The Application of Strategy-based Instruction to Vocabulary Teaching

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Abstract. Due to the importance of vocabulary teaching, this research project attempts to explore the effectiveness of Strategy-Based Instruction (SBI) in improving senior high school students’ vocabulary learning beliefs, vocabulary learning strategies and vocabulary achievements.

This research was conducted in a senior high school in the North of China, lasting 12 weeks. The participants are 99 students from an experimental class (EC) and a control class (CC) of Grade Two. The EC students were taught vocabulary by using SBI approach while the CC students were taught vocabulary with a traditional method. The instruments used in this research project include the questionnaire, the tests and the interview.

Based on the qualitative and quantitative data analysis, it has been found that SBI is effective in cultivating students’ vocabulary learning beliefs and vocabulary learning strategies, improving students’ vocabulary achievements. Therefore, teaching vocabulary with SBI approach is more effective than traditional teaching approaches.

Introduction

People cannot express themselves well with poor grammar, however, they can produce nothing without vocabulary even though they are quite good at grammar [1]. Vocabulary is considered as the key to communicating in a certain language [1]. This view is widely agreed in the field of language learning and language teaching. In spite of the importance of vocabulary, there are many learning problems in current vocabulary teaching and learning in the Chinese context according to our survey.

First, both students and teachers spend much time on vocabulary, but the effect is unsatisfactory, which is called high-cost but low-efficiency. The problem lies in the methods of vocabulary teaching and learning. Some students often complain that they keep forgetting, which would frustrate them and their teachers. They also may lose confidence and interest in vocabulary learning, or even in English learning.

Besides, students keep learning vocabulary by rote. In terms of learning vocabulary, they usually just recite words mechanically, Chinese meanings, which is decontextualized. In this way, they cannot correctly use these words in specific contexts. It can be seen that the current situation of vocabulary learning and teaching may cause more serious problems, unless it is coped with appropriately and immediately.

At the present situation, most of teachers emphasize on the students’ vocabulary memory. However, they neglect the training of vocabulary learning strategies. If students acquire vocabulary learning strategies, they will benefit from it in the long run. Some studies using vocabulary learning strategies have been proved efficient in terms of vocabulary memory. For example, a teaching model is called Strategy-Based Instruction (SBI), which advocates to integrate learning strategies into everyday teaching [2]. In SBI class, students are the center of class. SBI is one of the learning strategies training methods. It has enjoyed a great popularity among teachers for its combination of explicit and implicit training. Students gradually acquire the target strategy and knowledge by finishing certain routine learning tasks. By looking up relevant resources and websites, it is found that there are few studies about the application of SBI in vocabulary teaching. This topic needs to be further investigated so that some vocabulary memory problems can be coped with.
The general purpose of this research is to enhance students’ vocabulary learning, solving the problems of vocabulary teaching and learning. A few specific goals attempts to be achieved: first, this paper aims to apply SBI to vocabulary learning strategies training so that it can enhance students’ vocabulary learning strategies’ use. Additionally, this study is projected to improve students’ vocabulary achievements by developing their vocabulary learning strategies. It also aims to make a contribution to future teaching and further study on this issue. Finally, this study seeks to address the following research questions: (1) What effects does Strategy-Based Instruction (SBI) on vocabulary have on senior high school students’ vocabulary learning beliefs? (2) To what extent does SBI improve students’ vocabulary achievements?

1. Previous Studies on Vocabulary Learning Strategies and Strategy-Based Instruction (SBI)

Learners should choose appropriate strategies according to their own learning style and habits. Six vocabulary learning strategies are introduced [3]: learning words in the context; using association to aid learning; using pictures or imagination to promote vocabulary understanding and memory; using classification to enhance vocabulary understanding and memory; using antonym and synonym; using word-formation. Besides, some other vocabulary learning strategies are also studied as supplementary. Ten vocabulary learning strategies are proposed [4], namely word structure, quasi-homonymy, word network, scales and clines, topic association, lexical set, collocations, one field one week, building a personal dictionary as well as early review for better recall. All of these strategies are important for vocabulary learning. In terms of vocabulary learning strategies, each learning strategy includes numerous micro strategies. For example, cognitive strategies include repetition strategy, grouping strategy, association strategy and note-taking strategy. The above studies on vocabulary learning strategies prove that vocabulary learning strategies are effective in improving vocabulary learning.

