examine the relationship between task complexity and L2 writing performance.

## **Research Questions**

1. What are the effects of increasing task complexity, manipulated with respect to the dimensions of a)  $\pm$ planning time, and b)  $\pm$ reasoning demands, on syntactic complexity (number of coordination clauses/phrases, number of subordination clauses/phrases, number of non-finite clauses) of PIE students' descriptive writing?

2. What are the effects of increasing task complexity, manipulated with regards to the dimensions of a)  $\pm$ planning time, and b)  $\pm$ reasoning demands, on accuracy (grammar, punctuation) of PIE students' descriptive writing?

3. What are the effects of increased task complexity, manipulated regarding the dimensions of a)  $\pm$ planning time, and b)  $\pm$ reasoning demands, on fluency (length of text, number of words written per minute) of PIE students' descriptive writing?

4. What are the language features that distinguish students' L2 writing using a bottom-up corpus based approach?

## **Methods**

### **Participants**

Thirty upper-intermediate level students enrolled in an intensive English program at a university in the southwestern U.S. (with proficiency scores corresponding to 57-69 on the TOEFL iBT) were assigned to two groups (one group with +planning time and +reasoning demands; another group with –planning time and –reasoning demands). Participants have various L1 backgrounds (Arabic, Bengali, Chinese, Korean). Their ages ranged from 18 to 35 (Mean=21.61, SD=3.775). There are 25 males and 5 females. All the participants were concurrently enrolled in a freshman composition class at the time the present study was conducted. Since two of the intact groups included 8 and 9 students respectively, a total of 17 students were assigned to the group with less complex task, and 13 students in another intact group was assigned to the group with more complex task.

### **Materials**

In order to address the research question, the following materials were used: (a) a language background questionnaire to obtain information about participants' first language and how long have they been learning English, (b) two versions of the same picture story that contains six pictures, with the picture given to the more complex group arranged in the wrong order, and the picture provided to the less complex group arranged in the correct order.

### **Analysis**

In order to answer my research question, descriptive statistics and independent t-tests were conducted on the data to investigate the relationship between task complexity and students' L2 writing performance. All statistical analyses were carried out using SPSS ver. 10.0, with the level of significance set at 0.05 (two-tails).

## **Results**

Results showed no significant difference between the two groups on their syntactic complexity and accuracy when task complexity is increased. However, the manipulation of task complexity significantly influenced fluency of students' writing, with the less complex group performed much better by producing longer essay with higher overall quality. A corpus-based approach was then used to see whether there were other language features that distinguished the writings of the two groups. The results showed that students in the less complex group used more attributive adjectives, modal verbs and pronouns, which made their writings longer and of higher quality. The results of this study are first compared to other studies investigating task complexity and writing which did not find significant effects of task complexity manipulation on L2 writings' complexity and accuracy, but found a difference in fluency (Ong and Zhang, 2010; Kuiken and Vedder, 2008). Next, the implications of adopting a bottom-up approach as opposed to a top-down approach are discussed. The paper illustrates how a bottom-up approach provides some promising evidence of language differences in L2 student writing with respect to the predictions made by TBLT research.

### **Relevance to PIE and Second Language Learning**

Since there is a lack of studies that look into the effect of manipulation of task complexity on students' writing, the current study aimed to fill the gap by investigating the relationship between task complexity and L2 writing performance. By manipulating planning time and reasoning demands, the current study found that the less complex group did better in fluency and the overall quality of the essay, compared with the more complex group. Moreover, by looking at the rhetorical features in the writing outputs, teacher could distinguish students' L2 writings. Accordingly, teachers could elicit certain language features from students' writing outputs by

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manipulating writing task complexity. The manipulation of task complexity could engage learners in using language purposefully and cooperatively. In addition to the possibility that learners may notice and start to acquire items that are considered new to them, participating in these tasks may also push students to make use of language they are just starting to be aware of. These tasks set up the conditions that will allow learners to acquire what they are ready to notice and understand and integrate into their developing interlanguage, rather than predetermining language content to be learned. These tasks can also be used to consolidate language already introduced, to promote fluency, and fluent use of language already focused on. Finally, teachers can use tasks to assess what learners can and cannot do in order to diagnose problems and plan subsequent language-focused input.

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