A Research on the Gain and Cost of Bilingual Teaching of Non-English-Oriented Courses

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In accordance with the requirement of the Ministry of Education, many Universities and colleges have begun or are beginning to adopt bilingual teaching of non-English-oriented courses with course books in English. The purpose is to improve students’ learning and acquiring of the English language during the process of studying the subject courses, and make them competent for international communication in their specialty fields. It is certain that with qualified teachers and students with adequate English proficiency, the result will definitely be positive. But for the students in an ordinary college, what the result will be?

In a joint program with a Canadian institute, we began to practice bilingual teaching of some non-English-oriented courses in 1997 in three specialties, namely: international accounting and finance, international marketing and computer programming and analysis. Although hindered by some difficulties, the bilingual teaching in the international accounting specialty has never been given up. Our practice and research indicate that we do need to weigh the advantages and disadvantages of bilingual teaching. Nevertheless, so long as we use appropriate teaching methods in accordance with students’ reality in terms of their English proficiency, it is realistic to reduce the negative effect and enhance the positive side, and even achieve double gains for some strongly motivated students.

Our practice

In order to smooth the way for bilingual teaching of non-English-oriented courses, the teaching of English is intensified in the first two years of the program. There are more than 14 hours of English class each week, including listening, speaking, reading and writing. From the beginning of the second year, while the English training is going on, the bilingual courses begin. For the international accounting and international marketing specialties, the bilingual
courses are the same: accounting and marketing. The course books are of foreign edition in English. I am in charge of the bilingual teaching and take the course of marketing personally. From the beginning to the end, the textbook is concentrated on. The purpose is to ensure the students understand the textbook. At first, a lot of translation is used, which is a quick way to make the students understand. But the class discussion and tests are always conducted in English. The purpose is to help the student remember and think about the contents of the subject and express their ideas in English. With the improvement of students’ English proficiency, translation is used less and less, and more explanation or narration is made in English instead.

Research and results

A questionnaire was designed with four questions. The first one is students’ assessment of the bilingual course. After the unfinished statement “After taking the bilingual course, I feel…”, there are four options:

A. I have learnt the subject knowledge and acquired English—double gains.
B. Although the subject study is affected to some extent, I have got a lot of improvement in English—the gain is larger than the cost on the whole.
C. Although I have some improvement in English, the subject study is hindered—the cost is larger the gain
D. The gain is balanced by the cost.

29.7% of the subjects chose A, 18.1% chose B, 34.1% chose C and 18.1% chose D.

The other three questions are about the teaching method, whether the subjects have passed Band VI or Band VI of CET and a comparison between the subjects and the control groups in terms of their performance in English tests.

Conclusion

1. Teaching a couple of non-English-oriented courses bilingually is beneficial if conducted properly.
2. A combination of English and Chinese (translation) in the conduction of the class is best acceptable.
3. The higher the students’ English proficiency is, the more benefits they will get from the bilingual class.
4. Bilingual teaching of the subject course is conducive to students’ performance in English proficiency tests.
A Research on the Gain and Cost of Bilingual Teaching of Non-English-Oriented Courses

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Abstract: Bilingual teaching can improve students’ study and acquisition of English, but at the same time it might hinder their master of the specialty knowledge. The study found that the gain is larger than the cost on the whole. Appropriate teaching methods in accordance with students’ English proficiency will result in a double-gain outcome.

Key Words: research, Bilingual teaching, gain, cost

In accordance with the requirement of the Ministry of Education, many Universities and colleges have begun or are beginning to adopt bilingual teaching of non-English-oriented courses with course books in English. The purpose is to improve students’ learning and acquiring of the English language during the process of studying the subject courses, and make them competent for international communication in their specialty fields. It is certain that with qualified teachers and students with adequate English proficiency, the result will definitely be positive. But for the students in an ordinary college, what the result will be?

In a joint program with a Canadian institute, we began to practice bilingual teaching of some non-English-oriented courses in 1997 in three specialties,
namely: international accounting and finance, international marketing and computer programming and analysis. Although hindered by some difficulties, the bilingual teaching in the international accounting specialty has never been given up. Our practice and research indicate that we do need to weigh the advantages and disadvantages of bilingual teaching. Nevertheless, so long as we use appropriate teaching methods in accordance with students’ English proficiency, it is realistic to reduce the negative effect and enhance the positive side, and even achieve double gains for some strongly motivated students.

