Application of Digital Audio Media in English Teaching

XinYuan Li*
Department of Basic Science, Jilin Communications Polytechnic, China, 130012

*Corresponding author e-mail: lxy1987happy@163.com

Abstract. In recent years, “micro-lecture”, a new teaching resource mode, and “flipped classroom”, a new teaching model, have emerged abroad and achieved good teaching effects. In this paper, the application feasibility of digital audio media in college English teaching in China is explored by studying the concepts and features of digital audio media and “flipped classroom”, and analyzing the characteristics of college English teachers, advantages of digital audio media, learning characteristics of college students, current college English teaching model, and teaching environment.

Keywords: Digital Audio Media, Flipped Classroom, College English Teaching

1. Introduction
Apple CEO Steve Jobs once talked to Bill Gates. In the conversation, they shared their concerns and concerns about future education [1-2], expressing their opinions and making suggestions: Jobs described some educational problems, and Bill Gates described his vision that future-students watch lectures and video lessons themselves, and class time is used to discuss and solve problems [3-4]. Their dialogue has the various digital audio media represented by the “micro-lecture” and “flipped classroom” seem to make more attention and attention to the informatization of education. Researchers and educators have found opportunities and exciting points for the deep integration of information technology and curriculum teaching [5-6]. Based on the study of the concepts and features of digital audio media and “flipped classroom”, and the analysis of the features of college English teachers, the advantages of digital audio media, the learning features of college students, the current college English teaching model, and the teaching environment The Feasibility of Applying Digital Audio Media in College English Teaching in China.

2. Digital audio media

2.1. Flipped classroom
The real reason that domestic education researchers have paid attention to flipped classrooms is a topic titled “Reinventing Education with Video” on TED (Technology Entertainment Design) by Khan Academy founder Salman Khan in 2011. Speech. In the speech, he mentioned that students and
parents preferred many of the free instructional videos that he uploaded on YouTube. These instructional videos also worked well in several experimental schools. Inspired by this, many teachers have tried to change the previous classroom teaching mode.

2.2. “Flipped classroom” Teaching Mode Based on Digital Audio Media

Based on the concept understanding, the following conceptual diagram of the “flipped classroom” teaching model based on digital audio media is designed:

![Figure 1. Conceptual diagram of the “flipped classroom” teaching model based on digital audio media.](image1)

The basic flowchart is as follows:

![Figure 2. Basic Flowchart of “Flipped classroom” Teaching model Based on Digital Audio Media.](image2)

3. Features of digital audio media teaching model and scientificity of education

3.1. Changes in the teacher role

Firstly, the role of teacher has changed from the imparter of knowledge in the traditional classroom to the promoter and guide of learning. The teacher is no longer the master of the classroom, and the classroom is no longer a teacher's speech. Teachers should be proficient in the organizational strategies of some learning activities, such as problem-based, project-based, group, and gamification.
learning, role-playing, etc. Secondly, teachers have changed from the transmitter of teaching content to the design and development of video resources and the providers of related educational resources. Before class, teachers need to provide students with necessary resources, such as teaching videos about related knowledge, teaching courseware, other network resources, etc., so that students have a better understanding of what they have learned.

3.2. Changes in student role
Students in the classroom complete the understanding and absorption of what they have learned. Students have transformed from a complete knowledge consumer into a knowledge producer. Students who master relatively quickly can help students who have not mastered to learn and assume the “teaching” role of a teacher.

3.3. Reallocation of class time
Reducing the teaching time of teachers in the classroom and leaving more time for students to learn is another core feature. In the flipped classroom mode, the content of the original classroom teaching was completed before the class through network technology. Without reducing the transfer of basic knowledge in the classroom was enhanced. The extension of teaching and learning time realizes the deep internalization of knowledge and improves learning efficiency.

4. Application Feasibility Analysis of Flipped Classroom Model to College English Teaching

4.1. Analysis of College English Teachers
Firstly, compared with elementary and middle school teachers engaged in basic education, college English teachers have a relatively high degree and the ability to accept emerging things faster. A survey on the quality of college English teachers (Dai Manchun, Zhang Xichun, 2004: 42-46) found that the average age of college English teachers nationwide was 31.19. Such a young age structure is more receptive to new things.

Secondly, in a survey of more than 100 college English teachers who leveraged the opportunities for participation and training, it was found that 6% of teachers think they have a strong sense of innovation, 50% think that they have a strong sense of innovation, and 28% think that they have a sense of innovation. In general, 16% think they have a poor sense of innovation.

This shows that most college English teachers with a certain language and teaching knowledge system can largely combine their language learning experience to achieve innovative teaching of college English.

