Research and Practice on College English Teaching Reform in Information Technology Environment

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Abstract

With the rapid development of Internet technology, education authorities have been implementing the foreign language teaching reform in colleges and universities to adapt to the new education trend, in order to students’ independence in English classes as well as comprehensive English proficiency. In this context, the English teaching reform has been further developed. However, with the impact of information technology, the English teaching model reform in colleges and universities is hindered by a lack of interaction between teachers and students, a lack of variety in teaching model, low utilization of information technology by teachers and other problems. On this background, this paper analyzes problems existing in traditional English teaching. Taking college English teaching for example, a new model of college English teaching is built up in information technology environment with evaluative research conducted. It is found that under the new model, teachers can better utilize information technology and interact with students to improve college English teaching quality.

Keywords: Information Technology, Colleges and Universities, English Teaching, Reform.

1. RESEARCH ON BACKGROUND

1.1 Literature review

With the development and wide application of information technology in recent years, contemporary college English teaching is confronted with various challenges including how to integrate information technology and college English teaching (Cao et al., 2014). Empirical research on the reform model of college English teaching in the context of modern education technology will help build an ecosystem for college English teaching and improve teaching quality (Fang and Chen, 2014). With access to education resources and information using information technology, teaching activities can be achieved in any place anytime in any manner (Lu and Qiao, 2014). Applying information technology to teaching fields can solve various problems existing in traditional teaching model, and this becomes a powerful method for resource access and independent learning by students (Hu et al., 2011). Therefore, the "knowledge + skill + strategy" model in college English teaching has gradually changed the traditional model of classroom teaching. By combining information technology and English teaching, it effectively solves problems for college students in the English translation with an open, dynamic and systematic teaching model (Xie and Ouyang, 2015). At present, to correctly evaluate the result of college English teaching, teachers must figure out the main role which information technology plays in college English teaching to correctly analyze characteristics of college English teaching. Finally, the result of college English teaching is comprehensively evaluated in three specific aspects, namely, teachers, students and teaching content (Hou and Li, 2011).

1.2 Research purpose

With the rapid development of Internet technology, multimedia network English teaching have become the main trend of college English teaching in the comprehensive reform trend of Chinese college English teaching. The network technology in college English teaching can provide multimedia teaching materials, which greatly enrich the English teaching classes (Su and Jie, 2011). By making full use of information and multimedia technology, related education departments may reform the way of teaching model in traditional college English teaching to construct English teaching environment where students study independently with the combination of network technology and teaching software (Song, 2009). With the reform and development of college teaching, information technology-aided college English teaching gradually receives attention from various colleges and universities and becomes a major topic (Jin and Xu, 2007). However, problems existing in college English
teaching model at present such as a lack of variety in teaching courses and outdated teaching model hinders students’ application of English teaching model and the teaching quality. Therefore, innovative research on college English teaching model with information technology can help complete teaching mission better (Sun et al., 2010). Exploring the building-up and practices of college English teaching model using information technology based on constructivism is important to teacher-student interaction and students’ independent learning (Lu et al., 2011). In conclusion, it is of great importance to study college English teaching reform model in information technology environment.

2. ANALYSIS OF TRADITIONAL COLLEGE ENGLISH TEACHING MODEL

In recent years, most college English teachers use PPT, a more visual teaching means, in teaching. According to the current situation of English teaching in most schools, a practical investigation shows the results in Table 1, where 100% of the teachers adopt text teaching in English teaching; 75.2% use it frequently for picture teaching and 24.8% sometimes; most of the teachers use it occasionally for audio teaching, only 15.6% sometimes and 84.4% never. The result of video teaching is basically the same as that of audio teaching, with 19.7% of the teachers using it sometimes and 80.3% never. The result of animation teaching is basically the same as that of audio and video teaching, with only 25.3% using it sometimes and 74.7% never. For text typesetting, most of the teachers attach great importance to the text typesetting in teaching process with 93.4% of them using it frequently and 6.69 sometimes. In English teaching, most of the teachers directly presents the matching courseware from the press of teaching materials to students and explain selective relevant content to students in limited time, and so the learning efficiency of students gradually decreases in college English teaching process.

