The Impact of Background Music Teaching on the Accuracy and Fluency of College Student Oral English in China

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Abstract

This paper studies the impact of background music teaching on the accuracy and fluency of oral English of university students. It is found that: 1). Overall, background music teaching can effectively facilitate the accuracy of oral English of the students. Specifically, compared with conventional teaching methods, background music teaching can better help the students reduce syntactic and morphological errors in their oral output, but does not show any advantage in reducing the students' lexical errors. 2). Compared with conventional teaching methods, background music teaching can better promote the fluency of oral English of the students. 3). Although background music helps to lower the affective filter, it may not be able to help the students to get more comprehensible input. On the contrary, background music plays a more facilitating role in students' oral output.

Key words: background music teaching; oral English; accuracy; fluency

1. Introduction

Affect is an important learner factor influencing second language acquisition (Ellis, 1994: 483). About its impact, Krashen's (1981, 1982) Affective Filter Hypothesis provides an influential explanation. Krashen argues that affective factors such as motivation, confidence, and anxiety, etc. exert impact on second language acquisition by influencing language input. Of the above affective factors, anxiety deserves our special attention. If the learner is too anxious, language input will be filtered, which hinders second language acquisition. In College Oral English Teaching in China, various subjective and objective factors lead to students' anxiety. Too much anxiety will exert negative impact on the students' oral output, especially, the accuracy and fluency of their oral English. Thus, in order to help the students improve their oral English, it's necessary to help them overcome anxiety. An effective way to alleviate students' anxiety in College Oral English Teaching is to play background music in the process of teaching, because background music helps to create a relaxed atmosphere, in which anxiety and tension can be alleviated and the attention to the new content can be aroused（Richards & Rodgers, 1986: 146）.

Back in the 1960s, Bulgarian psychiatrist Georgi Lozanov put forward the Suggestive Teaching Method, one specific skill of which is background music teaching. This can produce some hints through the unique charm of music. The effective application of this skill can "create a good atmosphere so that the students can relax, overcome classroom anxiety, and form a sense of pleasure, thus achieving the best teaching result "(Cao, 2007：80). Japanese scholar Kenji Saeki（1994）proposed ten ways to use background music in secondary school English class, based on his own teaching experience. Chinese scholars also studied background music teaching.

Wu （1998）analyzed the impact of background music teaching on technical secondary school students. Cao （2007）explored the psychological basis of background music teaching. Gong（2011）examined the Mozart background music on the college students' performance in English reading comprehension. In summary, scholars at home and abroad have conducted theoretical and empirical studies on the impact of background music on English learning. However, up to now, no empirical study has been conducted on the relationship between background music and the accuracy and fluency of College Student Oral English. This paper is a preliminary attempt in this regard.

2. Conceptual Framework

2.1 Background Music

Background music refers to various styles of music primarily intended to be passively listened to. It is not meant to be the main focus of an audience, but rather to supplement that which is meant to be focused upon (Wikipedia). Radocy & Boyle（2003: 58）define background music as any music played while the listener focuses on a task or an activity instead of purely listening to the music. The above are definitions of background music in general, which are not specific to English teaching. In order to be operational, this paper defines background music as: in English class, any assistant music played during the process of the main teaching activities.

2.2 Accuracy of Oral English

Accuracy of oral English refers to the agreement degree of the utterance produced by the learner with the target language criterion（Yuan & Ellis 2003: 2）. Foster and Skehan（1996），Mehert（1998），Yuan and Ellis （2003），He and Wang（2003), and Xu (2005）proposed different indicators for testing oral English accuracy according to their respective research questions and purposes. All the above scholars focus on accuracy on the grammatical level, which confirms Foster, Tohkyn and Wigglesworth's（2000）view that accuracy mainly involves the grammatical level. This paper adopts Foster and Skehan's（1996) "error-free clause ratio", i.e., the percentage of the clauses that completely agree with the grammatical rules of the target language in all clauses, as the indicator of accuracy.