Our practice

Students’ English proficiency is a key factor in the bilingual teaching of the non-English-oriented courses. In order to smooth the way for the teaching, the English course is intensified in the first two years of the program. There are more than 14 hours of English class each week, including listening, speaking, reading and writing. From the beginning of the second year, while the English training is going on, the bilingual courses begin. For the international accounting and international marketing specialties, the bilingual courses are the same: accounting and marketing. The course books are of foreign edition in English. I am in charge of the bilingual teaching and take the course of marketing personally. From the beginning to the end, the textbook is concentrated on in class teaching, although some Chinese cases are introduced to illustrate some concept of the course book. The purpose is to ensure the students understand the textbook. At first, a lot of translation is used, which is a quick way to make the students understand. But the class discussion and tests are always conducted in English. The purpose is to help the student remember and think about the contents of the subject and express their ideas in English. With the improvement of students’ English proficiency, translation is used less and less, and more explanation or narration is made in English instead.

Results and Discussion

In order to assess our bilingual teaching, a questionnaire was designed to make an investigation. Students of Grade 2 (who entered the college in 2001) were chosen as the subjects. Immediately after they finished the bilingual courses of Marketing and Accounting, a questionnaire survey was conducted. The questionnaire consisted of four questions. The first one was students’ assessment of the gain in relation to the cost of the bilingual course. After the unfinished statement “After taking the bilingual course, I feel…” , there were four options:
E. I have learnt the subject knowledge and acquired English—double gains.

F. Although the subject study is affected to some extent, I have got a lot of improvement in English—the gain is larger than the cost on the whole.

G. Although I have some improvement in English, the subject study is hindered—the cost is larger the gain.

H. The gain is balanced by the cost.

The result is shown in Table 1:

<table>
<thead>
<tr>
<th>Items</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of students</td>
<td>41</td>
<td>25</td>
<td>47</td>
<td>25</td>
<td>138</td>
</tr>
<tr>
<td>%</td>
<td>29.7</td>
<td>18.1</td>
<td>34.1</td>
<td>18.1</td>
<td>100</td>
</tr>
</tbody>
</table>

It can be seen that the sum of Items A and B (41 + 25 = 66) is larger than Item C (47). The percentage of the students in favor of the bilingual teaching—47.8%— is much larger than the percentage of the students not benefited in the course 34.1%. The others took a neutral position.

It is quite natural for some students to believe that the cost was larger than the gain in the bilingual class. The efficiency of learning a course in a foreign language which they did not master well would definitely be lower than learning it with their mother tongue, because during the process of their specialty learning, they would bear a heavy burden of the language. But if students’ language burden is not too heavy, and the loss in specialty study is not too large, the loss in their specialty study could be covered by the gain in their language acquisition. If that is the case, students may have a sense of accomplishment, and enjoy the pleasure of taking English as a tool to obtain knowledge. And this in return will arouse their interest for the study. That is the reason why more students thought their gain was larger than cost.

Generally speaking, the effect of bilingual teaching is closely related to students’ English proficiency. How will the students with different English levels respond to the bilingual course? We explored this question by exclusively counting the choices to the above question by the students who had already passed Band VI or Band IV of College English Test (CET). Among the 138 subjects, 60 passed Band VI or Band IV in the January test of the year 2003 or the June test of the year 2002. The result is shown in Table 2.
Table 2  Assessment by passers of Band VI or Band IV

<table>
<thead>
<tr>
<th>Items</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student number</td>
<td>28</td>
<td>9</td>
<td>14</td>
<td>9</td>
<td>60</td>
</tr>
<tr>
<td>%</td>
<td>46.7</td>
<td>15</td>
<td>23.3</td>
<td>15</td>
<td>100</td>
</tr>
</tbody>
</table>

The percentage of students in favor of the bilingual teaching (A+B) is 61.7, much higher than the corresponding figure in Table 1 (47.8%). The percentage of either the negative or the neutral position got much lower. If we compare the passers of Band VI or Band IV with the non-passers, the difference will be more evident, as shown in Table 3:

Table 3 Assessment by non-passers of Band VI or Band IV

<table>
<thead>
<tr>
<th>Items</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student number</td>
<td>13</td>
<td>16</td>
<td>33</td>
<td>16</td>
<td>78</td>
</tr>
<tr>
<td>%</td>
<td>16.7</td>
<td>20.5</td>
<td>42.3</td>
<td>20.5</td>
<td>100</td>
</tr>
</tbody>
</table>

The sum of items A and B (13+16=29) is smaller than item C (33). For the non-passers, more subjects took a negative attitude toward bilingual teaching.

From the above three tables, it can be clearly seen that the students with higher English proficiency are more likely to accept bilingual teaching of specialty courses.

Among the passers of Band IV or Band VI, there are 23.3 who believed the loss was larger than the gain. That is a little beyond expectation. The speculation over this question is that among the passers, their English proficiency was not identical, especially in terms of using the language as a tool to obtain new knowledge. Another reason might lie in the fact that some passers were not interested in going abroad to study in the joint program so they didn’t like to go the “extra mile” to take the bilingual course. Without interest and strong motivation, the result could not be ideal.

