



# Analysis of EFL Learners' Writing Process in China: Comparison Between English Major and Non-English Major Learners

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## Abstract

EFL learners' writing is one of the most concerned fields in language teaching and learning. This study approached English major learners and Non-English major learners' writing process with the help of Inputlog and Range program. The obtained data were processed in SPSS 21 and subsequently analyzed from the following three aspects: time allotment, words produced in the process and production, and ratio and proportion. Results reveal that EFL English major learners are significantly more competent in writing than Non-English major, but their pause and revision pattern differ radically. From the results, some pedagogical implications are proposed for teaching writing and future researches.

**Key words:** EFL; Writing process; English major learners; Non-English major learners

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## INTRODUCTION

Writing is a complex skill that is hard to teach and improve; the whole enterprise is beyond words and conception

(Smith, 1982). The present dominant practice in teaching writing can be characterized as putting together linguistic form in order to create a text, analyzing and evaluating the written text in the context of classroom teaching. It is universally acknowledged that writing can be viewed as a product and a process to analyze. The product approach emphasizes the linguistic aspect of writing, such as choices of words, cohesion and coherence, and values imitation as a pivotal means for improving writing. However, product approach fails to take learners' cognitive thinking and writing skills into consideration, which contribute enormously to understanding teaching writing and improving learners' writing ability.

## 1. LITERATURE REVIEW

Writing a composition is a complicated process, which involves careful and patient planning, logical and coherent reasoning, rational and abstract reflection, and skills in semantic organization. EFL learners, not matter English major or Non-English major learners, are almost universally advised to start a composition by planning first, then to produce the text, and in the end to review the finished draft. Unfortunately, the writing process is not activated and maintained linearly as claimed to be. Instead, this process is believed to be recursive with one process calling on another. In studying writing process, Rohman (1965) first put forward that it can be divided as planning, translating, and revision, which were later doubted and challenged because of its vagueness. Hayes & Flower (1981) stated that writing a composition requires several high-level and low-level processes, such as planning, translating, revising, and motor execution process and all of them require working memory resources. Later, Scardamalia & Bereiter (1983) further expanded the evaluation and revising process by introducing their CDO (compare, diagnose and operate) planning model to expound how to manage a writing process. The result

revealed that CDO model could make it easier for learners to write, unfortunately, it failed to improve their writing. Unlike them, Nystrand (1989) claimed that writing process should be regarded as a social interaction between writers and readers with the help of text. Meanwhile, his statement was soon criticized that it could not explain the writing process as an individual activity. To make up for this shortcoming, Grabe & Kaplan (1996) presented a comprehensive writing model known as social cognitive, which characterizes writing process as individual social behavior affected by certain writing settings. This model presents a panorama of writing process, but too complex to be specified for language learners and language teachers to manage.

In addition to these models designed for revealing writing process, researchers have also tried a multitude of methods and tools for explicating writing process. Sasaki (2000) probed into EFL learners' writing processes by videotaped pausing behaviors while writing, think-aloud strategy, and analytic scores given to the written texts in Japan. Coniam & Kit (2008) incorporated WIKI into teaching English writing and found the WIKI group produced more cogent documents than groups who worked in a pen-and-paper format. Recently, a plethora of tracking software programs, including Scriptlog, Inputlog, and Translog, have been developed to assess written narratives (Asker-Amason, Wengelin, & Sahlen, 2010), to investigate the interplay between aphasia and text production (Behrns, Ahlsen, & Wengelin, 2010). Furthermore, Leijten & Van (2013) pointed out that Keystroke logging has become instrumental in identifying writing strategies and understanding cognitive processes.

In essence, the study of writing process has been a central and hot topic. Some researchers attempted to provide a cognitive framework for EFL writing process evaluation, while some other researchers concentrate on new technology to penetrate into writing process. However, until now there are few researches having been devoted to writing process among EFL English major learners and Non-English major learners in China with the help of tracking program and from the perspective cognitive process, which makes this study necessary and worthy. In order to facilitate understanding the relationship between writing process and vocabulary level, Range program was also employed.

### 1.1 Research Questions

Question 1. What is the writing process of English major learners?

Question 2. What is the writing process of Non-English major learners?

Question 3. Is there a significant difference between the writing process of English major learners and Non-English major learners?

### 1.2 Research Method

Subjects: Two groups of EFL learners in China were studied. Learners in Group A ( $n=30$ ) are English major

students, among whom there are 28 female and 2 male, their ages range from 19-21; learners in Group B ( $n=31$ ) are non-English major students, among whom there are 20 female and 11 male, their ages range from 19-21. Both groups are sophomores of the same local comprehensive university in Jiangsu, China, who all started to learn English from the 3<sup>rd</sup> grade in their elementary schools.

