# Effectiveness of Process Writing Approach on Negative Transfer of Mother Tongue in EFL Writing and EFL Learners' Writing Performance in the Chinese Context

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# **Abstract**

Currently, the reform in English teaching continues to progress in China, and an increasing attention has been focused on the topic of English writing teaching. The current research aims to investigate the effect of process writing interventions (PWIs) on mitigating the negative transfer of mother tongue in students' English writing so as to improve their English writing performance. Based on the action research design, 124 second-year students from a private university in western China were divided into experimental group and non-randomized control group, and both quantitative and qualitative data were collected at pre-PWI and post-PWI phase to determine the effects of PWIs. The findings of the current research indicated that the negative transfer of mother tongue was significantly relieved and student's English writing performance was obviously improved in experimental group under the instruction of process writing approach. However, there was no significant improvement for the control group between pre-PWI and post-PWI stages under the instruction of product-oriented approach. In addition, there is a negative correlation between negative transfer of mother tongue (except for the discourse error) and student's English writing performance. And the negative transfer of mother tongue has a predictive role on student's English writing performance. These findings contribute to the understanding of the effect of process writing approach in teaching EFL writing.

# **Keywords**

Action research; negative transfer of mother tongue; English writing performance; process writing interventions.

#### 1. Introduction

Language competence refers to the ability to understand and express meaning through listening, speaking, reading, and writing. Therefore, language competence can be assessed from the four dimensions of listening, speaking, reading, and writing, among which writing is one of the most difficult part. Committee for National College English Test Band 4 and Band 6 [6] puts forward detailed requirements for Chinese college students' English writing: Candidates are required to be able to express their opinions on general topics in English and their expressions should be clear, complete, fluent and appropriate.

Nevertheless, the English writing performance of Chinese students has not significantly improved for a long time and a large amount of mistakes can be found in Chinese student's English writing [28]. The main reason behind is language transfer. According to Odlin [21], he argues that "Transfer is the influence resulting from the similarities and differences between

the target language and any other language that has been previously (and perhaps imperfectly) acquired." And this transfer can be divided into positive transfer and negative transfer [9]. Given that the majority of mistakes in students' English writing are caused by the negative transfer, this study will put more emphases on the negative transfer of mother tongue.

Currently, process writing approach proposed by Wallace Douglas [8] is widely applied in teaching EFL writing by many teachers on a global basis. Different from product-based approach, this approach focuses more on the writing process rather than the grammatically correct form and the final text [1].

Based on this situation, this research will conduct an empirical research using process writing approach to improve the undergraduates' English writing performance, which could eventually promote the reform of college English writing teaching mode in the Chinese context. To be specific, this study aims to address the following research questions:

What is the effect of PWIs on alleviating negative transfer of mother tongue in students' English writing and improving student's English writing performance?

What is the relationship between negative transfer of mother tongue in students' English writing and student's English writing performance?

How does negative transfer of mother tongue in students' English writing affect student's English writing performance?

# 2. Literature Review

# 2.1. Process Writing Approach

Recently, process writing approach, also named process-oriented approach, has been frequently utilized in teaching writing. Wallace Douglas was the first to put forth the process writing method, and he argued that writing is a process [8]. To be specific, process writing was defined as a cyclical and interrelated process [11, 29]. From another perspective, process writing approach regarded students as the center of classroom, and teachers are active organisers [20]. However, it is worthwhile to mention that, according to [18], teachers could offer some instructions to learners if necessary. Collectively, based on these definitions mentioned above, process writing approach has three main characteristic: firstly, it emphasizes composing process; secondly, it contains complex and cyclical processes; thirdly, it is student-centered.

In light of Tribble [27], a typical model of process writing can be divided into four stages: prewriting, composing/drafting, revising and editing, which is a feasible and practical model of process writing. Therefore, this model will be used to form the process writing interventions (PWIs) in this study. The detailed procedures of his process writing are illustrated blow.

Pre-writing is a kind of preparing activities, which consists group discussion, reading related materials, brainstorming and so forth. During this period, they will acquire and accumulate many knowledge needed.

At composing stage, students are encouraged to write first draft by using the information learned in the pre-writing stage.

During the revising stage, students will revise and perfect their first draft with the help of teachers.

Students would finish their final draft and take the substance errors like spelling and punctuation more seriously in the period of editing.