Table 1 Questionnaire Results of College English Teaching

<table>
<thead>
<tr>
<th>Teaching model</th>
<th>Frequently</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text teaching</td>
<td>100%</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Picture teaching</td>
<td>75.2%</td>
<td>24.8%</td>
<td>--</td>
</tr>
<tr>
<td>Audio teaching</td>
<td>--</td>
<td>15.6%</td>
<td>84.4%</td>
</tr>
<tr>
<td>Video teaching</td>
<td>--</td>
<td>19.7%</td>
<td>80.3%</td>
</tr>
<tr>
<td>Animation teaching</td>
<td>--</td>
<td>25.3%</td>
<td>74.7%</td>
</tr>
<tr>
<td>Importance attached to text typesetting</td>
<td>93.4%</td>
<td>6.6%</td>
<td>--</td>
</tr>
</tbody>
</table>

Most teachers in colleges and universities have relatively clear English information awareness to understand what network teaching environment means to college English teaching. However, with the impact of Internet technology, English teachers are still in lack of proficiency in information technology so that it is difficult to force them to integrate information technology and English teaching with innovation. Since the information knowledge extracted by teachers is limited so that they strongly feel the content to be taught is far from their reach, which means the application of English teaching model in information technology by teachers is to be improved. At present, most college English teachers are thirsty for knowledge and greatly expect teachers’ role transformation by accepting new teaching method trainings, especially in the new environment. But authorities only attach importance to teachers’ quantity rather than quality so that teachers fail to improve to fulfill their thirst for knowledge and begin to increasingly rely on PPT, which results in two phenomena below. The first one is taking PPT courseware rather than students as the core of classes so that interaction between teachers and students decreases. Teachers fail to keep up with students’ learning status and feedback. The either active or passive status makes college English teaching quality decrease gradually. The second one is failing to proceed with teaching in case of multimedia courseware failure since teachers’ dependence on multimedia devices is increasing gradually. This phenomenon makes both English teaching efficiency and importance of teachers in teaching decrease gradually to hinder the college English teaching reform.

3. CONSTRUCTION AND EVALUATION OF COLLEGE ENGLISH TEACHING REFORM IN INFORMATION TECHNOLOGY ENVIRONMENT

3.1 Construction of college English teaching reform in information technology environment

Based on the above problems existing in English teaching in traditional universities, this Paper constructs a college English teaching model of "information technology+ classroom teaching", as shown in Figure 1.
According to Figure 1, college English teaching with information technology is mainly conducted in traditional teaching model, of which the basic principle is to introduce information technology to college English teaching to optimize English teaching process by laying emphasis on the combination of teachers’ classroom teaching and students’ independent learning. In terms of teaching content, the reformed college English teaching model focuses on balanced development of students’ English listening, translation, reading and writing skills. In this way, the content of English teaching has gradually evolved from a single type of courseware material into a variety of teaching courseware with flexibility in teaching rather than total dependence on PPT. In traditional English teaching, teachers mostly focus on the training of the students’ reading and writing, while in the information technology environment, teachers may promote students’ ability of listening and translating in addition to those focuses. Based on corresponding teaching materials, the teaching content may also be adjusted by teachers according to the actual situation, making college English teaching become diversified gradually.

At present, almost all university classrooms are equipped with complete multimedia devices for the above English teaching model to be carried out in stable campus network. The content in each time of English teaching can be further expanded in traditional teaching model with the help of network technology. For some schools in lack of multimedia devices, English teaching can be divided into two parts. On the one hand, teachers instruct students in the way of giving lectures to increase the students’ learning time. On the other hand, teachers may organize students to carry out language skills and quality training to further enrich the teaching methods and realize the reform of college English teaching.