Instruments. In this research, two instruments are employed to gather and analyze the data about writing process. The first is Inputlog 6.0 Beta, which has been developed since 2003 at the University of Antwerp. It is a free program for writing process research to capture every keystroke under Windows environment, which allows researchers to record writing process data, generate various data files, integrate various kinds of data from other programs and playback the recorded session. The second is Range program, developed by Nation and Coxhead at Victoria University, which is also a free program and can be used to measure the vocabulary and the habitual usage of vocabulary through the compositions they have written.

## 2. ANALYSIS AND DISCUSSION

In order to establish almost the same environment for learners to write, two groups of learners were invited to attend the writing class in the language labs, where every learner could have access to a desktop computer with Inputlog 6.0 Beta installed. They were all informed that they had 40 minutes, a whole period of class to finish a composition with a given topic, they could finish the composition earlier or later than the scheduled time. At the same time they were explained that their teachers would grade their composition so that they could treat this writing task as a formal assignment, which helped researchers to obtain genuine writing process data. Before their writing, one of the researchers demonstrated on how to write a composition with Inputlog and explained that learners were permitted to turn to internet for help when they were not sure of the English expression such as on-line dictionary.

After all the learners finished their composition, all the data were saved and analyzed first in Inputlog with its general function and summary function. Among all the data obtained, eight indexes from three categories were chosen to illustrate the learners' writing process, including total writing time, total pause, active writing time, words produced in the process, words produced in the final production, mean word length, characters in production/process, and words in production/process. Subsequently, to identify the learners' vocabulary more accurately between two groups, all the compositions were saved as txt files and then processed by Range with GSL/AWL list. The data of tokens, types, and families were obtained. Finally, all the data were processed by SPSS 21 to understand their writing process respectively and to make

a comparison of writing process between two groups from the aspects of time allotment, word produced, and ratio and proportion.

### 2.1 Time Allotment

Time allotment refers to how the time is assigned in the writing process. Aiming to understand this process in a more delicate way, this study deploys Total Pause (TP) and Active Writing Time (AWT) to make up Total Writing time (TWT). Two groups of learners were required to finish the composition in 40 minutes, while at the same time they were allowed to finish before or after the scheduled time. Thus, they were put at their comfort zone to write. In the hand-writing mode, it is extremely difficult for researchers to obtain accurate data on TP and AWT, except TWT. With the benefit of Inputlog, these accurate and objective data can be declared. In this study, pause is defined as the time between key in and key in, which can be found in or between words, phrases, clauses, sentences, and paragraphs. Threshold value of it is set as 2 seconds for low-level language or cognitive processes, which is supported by Sullivan and Lindgren (2002).

As revealed by descriptive statistics, mean of AWT (Group A) is 15.96, while that of Group B is 23.67; mean of TP in Group A is 13.80, while that of Group B is 16.09. Obviously, there is a difference between their proficiency in writing, which is further validated by T-test (Table 1) that there is a significant difference between EFL English major learners and EFL Non-English major learners on TWT ( $p < 0.05$ ) and AWT ( $p < 0.05$ ). English major learners as expected are more efficient and proficient in writing than non-English major learners.

**Table 1**  
**Comparison on Time Allotment**

	Levene's test for equality of variances		t-test for equality of means			
	F	Sig.	t	df	Sig. (2-tailed)	Mean difference
TWT	.593	.445	-3.062	59	.003	-9.30968
TP	.757	.388	-1.086	59	.282	-2.29677
AWT	2.182	.145	-4.594	59	.000	-7.71075

Surprisingly, there is no significant difference between them on TP ( $P 0.282 > 0.05$ ), though there is a gap between their mean. It is expected that English major learners should devote more time in active writing with less time spent on pause, as Kellogg (2008) once concluded that age, experience and language competence influence the writing process. Non-English major learners are expected to spend more time on pause, but which is not supported by the data. Though there is no significant difference on time spent on pause, the data from Inputlog disclosed that the way they spent on pause differed. For example, the way they spent for seeking help is different. Non-English

major learners are found to prefer on-line translation or a model composition; while English major learners are more in favor of on-line dictionary.

### 2.2 Words Produced in the Process and Production

Both groups were required to write a given topic composition almost under the same environment, therefore how many words they have written within the time limit can approximately present an account of their writing ability. In the pen-and-paper mode, it is complex and hard to define how many words have been produced in the writing process, while Inputlog can produce a detailed account. Data in Table 2 state there is a significant difference between two groups on Words in Process (WiPs) and Words in Production (WiPn):  $P$  (WiPs)  $< 0.05$  and  $P$  (WiPn)  $< 0.05$ . It may be tentatively concluded that EFL English major learners can produce more words than EFL their writing improvement, no matter in the process or in the final product. However, there is still one another factor contributing to this difference-their writing habit. English major learners are accustomed to writing requirement (at least 200 words) in TEM-4, and non-English major to CET-4 (120-180 words). They consciously or unconsciously align themselves with these two requirements on word number respectively. Whether this requirement has become a stumbling block for Non-English major learners is worth of further research.