# 2.2. Negative Transfer of Mother Tongue

Researchers have investigated the field of language transfer for many years [7, 25]. The concept of "language transfer" was firstly proposed in 1950s. Language transfer is generally defined as

a phenomenon happening from the mother tongue of the learner to target language [14, 24], which might means language transfer only arises between first language and target language. Similarly, Rod Ellis [10] contends that language transfer happens when linguistic characteristics of one language have impacts on another. This view defines language transfer in a broader sense. In contrast, Schachter [23] argues that language transfer is definitely not a process, but a "constraint" preventing the learner's language acquisition. However, the limitation of this concept could be that it simply illustrates the adverse impacts of language transfer and ignores the positive influences. Odlin [21] gives a more comprehensive definition and regards language transfer as an "influence" produced by the "similarities" and "differences" between the target language and the language that has been acquired. Odlin's definition reveals the nature of language transfer and has been generally accepted by linguists. This makes great contributions to the development of SLA.

From the perspective of influences on SLA, language transfer could be categorized into two kinds: Positive transfer and negative transfer [3]. Positive transfer is "an L1 structure or rule" used in an L2 utterance and that use is appropriate or "correct" in the L2" [22], which means while the L1 and L2 have similarities, the process of learning will be accelerated. For example, as for the syntax, both English and Chinese have the sentence structure of "SVO". This means Chinese learners are likely to understand and write sentences like "he is my father" and "she likes dancing."

In fact, Chinese belongs to the Sino-Tibetan language family, while English belongs to Indo-European language family [4]. Therefore, there are plenty of differences between Chinese and English, and the Chinese learners tend to make some errors when they use English. Here comes the negative transfer of mother tongue, which is also perceived as interference. When learners learn L2, they are likely to ask for help from their mother tongue. Because they are more familiar with their mother tongue. The negative transfer of mother tongue is defined as the differences between L1 and L2 and the L1 interference that will exert negative impacts on the SLA [17]. Similarly, Brown [3] maintains that when "previous performance" interferes in the "performance of a second task," the negative transfer would occur, which is likely to become the obstacles in the process of SLA. For instance, with respect to syntax, Chinese students may write sentences which lacks the subject like "As a teacher, our students tend to give more respect to them."

# 2.3. English Writing Performance

In the field of SLA, performance is defined as the actual use of language in real situations [5], and performance emphasizes the use of language in concrete situations. The scoring criteria for writing section of IELTS test (International English Language Testing System) [2] is adapted as standard while evaluating students' EFL compositions in this research. Thus, coherence and cohesion, lexical resource and grammatical range and accuracy are the three dimensions, which offers a more comprehensive and systematic way to assess English writing performance.

#### 2.4. Action Research

In 1946, Kurt Lewin first put forward the concept of action research for the purpose of social research [15]. The purpose is to promote the practice in real situation. In the field of education, action research is defined as a way of self-reflection done by practitioners and educators to improve their own understanding and judgment on careers they are engaged in [12].

Then, Kemmis and McTaggart [13] point out an action-reflection cycle of planning, action, observation and reflection (see Figure 1), which would recur constantly until the action researcher has found a satisfying outcome. In the following section, this action-reflection cycle will be briefly explained.

Planning. In this phase, researcher find a problem or issue that need to be improved and then formulate a plan of action so as to achieve improvements in a this specific area.

Action. It is composed of some well-designed interventions into your teaching situation that you take actions over a period of time.

Observation. This stage requires you to systematically observe and record the effects of the action (interventions). This is a data collection phase so you should try your best to collect information regarding what happens.

Reflection. At this point, you ought to reflect, assess, and describe the impacts of the action you have taken and then you can decide whether you need to continue to the next cycle of AR to achieve a higher enhancement of the situation [13].

# 2.5. Theoretical Framework

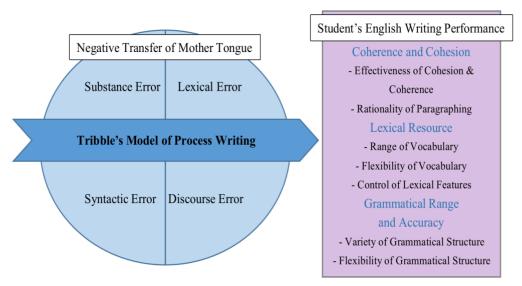


Fig 1. Theoretical Framework (Modified by the Researcher)

Based on the review of the various patterns and researchers' perceptions of these concepts and ideas, process writing approach, language transfer, student's English writing performance and action research theories are discussed. In addition, various theories and concepts have been combined on more specific theoretical frameworks, formulating the analysis of this study.