In fact, Strategy-Based Instruction (SBI) is one of teaching models of learning strategies training. In this paper, SBI is adopted to conduct vocabulary learning strategies training for students in a senior high school. The concept of SBI, which is the instruction, is guided by learning strategies and strategy training [5]. The five-step teaching model is also proposed [5]. At the first step, the teacher describes and demonstrates the target strategy and gives some examples about the target strategy. Secondly, students elicit more examples with the help of their experience. Thirdly, the teacher leads the class to have group discussion. Then, the teacher encourages students to put the strategy into use. At the final step, the teacher integrates the strategy into the routine classroom activities. The center of SBI is learners rather than teachers. SBI integrates explicit and implicit training into daily class [5]. Learners practice the strategies in the process of a finishing task.

Evidence is provided for the effectiveness of Strategy-Based Instruction on learners’ strategy use, for both students in high and low groups [6]. Also, SBI is an effective learning strategies training approach for college students’ reading to improve their vocabulary achievements [7]. Although empirical studies mainly measure the effectiveness of SBI in teaching reading, previous studies on SBI in teaching vocabulary are limited. However, whether this result is true for senior high school students, especially for their vocabulary learning or not, needs further research. Therefore, the application of SBI in vocabulary teaching for senior high school students is essential to be investigated in this research project.

2. Research Methods and Research Procedures

In this research project, the number of participants was 99, who were randomly chosen from two classes in Grade Two of a senior high school in the North of China. The one was an experimental class (EC), consisting of 49 students (21 boys and 28 girls). The other one was a control class, 50 students (20 boys and 30 girls). The instruments include questionnaire, tests, interview and statistical analysis. Also, quantitative and qualitative research methods complement each other for the scientific purpose of data triangulation [8].
This research lasted for 12 weeks from September to November 2015. In this project, the EC students were taught vocabulary with SBI while the CC students were taught vocabulary with a traditional method. Before the research was conducted, firstly, the pre-questionnaire was administered, which was designed to investigate whether the EC and CC students are similar or not in vocabulary learning beliefs and strategies. Secondly, the 1-hour pre-test was conducted in order to detect whether the students in EC and CC were in the same level on vocabulary proficiency.

During the experimental teaching, the EC students were taught vocabulary with SBI. The CC students had the same teaching hours and followed the same syllabus. The EC students were provided explicit instruction in selected strategies. In addition, the instruction was embedded into students’ daily classroom activities while the CC students were taught vocabulary with a traditional method. Apart from the teaching method, the other factors were the same. During the research, these two classes were taught by the same teacher (the second author). Only in this way, can the effectiveness of SBI be proved.

At the end of this project, firstly, the post-questionnaire was conducted in order to discover the students’ change in vocabulary learning beliefs and strategies, justifying the effectiveness of this research. Secondly, the post-test was undertaken and the procedures of post-test were the same as those of the pre-test. By comparing the students’ scores in the pre- and post-test, the effectiveness of SBI could be verified. Thirdly, the interview was conducted, lasting for about three hours. During the interview, the researcher wrote down some notes on the interviewees’ answers. In the meantime, the interview was recorded by a mobile phone.

3. Results and Discussion

3.1 Analysis and Discussion of Vocabulary Learning Beliefs

In this section, the results of the pre- and post-questionnaire are analyzed in detail to answer Research Questions 1 and 2. Vocabulary learning beliefs include learning by memorizing and by using correctly in contexts. These ten questions are designed to find out students’ vocabulary learning beliefs (see Table 1).

Table 1 presents the mean value of the students’ scores in each item about vocabulary learning beliefs. In the pre-questionnaire, the total mean value of the students in EC and the students in CC are separately 3.33 and 3.34. Besides, the sig. (2-tailed) value is 0.639, which shows that the students in EC and CC are at the same level in vocabulary learning beliefs before the experiment. In the post-questionnaire, the total mean value of the students in EC is 3.56, while the total mean value of the students in CC is 3.37. Besides, the sig. (2-tailed) value is 0.000, which means that the students in EC and CC are significantly different in vocabulary learning beliefs after this experiment. From Table 1, it can be seen that the students in EC tend to hold more positive vocabulary learning beliefs than those in CC. However, whether the students in EC make significant improvement in this experiment or not needs to be further researched.