**Table 2**  
**Comparison on Words in the Process, Words in the Production and Mean Word Length**

	Levene's test for equality of variances		t-test for equality of means			
	F	Sig.	t	df	Sig. (2-tailed)	Mean difference
WiPs	.004	.949	4.139	59	.000	61.51505
WiPn	5.947	.018	3.828	59	.000	43.73656
MWL	12.710	.001	-2.591	59	.012	-.58786

Another surprising finding is Mean Word Length (MWL), though there is a significant difference between two groups, Non-English major learners tend to write longer words than English major learners do. Does this indicate that in the usage of words Non-English major learners are more advantageous? Subsequent Range analysis ran counter to this assumption obviously. There are three word lists embedded in Range: Baseword 1 has the most frequently used word families, Baseword 2 has the second most frequently used word families. Nation (2012) claimed that the two lists cover 87% vocabulary of English texts. Baseword 3 is mainly for academic words, which matters in English for Special Purpose (ESP) learners. Data from Table 3 still confirm that English Learners have better ability in word variety than those in Non-English group, because  $P$  (family 1)  $< 0.05$ ,  $P$  (family

2)<0.05, and  $P$  (family 3)<0.05, which indicate the difference is significant enough on these three.

**Table 3**  
**Comparison on Word Families**

	Levene's test for equality of variances		t-test for equality of means		
	F	Sig.	t	df	Sig. (2-tailed)
Family 1	4.858	.031	4.371	59	.000
Family 2	17.672	.000	4.508	59	.000
Family 3	6.838	.011	4.592	59	.000

### 2.3 Ratio and Proportion

Ratio refers to total number of characters in the final text/total number of characters produced during the writing process. If this number is 1, no revision has taken place. It can be claimed that the lower the number is, the more revisions take place. In proportion section, there are three indexes: Characters (including spaces), Characters (excluding spaces), and Words. Among them, this study chose words, which is defined as total number of words in the final text/total number of words during the writing process. These two were used to explain the revisions they made and the difference between them.

The descriptive statistics framed an unexpected picture: in Ratio, mean (Group A) = 0.8523, mean (Group B) = 0.7394; in Proportion, mean (Group A) = 0.8860, mean (Group B) = 0.9903. In Ratio aspect, it captures any changes in characters including space, there is a significant difference between two groups ( $p<0.05$ ) as indicated in Table 4. It supports that English major learners are more confident in their writing ability by making less revisions. While in terms of words, a radically different picture is painted that Group B made less revisions than Group A, though not statistically significant. By tracking the writing process, the truth is identified that Group B learners copied some sentences from the model composition in the internet directly or translated sentences by the on-line translation, while no case has been found among Group A. This may help to explain why they make fewer changes than English major learners. Therefore, the conclusion is still consistent that EFL English major learners display more confidence in their writing in the aspect of revision.

**Table 4**  
**Comparison on Ratio and Proportion**

	Levene's test for equality of variances		t-test for equality of means			
	F	Sig.	t	df	Sig. (2-tailed)	Mean difference
Ratio	4.978	.029	2.553	59	.013	.11298
Proportion	15.983	.000	-1.417	59	.162	-.10432

## CONCLUSION

Through the analyses of these three respects, it could be concluded that EFL English major learners are better and have more confidence in writing than EFL Non-English learners in China. The rough time scale they spent in pause and active writing, the word numbers confinement and active vocabulary of two groups, and the ways they prefer in writing and revisions revealed by Inputlog and Range provide some pedagogical implications for EFL writing. First, as shown in the analysis, Inputlog can be used as monitoring tool to discourage them from copying and cheating because every writing act is recorded and can be retrieved. In the second place, teachers should encourage students to write as many words as possible by breaking the test entanglements. One more suggestion is that more strategies for planning and revisions in writing should be clarified (Lindgren & Sullivan, 2006) and demonstrated to the learners by their own writing process data. Equipped with data from Inputlog and Range, teachers can provide more specific and individual writing feedbacks and scaffolding to help them improve their writing in accordance with different expectations placed on them by their major.

Admittedly, this study has its own limitations. The number of subjects who participated is limited, which may undermine the conclusions and pedagogical implications. Moreover, all the data were obtained from one composition they wrote, which may not reflect their real stable writing process. Therefore, in order to acquire more and reliable data, future researches are advised to be carried on a large scale by writing three or more compositions. What's more, the pause and revision process are rich mines worthy of further exploring from the aspect of cognitive and language learning.

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