2.2 Fluency of Oral English

Brumfit (1984)，Sajavaara (1987)，Meisel (1987)，Lennon (1990) and Schmidt (1992) define fluency of oral English from different perspectives. Schmidt (1992) considers fluency to be a kind of automated procedural skill and the ability to deal with language in use. In his eye, fluency is a time phenomenon. This paper accepts this view. Towell et al. (1996:90-101) put forward five time indicators for testing the fluency of oral English, i.e., speaking rate, articulation rate, phonation/time ratio, mean length of runs, and average length of pause. These five indicators are used to test the fluency of oral English in this study.

3. Research Design

3.1 Participants

The participants of this study are second-year non-English major students at Nanjing Normal University in China. Two natural classes of the same major at the same school were selected. Each class has 45 students and

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there are 90 students in total. The English Listening and Speaking course was taught by one teacher to the two classes, with the same syllabus, course book and teaching schedule. Due to their same major and grade, we assume that they are homogenous in other affective factors such as learning motivation, confidence, etc.

3.2 Instruments

Our research design is "Pre-test-Experimental Teaching-Post-test". The Pre-test was conducted in September 2014 (the beginning of the term) and the Post-test was conducted in January 2015 (the end of the term). The experimental teaching went between the two tests. In both tests, the students were asked to deliver a two-minute speech on the same topic "The most important person in my life". Because this is a familiar topic to the students and everyone has something to say, there is no problem with understanding and contents. Thus, the students' speeches can basically reflect their oral English proficiency level. As for the experimental teaching, Class A (Experimental Group) received the Background Music Teaching, while Class B (Control Group) did not. Except the Background Music Teaching, the other teaching methods and contents of the two classes are the same. Background music was played at different periods (before the class, when the students read silently and aloud, when the students ask and answer questions between themselves, had conversations, and involved in group activities).The background music played was classical and light music without lyrics (see Wang 2007 and Gong 2011 for the choice of music type).

3.3. Data Collection

The speeches delivered by the 90 students in the Pre-test and Post-test were audio-recorded. Before delivering the speech, each student was given five minutes to get ready. In both tests, the students who had finished their speeches were told not to tell other students the task to be fulfilled. Furthermore, in the Pre-test the students didn't know that they would deliver the same speech in the Post-test. We got valid audio-recordings of about 350 minutes, which were then transcribed into written texts, totaling 50,000 words.

4. Research Findings

4.1 Students' Oral English Accuracy

"Error-free clause ratio" was used to analyze the data, showing the features of the development of the students' oral English accuracy in the term.

4.1.1 Results of the Pre-test

Let's first look at the results of the Pre-test. Table 1 shows the average and difference of "error-free clause ratio" (EFCR for short) of Classes A and B in the Pre-test.

Table 1 Average and difference of EFCR of Classes A and B in the Pre-test

Class	Average EFCR	Standard Deviation
Class A	0.639	0.178
Class B	0.641	0.172

Table 1 indicates that: in the Pre-test, Class A's average EFCR is 0.639, while standard deviation is 0.178; Class B's average EFCR is 0.641, while standard deviation is 0.172. Class A's accuracy level is a little bit lower than Class B. Independent sample t-test shows that Classes A and B are not significantly different (t=-1·220, p=·231). So we can assume that before the experimental teaching, the average oral English accuracy levels of the two

classes are more or less the same, and their difference in oral English accuracy level in the Post-test is mainly due to different teaching methods.

4.1.2 Results of the Post-test

Now, let's look at the results of the Post-test. Table 2 shows the average and difference of EFCR of Classes A and B in the Post-test.

Table 2 Average and difference of EFCR of Classes A and B in the Post-test

Class	Average EFCR	Standard Deviation
Class A	0.728	0.181
Class B	0.697	0.177

Table 2 indicates that: in the Post-test, Class A's average EFCR is 0.728, while standard deviation is 0.181; Class B's average EFCR is 0.697; while standard deviation is 0.177. Independent sample t-test shows that Classes A and B are significantly different (t=2.593, p=.01) in EFCR. This shows that background music teaching saliently facilitated Class A's accuracy level of oral English, which became obviously higher than Class B. Of course, non-background music teaching also promoted Class B's accuracy level of oral English, but the result lagged far behind background music teaching.