Table 1. Statistics of Vocabulary Learning Beliefs in Pre-questionnaire and Post-questionnaire.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Item</th>
<th>Pre-Q</th>
<th>Post-Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning by</td>
<td>1. The best way to remember words is to memorize word lists or</td>
<td>3.31</td>
<td>3.53</td>
</tr>
<tr>
<td>memorizing</td>
<td>dictionaries.</td>
<td>3.30</td>
<td>3.34</td>
</tr>
<tr>
<td></td>
<td>4. To learn vocabulary, its form, meaning and basic usage should</td>
<td>3.20</td>
<td>3.43</td>
</tr>
<tr>
<td></td>
<td>be known at least.</td>
<td>3.33</td>
<td>3.32</td>
</tr>
<tr>
<td></td>
<td>5. Repetition is the best way to learn words.</td>
<td>3.35</td>
<td>3.50</td>
</tr>
<tr>
<td></td>
<td>10. English is learned, as long as the English equivalents of all</td>
<td>3.41</td>
<td>3.70</td>
</tr>
<tr>
<td></td>
<td>Chinese words are remembered.</td>
<td>3.40</td>
<td>3.34</td>
</tr>
<tr>
<td>Learning in</td>
<td>2. Many words’ meaning can be picked up</td>
<td>3.24</td>
<td>3.43</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.26</td>
<td>3.30</td>
</tr>
</tbody>
</table>
context through reading.

3. You will know words meaning, if these words are come across for several times. 3.28 3.30 3.65 3.40

9. Guessing words in context is one of the best ways to learn vocabulary. 3.43 3.42 3.70 3.48

Learning by using

6. Words studied should be put to use before they are finally learned. 3.33 3.36 3.58 3.40

7. Words can be learned only by using. 3.45 3.42 3.53 3.38

8. Using the language (four skills) is more crucial than mechanically memorizing. 3.28 3.32 3.51 3.36

Total 3.33 3.34 3.56 3.37

Sig. (2-tailed) .639 .000

Note: Pre-Q=Pre-questionnaire; Post-Q=Post-questionnaire; EC=Experimental Class; CC=Control Class; M=Mean; Total=the mean score of the total class; sig. (2-tailed)=the significance value.

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-questionnaire - Post-questionnaire</td>
<td>-.22800</td>
<td>.07871</td>
<td>.02489</td>
<td>-2.8431 -1.17169</td>
<td>-9.160</td>
<td>9</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 2 compares the students’ scores in the pre- and post-questionnaire with Paired Samples T-test. The lower limit and the upper limit of the 95% Confidence Interval of the Difference are respectively -.28431 and -.17169, excluding 0. The sig. (2-tailed) value is 0.000, which is smaller than 0.05. Therefore, the students in EC make significantly improvement in vocabulary learning beliefs with the help of SBI, which is in accord with [10]. These analyses answer Research Question 1 with quantitative statistics.

3.2 Analysis and Discussion of the pre- and post-test in EC and CC on Vocabulary

The vocabulary test aims to investigate students’ vocabulary achievements. The test includes four parts. The total score of this part is 100 points. In this research project, two tests are administered. Before the experiment, the pre-test was administrated. Then the experimental teaching was conducted in EC. After the experiment, the post-test was administered. The pre-test aims to discover whether the students in EC and CC are at the same level in terms of vocabulary learning ability. The post-test is designed to investigate the students’ improvement in terms of vocabulary achievements in this research project.

Table 3. Statistics for Scores of Pre- and Post-test in EC and CC on Vocabulary.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC</td>
<td>49</td>
<td>69.6122</td>
<td>8.19760</td>
<td>1.17109</td>
</tr>
<tr>
<td>CC</td>
<td>50</td>
<td>69.4400</td>
<td>7.91062</td>
<td>1.11873</td>
</tr>
<tr>
<td>Post-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC</td>
<td>49</td>
<td>77.8367</td>
<td>7.25818</td>
<td>1.03688</td>
</tr>
<tr>
<td>CC</td>
<td>50</td>
<td>69.8400</td>
<td>8.34061</td>
<td>1.17954</td>
</tr>
</tbody>
</table>

Table 3 presents the students’ vocabulary achievements in pre-test. From Table 3, the mean value of the students in EC and CC is 69.6122 and 69.4400 respectively. The mean difference is 0.1722, which is rather small. Furthermore, the standard deviation of EC and CC is 8.19760 and 7.91062
respectively. The students’ difference in the two classes is similar. Considering these two factors, it seems that the students in EC and CC are generally at the same level in terms of vocabulary learning ability before the experiment. Also, it can be seen that the mean value of vocabulary scores in EC in post-test increases from 69.6122 to 77.8367, increasing by 8.2245. The students’ vocabulary score increases 8.2%, which means that the application of SBI to vocabulary teaching can greatly improve students’ vocabulary achievements.