According to the literature review, negative transfer of mother tongue will be used to affect student's English writing performance. The dimensions of measuring negative transfer of mother tongue is divided into substance error, lexical error, syntactic error, and discourse error. Questionnaire for negative transfer of mother tongue adapted from [19] can be used to assess negative transfer of mother tongue in these three dimensions. Furthermore, as the Figure 1 shows, the three dimensions of student's English writing performance are coherence and cohesion, lexical resource, and grammatical range and accuracy, which are adapted from the scoring criteria of writing part in IELTS test. Questionnaire for English writing performance adapted from [16] is an effective tool to measure student's English Writing Performance in these three aspects.

Finally, Tribble's model of process writing is utilized as intervention to alleviate negative transfer of mother tongue in student's English writing and improve student's English writing performance.

#### 2.6. Action Research Framework

The action research framework in this study includes three stages: pre-PWI stage, PWI stage, and post-PWI stage, which is illustrated in Figure 2.

The purpose of pre-PWI stage is to identify the current situations of negative transfer of mother tongue and student's English writing performance. Questionnaires will be implemented in this stage with the permission of the English writing teacher in both experimental group and control group.

PWI Stage is the instructional phase. The researcher will design appropriate PW Interventions based on Tribble's model of Process Writing [27] and conduct the interventions to alleviate the errors produced by the negative transfer of mother tongue in student's English writing with the help of experienced English teacher. During this stage, the researcher and the teacher will have face-to-face discussion to thoroughly analyze and reflect the implementation of PW Interventions every Friday.

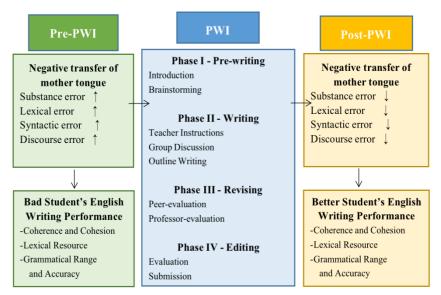


Fig 2. Action Research Framework (Modified by the Researcher)

The post-PWI stage is to scrutinize the effect of PWIs on negative transfer of mother tongue and student's English writing performance. The same questionnaire in the pre-PWI phase will be utilized again at this stage. Then, the results in both pre-PWI stage and post-PWI stage on negative transfer of mother tongue and students' English writing performance will be analyzed and compared.

# 3. Methodology

# 3.1. Participants

According to "purposive sampling" method in qualitative research, second-year students of four parallel classes from Y university in S city with similar English performance in the college entrance examination were chosen as the target group. In this research, the target group was divided into two groups. One was randomly appointed as the Experimental Group (EG), and the other was the Control Group (CG). There were 62 participants in the experimental group and control group respectively. All participants were between 18 and 20 years old. In order to avoid the influences of gender factor, the four parallel classes had similar proportion of males and females (see Table 1).

Besides, choosing first-year students in university as sample is more feasible and persuasive since the freshmen have just enrolled in the university and they are in the transitional period from senior high school to university. More errors could be found in their writing because of the inadequate training of English writing.

Table 1 Gender Data of Subjects

Gender	Experimental Group	Control Group
Male	7	6
Female	55	56
Total	62	62

#### 3.2. Measures

# 3.2.1. Negative Transfer of Mother Tongue

The questionnaire for negative transfer of mother tongue in EFL writing used in this research is adapted and modified from [19]. This questionnaire has 12 items with four factors. These four factors were: 2 items regarding substance error, 3 items related to lexical error, 4 items suggestive of syntactic Error, and 3 items indicative of discourse error. A sample item was, "In English writing, I mix the Chinese and English punctuation or use punctuation incorrectly". Students responded on a 5-point Likert-type scale ranging from 1 (never) to 5 (always). This scale demonstrates good internal reliability in the present study (Cronbach  $\alpha$  = 0.897).