So we can assume that before the experimental teaching, the average oral English accuracy levels of the two classes are more or less the same, and their difference in oral English accuracy level in the Post-test is mainly due to different teaching methods.

In order to make the analysis more in-depth, three types of errors (syntactic, morphological and lexical) in the audio-recordings were counted. See Tables 3 and 4 for the statistics:

Table 3 Frequency and percentage of the three types of errors in the Pre-test

Class	Syntactic Errors	Morphological Errors	Lexical Errors	Total
Class A	171（35%）	198（40%）	125（25%）	494
Class B	167（34%）	192（39%）	129（27%）	488

Table 4 Frequency and percentage of the three types of errors in the Post-test

Class	Syntactic Errors	Morphological Errors	Lexical Errors	Total
Class A	135（33%）	152（38%）	116（29%）	403
Class B	153（35%）	169（38%）	121（27%）	443

From Tables 3 and 4, we can see that: in the Pre-test, the total errors of Class A was 494, of which 171 were syntactic, taking up 35%; 198 were morphological errors, taking up 40%; 125 were lexical errors, taking 25%. The total errors of Class B was 488, of which 167 were syntactic, taking up 34%; 192 were morphological errors, taking up 39%; 129 were lexical errors, taking 27%.The number of Class A's errors is a little bigger than Class B (6 more). In the Post-test, the total number of errors of Class A decreased to 403, 91 less than the Pre-test. The total number of errors of Class A decreased to 443, 45 less than the Pre-test. The total number of errors of Class A was saliently less than Class B.

Of the three types of errors, the change of lexical errors deserves our attention. The number of Class A was 125

in the Pre-test and 116 in the Post-test. The number of Class B was 129 in the Pre-test and 121 in the Post-test. The decrease in the number of lexical errors was more or less the same (9 for Class A and 8 for Class B). Compared with syntactic and morphological errors, the decrease in lexical errors was the least. Syntactic errors: The number of Class A was 171 in the Pre-test and 135 in the Post-test, decreasing 36. The number of Class B was 167 in the Pre-test and 153 in the Post-test, decreasing 14. Morphological errors: The number of Class A was 198 in the Pre-test and 152 in the Post-test, decreasing 46. The number of Class B was 192 in the Pre-test and 169 in the Post-test, decreasing 23. The above statistics show that: background music teaching effectively helped the students decrease syntactic and morphological errors, and was not very helpful in decreasing lexical errors.

4.2 Students' Oral English Fluency

Five time indicators, i.e., speaking rate (SR), articulation rate (AR), phonation/time ratio (P/T R), mean length of runs (MLR), average length of pause (ALP), were used to test the fluency of the students' oral English.

4.2.1 Results of the Pre-test

Let's first look at the results of the Pre-test. Table 5 shows the average and difference of the five time indicators of Classes A and B in the Pre-test.

Table 5 Average and difference of Fluency Time Indicators of Classes A and B in the Pre-test

Class	Time Indicators of Fluency				
	SR	AR	P/T R	MLR	ALP
Class A	105.28	2.93	56.62	4.67	0.87
Class B	106.11	2.89	58.38	4.69	0.89
	n.s	n.s	*	n.s	n.s

Note: $p<.05$ *= Classes A and B are significantly different. n.s.= Classes A and B are not significantly different. Table 5 indicates that: in the Pre-test, Class A was better than Class B in articulation rate and average length of pause, while Class B was better than Class A in speaking rate and mean length of runs. In terms of phonation/time ratio (P/T R), Class B was significantly better than Class A ($p<.05$ *), which shows that Class B's average valid phonation time is longer than Class A. Generally speaking, because the time indicators of the two classes were close to each other, and both of the two classes have their respective strength, we assume that: before the experimental teaching, the average oral English fluency level of the two classes are basically the same, so the differences in the Post-test were mainly due to different teaching methods.

4.2.2 Results of the Post-test

Now, let's look at the results of the Post-test. Table 6 shows the average and difference of the five time indicators of Classes A and B in the Post-test.