3.3 Analysis and Discussion of the Interviews

After the post-test, the students in EC were grouped into three levels, namely high, intermediate and low level. In this research, two students were randomly chosen from each level. Therefore, six students in EC were selected to be the interviewees. The interview attempted to investigate the effectiveness of vocabulary learning strategies training based on SBI in improving the EC students’ vocabulary learning beliefs, vocabulary learning strategies use, vocabulary achievements from qualitative aspects. Three interview questions were mainly presented as follows:

1. What strategies do you use to promote vocabulary learning?
2. What’s your current learning experience in learning English vocabulary compared with the previous learning?
3. How do you think the vocabulary learning strategies training based on SBI?

The interview was administered in a relaxing and harmonious atmosphere, which made interviewees feel relaxed in answering questions. It contributed the effectiveness of this interview. During the interview, the order of the interview questions might be adjusted according to practical situation. Some relevant questions might be added to find more information. In this section, the answers given by the interviewees will be presented and analyzed to answer the research questions with qualitative analysis (Note: as the page space is limited, we will just analyze Interview Questions briefly).

The interviewees’ answers to Question 1 indicated that their tendency of strategies use was strengthened. After the research, the EC students tended to use more vocabulary learning strategies to promote vocabulary learning. However, students in different level used different vocabulary learning strategies. High level students usually adopted some advanced vocabulary learning strategies. For students in low level, they tried to use some simple vocabulary learning strategies though they had much difficulty. These results answer Research Question 1. Namely, vocabulary learning strategies training based on SBI improves students’ tendency of vocabulary learning strategies use, which agrees with the finding of [6] and [8] respectively.

Regarding interview Question 2, most of the interviewees expressed that they felt much easier and effective in learning vocabulary and in doing vocabulary exercises after the training. Using vocabulary learning strategies saved them much time on vocabulary learning. Furthermore, their learned vocabulary tended to be memorized for more time. In this way, they felt more confident in vocabulary learning even in English learning. In the long run, students’ learning interest can be improved in some degree. According to the interviewees’ answers to Interview Question 2, it can be concluded that students’ vocabulary abilities are much improved by SBI on vocabulary. This finding agrees with that of [9].

With regard to the survey for students’ attitude towards SBI vocabulary teaching, it is found that most students hold positive attitude towards SBI. They benefitted much more from this teaching model. Their positive attitude towards SBI shows their appreciation for it, which produces positive effects on this research.

4. Conclusion

By combining qualitative analysis and quantitative analysis, some results and findings are concluded.

4.1 The EC Students’ Improvement in Using Vocabulary Learning Strategies

The effect of SBI on vocabulary learning beliefs is positive. The students in EC tend to hold more
positive vocabulary learning beliefs after the vocabulary learning strategies training based on SBI, which is beneficial to their vocabulary learning. Learning strategies training helps college students build positive vocabulary learning beliefs [10]. In conclusion, this research project is valid for senior high school students in China. There are three main types of vocabulary learning beliefs, namely learning by memorizing, learning by using as well as learning in context. Before the research, most students hold that the most effective method of learning vocabulary is learning by memorizing. After the research, the EC students’ are inclined to believe that vocabulary should be learned by using in the context. Most of the EC students no longer think that vocabulary should be learned only by memorizing. By analyzing interviewees’ answers, the same conclusions are made. Students’ new vocabulary learning beliefs would guide them to adopt more positive vocabulary learning strategies to improve vocabulary learning. Besides, this shift will prompt students to form better learning habits.

4.2 The EC Students’ Progress in Vocabulary Achievements

SBI vocabulary teaching improves the EC students’ vocabulary achievements. The EC students perform much better in pre-test than in post-test on vocabulary test with the help of vocabulary learning strategies training based on SBI. The final aim of this research is to promote students’ vocabulary learning or even English learning. According to the analysis of the pre- and post-test, the T-test (sig. <0.05) shows that the EC students make significantly improvement on vocabulary test. The interviewees also expressed that they felt more confident in vocabulary learning after this experiment, which further indicates that vocabulary learning strategies training based on SBI promotes the EC students’ vocabulary achievements. This result is the same with [9], which finds that the score of the EC students is higher than the CC students after the use of SBI. This research has a further development on the basis of above studies. The above studies investigate the use of SBI in teaching reading while this research surveys the application of SBI in teaching vocabulary.

References