# 3.2.2. English Writing Performance

The self-rated questionnaire for English writing performance used in this research adapted and modified from [16]. This questionnaire has 12 items with three factors. These three factors were: 2 items regarding coherence and cohesion, 3 items related to lexical resource, and 4 items suggestive of grammatical range and accuracy. A sample item was, "I can present a clear central topic within each paragraph.". Students responded on a 5-point Likert-type scale ranging from 1 (very unsure) to 5 (very sure). This scale demonstrates good internal reliability in the present study (Cronbach  $\alpha$  = 0.892).

# 3.3. Process Writing Intervention Design

The researcher analyzed the questionnaires on negative transfer of mother tongue and English writing performance during the pre-PWIs stage. And based on the results of the pre-PWIs stage, the researcher implemented appropriate PW Interventions (see Table 2) towards the experimental group for four months with the help of the professional English writing teacher and the control group accepted customary training. At the post-PWI stage, the researcher analyzed samples of English compositions with the same difficulty and conducted the same questionnaire to the same respondents (both the experimental group and control group) in order to figure out the improvement.

# 3.4. Data Collection and Analysis

The researcher met with two English writing teachers (one from the experimental group and the other from control group) to discuss the available time for the survey beforehand. The questionnaire was distributed by the teacher to the respondents in English lesson and the respondents have about 10 minutes to finish it. Teachers monitored the students during the whole process so as to avoid unnecessary communication among students, which may affect the results, and then the teacher recalled all the questionnaires. Then, independent sample t-test, paired sample t-test, Pearson correlation analysis and multiple linear regression analysis in SPSS 26.0 were used to analyze the results.

Table 2 Design of process writing interventions

Place	Step	Interventions	Time
In	1	Pre-Writing - Introduction - Teacher Instruction - Brainstorming	English Writing class (each Friday)
Class	2	Composing - First Draft - Peer-evaluation - Group Discussion	English Writing class (each Friday)
After	3	Revising - Second Draft - Professor-evaluation	Saturday To Next Wednesday
Class	4	Editing - Final Draft - Submission	Thursday To Friday

# 4. Findings

# 4.1. Changes in Negative Transfer of Mother Tongue and English Writing Performance

Table 3 Descriptive statistics and independent sample t-test results at pre-PWIs stage

Variables	CG		EG		Independent sample t-test results		
	Mean	SD	Mean	SD	t	P	
Substance Error	4.85	1.353	5.34	1.459	-1.915	0.058	
Lexical Error	7.13	2.459	6.98	2.092	0.354	0.724	
Syntactic Error	10.37	2.650	11.15	2.268	-1.748	0.083	
Discourse Error	6.69	2.013	6.89	1.830	-0.560	0.576	
Coherence and Cohesion	13.02	2.060	12.42	2.301	1.521	0.131	
Lexical Resource	12.58	2.791	11.68	2.414	1.927	0.056	
Grammatical Range and Accuracy	10.56	2.085	10.00	1.890	1.579	0.117	

Table 3 shows means and standard deviations in all variables of negative transfer of mother tongue and English writing performance in experimental group and control group at pre-PWIs stage. The scores (P > 0.05) of Sig. (2-tailed) indicates no statistically significant differences occurred in all variables, meaning that the negative transfer of mother tongue and student's

English writing performance in experimental group and control group are very similar at pre-PWIs stage.

Table 4 shows means, standard deviations, and paired sample t-test results of experimental group at pre-PWIs and post-PWIs stages. The scores (P < 0.05) of Sig. (2-tailed) indicates statistically significant differences occurred in all variables, meaning that the negative transfer of mother tongue is significantly alleviated and student's English writing performance is significantly improved in experimental group through Process Writing Interventions.