Table 6 Average and difference of Fluency Time Indicators of Classes A and B in the Post-test

Class	Time Indicators of Fluency				
	SR	AR	P/T R	MLR	ALP
Class A	121.56	3.55	63.98	5.78	0.76
Class B	116.32	3.23	64.17	5.72	0.85
	*	*	n.s	n.s	*

Note: p<.05 *= Classes A and B are significantly different. n.s.= Classes A and B are not significantly different. From Table 6, we can see that in the Post-test, the time indicators of Classes A and B differ greatly from the Pre-test.

SR: The average of Class A was 121.56, higher than Class B (116.32). The two classes are significantly different. However, in the Pre-test, the average of Class A was 105.28, lower than Class B (106.11). The two classes weren't significantly different. This shows that: after one term's background music teaching, the average speaking rate of Class A became obviously faster than Class B, from being a little bit more slowly than Class B at the beginning of the term.

AR: The average of Class A was 3.55，higher than Class B (3.23). The two classes are significantly different. However, in the Pre-test, the average of Class A was 2.93，higher than Class B (2.89). The two classes weren't significantly different. This indicates that: after one term's background music teaching, the average articulation rate of Class A became obviously faster than Class B, from being a little bit faster than Class B at the beginning of the term.

P/T R: The average of Class A was 63.98，lower than Class B (64.17). The two classes weren't significantly different. However, in the Pre-test, the average of Class A was 56.62，lower than Class B (58.38). The two classes were significantly different. This indicates that: after one term's background music teaching, the phonation/time ratio of Class A became obviously lower than Class B, from being a little bit lower than Class B at the beginning of the term.

MLR: The average of Class A was 5.78, longer than Class B (5.72). The two classes weren't significantly different. However, in the Pre-test, the average of Class A was 4.67，lower than Class B (4.69). The two classes weren't significantly different. This indicates that: after one term's background music teaching, the average mean length of runs of Class A became a little bit longer than Class B, from being a little bit shorter than Class B at the beginning of the term.

ALP: The average of Class A was 0.76, much shorter than Class B (0.85). The two classes were significantly different. However, in the Pre-test, the average of Class A was 0.87，shorter than Class B (0.89). The two classes weren't significantly different. This indicates that: after one term's background music teaching, the average length of pause of Class A became obviously shorter than Class B, from being a little bit shorter than Class B at the beginning of the term.

5. Discussions

From the results of the Pre-test and Post-test, we can see that: background music teaching obviously enhanced the accuracy level of Class A. Comparatively speaking, non-background music teaching also promoted the accuracy level of Class B, but the result was not as obvious. Robinson (2001) classifies learner factor into affective factor and competence factor. The former exerts clear impact on cognitive resources reserve. For example, the rise of anxiety will lead to the contraction of total amount of cognitive resources. So, easing the students' anxiety will help them release cognitive resources space. Speaking, as an oral output task, gives priority to meaning, while form and meaning always compete for the limited resources for attention. If the accessible resources can be effectively expanded, the cognitive resources attributed to form can also be increased in the process of fulfilling the task. Thus, the content of the oral output can be better monitored (see Krashen 1981,1982 for monitor theory), improving its accuracy. As indicated above, the function of background music is to create a light atmosphere and alleviate the student's tension and anxiety（Richards & Rodgers, 1986: 146）So, it's understandable that background music can help the students improve their oral English accuracy.

The change of the numbers of syntactic, morphological, and lexical errors of the two classes in the Pre-test and Post-test deserves our attention. In the Post-test, the decrease of syntactic and morphological errors of Class A

was obviously bigger than Class B, showing that: compared with non-background music teaching, background music teaching is more helpful for the students to reduce syntactic and morphological errors in their oral output. However, the number of reduced lexical errors of two classes was more or less the same, showing that: background music teaching didn't show any advantage in helping the students decrease lexical errors. The reason may be that: compared with vocabulary, syntactic and morphological elements are more likely to be influenced by affective factors. If the students feel tension and anxiety, they cannot focus on oral output, and don't have enough time to monitor the language output. Thus, they are likely to commit errors in sentence structure organization and the choice of language forms, such as the third person singular of the verb and plural of the noun, etc. On the contrary, if the students' tension and anxiety are alleviated, they could monitor their own language output calmly, and thus reduce syntactic and morphological errors.