3.2 Evaluation of college English teaching reform in information technology environment

The Paper evaluates its actual operation results based on the above college English teaching model constructed. In order to guarantee the authenticity and accuracy of the evaluation results, the Paper standardize all the indexes involved in the above model and extracts various indexes and factors from the college English teaching model. The detailed model construction is evaluated as follows:

\[ SYS = \sum (S + F) = \sum (S + A + I) \] (1)

In the model above, SYS mainly represents the system of college English teaching, \( S \) English teaching structure, \( F \) relevant functions of English teaching, \( A \) main factors in implementing English teaching and \( I \) relevant information of English teaching. It can be seen from the model that college English teaching is to combine multiple factors to construct relevant structure system. The relations of the factors can be adjusted to maximize the overall effect of the teaching model. It can be analyzed from the constructed college English teaching model that the college English teaching structure consists of six modules, namely, college English teaching object, types of teaching materials, teaching environment, teaching organization, teaching methods and teaching content. As backbones of the whole structure, these modules promote and unify one another to construct a basic model of synergistic effect with other models as follows:
\[
\phi^i(t_0) = \sum_{j=1}^{n} \omega_j \phi_j^i(t_0) \\
\phi^i(t) = \sum_{j=1}^{n} \omega_j \phi_j^i(t)
\]

Meanwhile, the synergistic effect among the models of college English teaching structure is defined as follows:

\[
\mu^{1,2,3,\ldots,n}(t_0, t) = \omega^{1,2,3,\ldots,n} \cdot |\phi^k(t) - \phi^k(t_0)|
\]

In the model above, \(\omega = \begin{cases} 1, & \min_{1 \leq k \leq n} (\phi^k(t) - \phi^k(t_0)) \geq 0 \\ 1, & \min_{1 \leq k \leq n} (\phi^k(t) - \phi^k(t_0)) < 0 \end{cases} \). It means the integration of \(\phi_j^i(t)\) realizes the overall effect of the whole model \(S^i\), which increases with increasing \(t\) value in the actual teaching process \(\phi_j^i(t) \in [0, 1]\).

Based on this, the exact values of the college English teaching modules constructed can be decided as follows:

\[
S^i = \sum_{t=1}^{n} f_t S_t \ (S^i \leq 1, S_t \leq 1, \sum f = 1)
\]

\[
S^i = \sum_{t=1}^{n} f_t S'_t \ (S^i \leq 1, S_t \leq 1, \sum f = 1)
\]

\[
S^i = \sum_{t=1}^{n} f_t S''_t \ (S^i \leq 1, S_t \leq 1, \sum f = 1)
\]

Then, the overall effectiveness of college English teaching model is evaluated comprehensively as follows:

\[
V = F_E E + F_S S + F_T T (V \leq 1, \sum F = 1)
\]

In the formula above, \(V\) mainly represents the overall effect of college English teaching model, the increasing value of which indicates the role it plays is more important in college English teaching. According to the actual situation of the current college English teaching, the roles played by the teaching object, teaching environment, teaching methods and teaching content modules are apparently more important than those of types of teaching materials and teaching organizer modules. Therefore, college teachers should unify the teaching object, teaching environment, teaching methods and teaching content in English courseware making to improve the overall teaching effect. Meanwhile, the types of teaching materials and teaching organizer should be used by college English teachers to assist teaching process for them to decide whether teaching materials used are practical in a diversified way. In addition, the teaching organizer should be clearly aware of the role it is playing in English class to interact well with students promptly, thus maximizing the result of the reformed English teaching model.

4. CONCLUSION

In conclusion, after the analysis on problems existing in traditional college English teaching, constructing college English teaching model in information technology environment can help improve English teaching environment in colleges and universities, unify teaching methods and teaching content and greatly improve the quality of English teaching. With important application value in college English teaching, the new type of college English teaching model can effectively solve problems existing in college English teaching such as low enthusiasm among students and poor teaching results to significantly promote college English teaching results. Expected to be highly promising, the new English teaching model based on information technology is believed to be widely applied in colleges and universities in the near future.

REFERENCES