Table 4 Descriptive statistics and paired sample t-test results of experimental group at pre-

PWIs and post-PWIs stages

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Variables	Pre-	Pre-PWIs		PWIs	Paired sample t-test results	
	Mean	SD	Mean	SD	t	P
Substance Error	5.34	1.459	4.08	1.205	5.500	0.000
Lexical Error	6.98	2.092	5.92	1.795	3.188	0.002
Syntactic Error	11.15	2.268	9.81	1.880	3.504	0.001
Discourse Error	6.89	1.830	5.97	1.649	3.100	0.003
Coherence and Cohesion	12.42	2.301	15.34	2.722	-6.996	0.000
Lexical Resource	11.68	2.414	13.58	2.426	-4.665	0.000
Grammatical Range and Accuracy	10.00	1.890	11.81	1.915	-5.182	0.000

Table 5 Descriptive statistics and paired sample t-test results of control group at pre-PWIs and post-PWIs stages

Variables	Pre-PWIs		Post-PWIs		Paired sample t-test results	
	Mean	SD	Mean	SD	t	P
Substance Error	4.85	1.353	5.13	1.635	-1.235	0.221
Lexical Error	7.13	2.459	6.66	2.134	1.044	0.301
Syntactic Error	10.37	2.650	10.71	2.425	-0.743	0.460
Discourse Error	6.69	2.013	7.10	1.973	-1.160	0.251
Coherence and Cohesion	13.02	2.060	13.40	2.725	-0.851	0.398
Lexical Resource	12.58	2.791	12.40	2.825	0.346	0.731
Grammatical Range and Accuracy	10.56	2.085	10.29	2.036	0.834	0.407

Table 5 shows standard deviations, and paired sample t-test results of control group at pre-PWIs and post-PWIs stages. The scores (P > 0.05) of Sig. (2-tailed) indicates no statistically significant differences occurred in all variables, meaning that the negative transfer of mother tongue and student's English writing performance is almost constant in control group without any interventions.

# 4.2. The Relationship Between Negative Transfer of Mother Tongue and English Reading Performance

As shown in Table 6, all variables of negative transfer of mother tongue (substance error, lexical error, syntactic error and discourse error) are significantly negatively correlated with student's English writing performance on all variables (coherence and cohesion, lexical resource as well as grammatical range and accuracy). Alternatively, the lower the negative transfer of mother tongue score, the higher the English writing performance score. For example, the less the syntactic errors occurred in student's English composition (syntactic errors), the better he /she was in terms of grammar (grammatical range and accuracy).

Table 6 Pearson correlations among the variables at post-PWIs stage (N=62)

Variables		Coherence and Cohesion	Lexical Resource	Grammatical Range and Accuracy
Substance	Pearson Correlation	-0.448**	-0.476**	-0.526**
Error	Sig. (2-tailed)	.000	.000	.000
Lexical Error	Pearson Correlation	-0.400**	-0.422**	-0.410**
Lexical Live	Sig. (2-tailed)	.001	.001	.001
Syntactic	Pearson Correlation	-0.403**	-0.446**	-0.511**
Error	Sig. (2-tailed)	.001	.000	.000
Discourse	Pearson Correlation	-0.333**	-0.335**	-0.345**
Error	Sig. (2-tailed)	.008	.008	.006

<sup>\*</sup>p < 0.05, \*\*p < 0.01

# 4.3. The Predictive Role of Negative Transfer of Mother Tongue on English Reading Performance

Table 7 Summary of the regression models

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	<b>Durbin-Watson</b>		
1	0.680a	0.462	0.424	4.697	2.439		
a. Predictors: (Constant), Substance Error, Lexical Error, Syntactic Error, Discourse Error							
	b. Dependent Variable: Student's English Writing Performance						

As shown in Table 7, multiple linear regression analysis was run to test the predictability of English writing performance by four variables of negative transfer of mother tongue. R came out to be 0.680 and R2 came out to be 0.462, which means that the model describes 46.2% of the variance in the total score of English writing performance. The difference between the observed and adjusted R2 (0.462 - 0.424 = 0.038) implied that the observed predictive power had 0.038 (3.8%) differences with the population index, which indicates high generalizability. Furthermore, the Durbin-Watson (DW) index of 2.439 showed that the assumption of

independence errors was assured. As stated by Tabachnick and Fidell [26], DW files between 1 and 3 are satisfactory.

The results of ANOVA analysis is illustrated in Table 8. It can be found that negative transfer of mother tongue were significant predictor of English writing performance, as shown by the results (F = 12.245, P < 0.05).