From the lexical perspective, although the alleviation of tension and anxiety can enable the students choose the words more leisurely, in order to ensure the accuracy of lexical output, besides enough space of cognitive resources, "abundant vocabulary reserves to meet the need of automatic retrieval for speaking" are also needed （Cao 2009：96）. If the students don't have the above vocabulary reserves, it's difficult for them to achieve the accuracy of lexical output even if they have enough cognitive space. Although background music helps the students enlarge cognitive resources (He and Wang 2003：173), it cannot help them increase vocabulary automatically. This accounts for the reason why background music doesn't have advantages in helping the students reduce lexical errors. So, in order to reduce the students' lexical errors in oral English, vocabulary teaching should be strengthened.

In terms of fluency of oral English, we can see from the results of the Pre-test and Post-test that: background music teaching obviously promoted the fluency level Class A's students. The fluency level of Class B's students also improved, but except phonation/time ratio, all the other four indicators lagged behind Class A. Speaking rate, articulation rate, and mean length of runs even had significant differences. However, in the Pre-test, Class B's speaking rate, articulation rate, and mean length of runs were better than Class A. This shows that after one term's background music teaching, Class A's phonation/time ratio, which had been obviously lower than Class B, came close to Class B. Class A's speaking rate and mean length of runs, which had also lagged behind Class B, overtook it. Class A's articulation rate and average length of pause, which had better than Class B, gained more advantages. Generally speaking, compared with non-background music teaching, background music teaching can better enhance the fluency of students' oral English.

As indicated above, background music was played in different activities (reading before class, silent reading, reading aloud, questions and answers, conversations, and group activities). The above activities can be divided into two types, i.e. language input and language out, from the perspective of language acquisition. The former includes "reading before class, silent reading, questions and answers; the latter consists of reading aloud, questions and answers, conversations, and group activities.

In random interviews with students of Class A, we found that: the students would rather like the teacher to play background music in output activities such as reading aloud, questions and answers, conversations, and group activities, etc. Because in the above activities, if they could feel that the teacher could hear their output , they would become nervous and anxious, thus affecting their oral output. However, background music can help them alleviate the above tension and anxiety, and thus they can open their mouth more relaxed. This confirms the research findings of Kenji Saeki（1994）about the facilitating role of background music in secondary school English teaching in Japan. In the interviews, some students said that they didn't like the teacher to play background music in such language input activities as silent reading and getting ready for questions and answers. They said that in the above activities, background music may distract their attention, and thus hinder their learning. This indicates that although background music may decrease affective filter by alleviating tension and anxiety, it may not help the students acquire more comprehensive input （Ellis, 1985:263）. Background music teaching may play a more facilitating role in the students' language output.

5. Conclusion

This paper examines the influence of background music teaching on the accuracy and fluency of college students' oral English. The findings indicate that: 1) Generally speaking, background music teaching can effectively enhance the accuracy of college students' oral English. Specifically speaking, background music teaching is more helpful than non-background music teaching in reducing students' syntactic and morphological errors in their oral English output, but is not obviously advantageous in reducing students' lexical errors. The reason may be that background music helps the students' alleviate tension and anxiety, and thus release their cognitive resources space. In this way, they can monitor their language out leisurely, and reduce syntactic and morphological errors. As for vocabulary, the alleviation of tension and anxiety provides the students with the cognitive space to choose the words leisurely, but it cannot automatically give the students the words needed. If the students don't possess the above lexical reserves, even though there is enough cognitive space and time, it's difficult for them to produce accurate lexical output. 2). Compared with non-background music teaching, background music teaching can better enhance the fluency of college students' oral English. Background music teaching can promote the five fluency indicators, i.e. speaking rate, articulation rate, phonation/time ratio, mean length of runs, and average length of pause, to varying degrees. Of the five indicators, background music teaching has the least effect on phonation/time ratio. The reason may be that this indicator is easy to be affected by factors other than time, which, however, cannot be influenced by background music teaching. 3) Although background music is likely to lower the affective filter, it may not necessarily help the students acquire more comprehensive input. On the contrary, background music exerts a more facilitating impact on the students' language output.

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