Contrary to the 14 passers, there were 29 (13 + 16) non-passers who believed that the bilingual teaching was a double gain or believed the gain was larger than the cost. That amounts to 37.2 percent (16.7+20.5) of the total non-passers. The two opposite phenomena might come from the same reason: firstly, students’ competence of using the English language does not exactly correspond to the result of the CET. Secondly, different motivation and interest brought about different results.

What was the effect of teaching method on the students’ reaction to the bilingual teaching? Was the unfavorable opinion caused by the teaching method? In order to answer these questions, another question with 5 options was
designed:

The best way in teaching specialty course with English course book is:
A. based on translating the course book into Chinese.
B. based on lecturing in English.
C. based on lecturing in Chinese.
D. a combination the two languages in lecturing with necessary
   translation of the course book.
E. Other ways.

The result is shown in table 4.

<table>
<thead>
<tr>
<th>Items</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passers</td>
<td>1</td>
<td>19</td>
<td>0</td>
<td>35</td>
<td>5</td>
<td>60</td>
</tr>
<tr>
<td>Non-passers</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>66</td>
<td>2</td>
<td>78</td>
</tr>
<tr>
<td>Sub-total</td>
<td>2</td>
<td>25</td>
<td>3</td>
<td>101</td>
<td>7</td>
<td>138</td>
</tr>
</tbody>
</table>

| %         | 1.4| 18.1|2.2|73.2|5.1|100   |

It can be seen that the choice is quite concentrated. Among the 138
subjects, 101 (73.2%) chose Item D. That indicates that the combination of the
two languages is suitable for the students’ English proficiency. This
 corresponds well to the literal sense of “bilingual” teaching.

Among the 60 passers 19 chose B. Less than one third of the passers
preferred lecturing mainly in English while 35 chose D: more than half of the
passers liked the combination of the two languages with translation as
supplementary means. The above figures are quite significant in choosing the
conducting way of the bilingual class. With students whose English proficiency
is around Band IV of CET, an alternative use of the two languages with
occasional translation is desirable.

So far it is evident that students’ English proficiency had a great
effect on the bilingual teaching of non-English-oriented courses. But what was
the effect of the bilingual teaching on students’ English proficiency? A research
was done at the same time for this question.

For some reasons the bilingual teaching of non-English-oriented courses
were not carried out in computer specialty of the program. But the English
classes were exactly the same with other specialties that had a couple of
bilingual courses of non-English-oriented courses. This offered an opportunity
to look into the effect of bilingual teaching on the proficiency of the students.

All the students in the joint program are required to take Band IV test of
CET. The Ban IV passing rates of two grades in the joint program were investigated. The specialties with bilingual teaching and the specialty without bilingual courses are calculated respectively. The result is shown in Table 5.

Table 5: Band IV passing rates of different students

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade 2000</th>
<th>Grade 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking bilingual courses</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Student number</td>
<td>79</td>
<td>79</td>
</tr>
<tr>
<td>Number of Band IV passers</td>
<td>43</td>
<td>24</td>
</tr>
<tr>
<td>Passing rate (%)</td>
<td>54.4</td>
<td>30.4</td>
</tr>
</tbody>
</table>

In the above table, the “taking bilingual courses” students of Grade 2000 were in the specialty of International Accounting. The others in that grade were in the specialty of Computer. In Grade 2001, the “taking bilingual courses” students included a new specialty—International Marketing. Both specialties had the same bilingual courses: marketing and accounting. The others were still in the specialty of Computer.

It is very clear that the difference of passing rates of Band IV between the takers and non-takers of bilingual courses was tremendous: in Grade 2000 it was 54.4% versus 30.4%; and in Grade 2001, it was 53.6 % versus 28.1%. The difference clearly indicates the promoting effect of bilingual teaching on students’ English proficiency.

Although factors affecting English study vary, the reason is obvious why such difference occurred. In taking the bilingual courses, students used English as a tool to obtain specialty knowledge. English became a tool or medium instead of the final purpose. This provided them a chance to acquire the English language. As mention above, in the process of taking the bilingual courses, the students had much to read—either texts or reference materials were in English. They also had much to listen, to say and to write in English. Though Chinese was used in the class, students are required to remember in English what they learned in either language, because all class discussion and examinations were all in English.

In addition, the students were more skillful in using English who passed Band IV or Band VI during the process of bilingual teaching. Their productive skills were higher than the non-takers of bilingual courses. The reason lied in the fact that part of their English were acquired in the process of using it. The fact that bilingual course takers performed better in English speech contests than the non-takers and even better than English majors was a forceful
evidence.

**Conclusion**

From the above analysis, the following conclusions can be tentatively drawn:

5. Teaching a couple of non-English-oriented courses bilingually is beneficial if conducted properly.

6. A combination of English and Chinese with some translation in conducting the class is best acceptable.

7. The higher the students’ English proficiency is, the more benefits they will get from the bilingual class.

8. Bilingual teaching of the subject courses is conducive to students’ English proficiency improvement.