Table 8 Regression results: ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
	Regression	1080.672	4	270.168	12.245	0.000b
1	Residual	1257.667	57	22.064		
	Total	2338.339	61			

a. Dependent Variable: Student's English Writing Performance

b. Predictors: (Constant), Substance Error, Lexical Error, Syntactic Error, Discourse Error

Table 9 Regression results: coefficients

Model			ndardized ficients	Standardized Coefficients	t	Sig.
	-	В	Std. Error	Beta		
	(Constant)	62.214	3.525		17.651	0.000
	Substance Error	-1.923	0.629	-0.374	-3.059	0.003
1	Lexical Error	-0.995	0.401	-0.288	-2.479	0.016
	Syntactic Error	-0.775	0.378	-0.235	-2.052	0.045
	Discourse Error	-0.025	0.466	-0.007	-0.054	0.957

a. Dependent Variable: Student's English Writing Performance

The regression coefficients shown in Table 9 can be implemented to articulate the regression equations, as presented below:

English writing performance = (Substance Error \* -1.923) + (Lexical Error \* -0.995) + (Syntactic Error \* -0.775) + (Discourse Error \* -0.025) + 62.214

The beta value of -0.374 / -0.288 / -0.235 indicated that one full standard deviation change in substance error, lexical error and syntactic error resulted in -0.374 / -0.288 /-0.235 standard deviation change in English writing performance respectively. The findings of the t-test (t = -3.059 / -2.479 / -2.052, p < 0.05) showed that the beta value of -0.374 / -0.288 / -0.235 enjoyed statistical significance. However, for discourse error, the findings of t-test (t = -0.054, p > 0.05) shows that the decline the beta value of -0.007 enjoyed no statistical significance.

Overall, the decline of substance error, lexical error and syntactic error can cause the improvement of student's English writing performance, while the decline of discourse error will not lead to significant improvement of student's English writing performance.

# 5. Conclusion and Implications

According to the framework of action research, this research investigated the effect of process writing interventions on student's English writing performance by alleviating the negative transfer of mother tongue over a semester. By collecting and analyzing a set of 124 questionnaire, several major findings can be summarized and research questions proposed in chapter 1 can be answered below:

1) Negative transfer of mother tongue is significantly relieved and student's English writing performance is apparently improved through four-months process writing interventions on the

experimental group. However, both negative transfer of mother tongue and student's English writing performance remained almost the same without any interventions on control group.

- 2) There is significantly negative correlation between negative transfer of mother tongue and student's English writing performance (Pearson's correlation analysis: p < 0.05).
- 3)Negative transfer of mother tongue (except for discourse error) can significantly predict student's English writing performance (Pearson's correlation analysis: p < 0.05, multiple linear regression analysis: P < 0.05). The discourse error can not significantly predict student's English writing performance (multiple linear regression analysis: P > 0.05).

In terms of theoretical values, this research intends to develop the language transfer theory through the study on the relationship between the negative transfer of the mother tongue and the English writing performance. At the same time, this empirical research can supply more evidence to the existing research on teaching intervention and then make contributions to the development of teaching intervention theory.

As for practical significance, this study can enable teachers to review the current situations of college student's English writing performance and the teaching methods of English writing applied now. Therefore, this will facilitate the improvement of teaching methods of English writing. For college students, this study could help them to realize the impact of negative transfer of mother tongue on their English writing performance, and consequently they would take some measures to mitigate such phenomenon.

Even though this study enriched the current literature on English writing teaching by investigating the effect of process writing approach on negative transfer of mother tongue, there are still some deficiencies that can be perfected in future.

Firstly, in terms of the scope of research, there are plenty of factors that can affect student's English writing performance. In addition to the negative transfer of mother tongue, the influences of other factors such as learners' self-efficacy, learning motivation and class engagement on student's English writing performance should also be considered. Therefore, more comprehensive investigations should be conducted in future.

Secondly, the sample size in current research is relatively small and all research subjects are from Y university in S city, which could make the research findings less reliable and the generalizability of the findings to other universities can not be completely ensured. Thus, more participants from different education institutes should be chosen to make the findings of current research more scientific and comprehensive.

Thirdly, the data for quantitative analysis in this study is collected from students' self-report. However, this might have some problems considering that the self-report is relatively subjective and it is likely that students' responses are influenced by their teachers' as well as parents' expectations. Therefore, several different informants such as teachers' report and parents' report can be applied in future research.

Lastly but not least, in order to make the changes made by PWIs become permanent, weekly English writing course should be arranged in the following semester so as to help students remove bottlenecks to English writing performance in the long run.

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