Thirdly, It has a solid foundation in courseware production, resource search, and acquisition and processing of multimedia resources.

4.2. Analysis of Learning Characteristics of College Students
College students have strong self-learning abilities and can complete the study of digital courses.

Some studies have pointed out that in a questionnaire survey on the learning features of college students: 6% is very good and can learn independently, 28% is good and can be when they want to learn independently, 42% is average, and they can study calmly when they are not bothered or disturbed, 24% is poor and susceptible to external interference.
A similar questionnaire survey was conducted among nearly 300 students in two universities, and the results were basically similar to the above study: 5% was very good, and 26% of the students thought that they had better self-learning ability. 44% is average, and 25% of students think that their self-learning ability is poor.

The combination of the two studies suggests that college students in China have a strong autonomous learning ability.

College students have some abilities to express in English and can basically realize classroom communication.

The survey on students' English expression ability found that: 6% of students think that their English expression ability is very good and can express their meanings well, 24% of students think that they can clarify their views smoothly And ideas, 42% of students think that is average and can achieve the purpose of communication with the help of body language and a small amount of Chinese, 28% of students think that their English expression ability is poor and they cannot use English Communicate well.

4.3. Analysis of the Features of the Teaching Environment

The intensive lectures and the autonomous learning of students are combined based on the Internet. This teaching model is that the teacher makes the content he wants to talk into multimedia courseware, and the students learn by watching the multimedia courseware display content under the guidance of the teacher. After class, students use their spare time to complete homework, and use their spare time to further consolidate or deepen their studies on the self-learning platform that is matched with the teaching materials. Compared to the traditional teacher-only teaching model, the advantage of this multimedia teaching model is that it can integrate pictures, text, sound, and image into one, making teaching and learning activities more colorful, and at the same time incorporating knowledge learning, Skill training, and intelligence are developed in a lively image, which stimulates students' interest in learning. To some extent, the autonomous learning mode that students use in their spare time can realize the individual requirements of students' learning and highlight the student's subjective status. However, some studies suggest that the shortcomings of the current teaching model are also obvious: First, when playing multimedia courseware, it flashes like a movie, the knowledge points are not prominent, and the students cannot take notes to keep up with the speed of the teacher, making students feel frustrated and gradually lose the enthusiasm for learning English, secondly, in the limited classroom teaching time, students watching multimedia courseware cannot identify the problems in time, but the teacher's indoctrination and the students themselves cannot internalize the knowledge well, the student's subject status It is not really reflected. Thirdly, the self-study of students 'extracurricular study is often ineffective due to the lack of rich and diverse content of the learning platform and teaching materials, and the lack of supervision and guidance of teachers, which cannot truly achieve the requirements of students' personalized learning. Therefore, in order to make more effective use of multimedia to internalize what students have learned and truly realize the individualization of student learning, a more complete and scientific college English teaching model is required.

The English course teaching is evaluated based on mind maps as follows:
A multi-index evaluation system consisting of \( n \) evaluated objects \( u_1, u_2, \cdots, u_n \). \( m \) indicators \( x_1, x_2, \cdots, x_m \), \( x_{ij} = x_j (x_i) (i = 1, 2, \cdots, n; j = 1, 2, \cdots, m) \) is the observation data evaluation data matrix (decision matrix) of the evaluated object \( u_i \) and the index \( x_j \) can be expressed as shown in equation (1):

\[
A = \begin{bmatrix}
    x_{11} & x_{12} & \cdots & x_{1m} \\
    x_{21} & x_{22} & \cdots & x_{2m} \\
    \vdots & \vdots & \ddots & \vdots \\
    x_{n1} & x_{n2} & \cdots & x_{nm}
\end{bmatrix}
\]

(1)

The data in \( m, n \geq 3 \) and \( A \) are normalized data after preprocessing. Can be transformed into equation (2):

\[
y_i = f(x_{i1}, x_{i2}, \cdots, x_{in}), i \in N
\]

(2)

Among them, \( f \) is a positive transformation function, \( y_i \) is the comprehensive evaluation value of the evaluated object \( u_i \). \( u_1, u_2, \cdots, u_n \) are sorted based on the value of \( y_1, y_2, \cdots, y_n \) in descending order, and you can complete the comparison of the advantages and disadvantages of \( u_1, u_2, \cdots, u_n \).

If there are two evaluation objects \( u'_i, u''_i (i', i'' \in N, i' \neq i'') \), assuming that \( w^*(i', i'') \) on the interval \( \left[ \min(w_{ij}, w_{j'i}), \max(w_{ij}, w_{j'i}) \right] \), call \( \left[ \min(w_{ij}, w_{j'i}), \max(w_{ij}, w_{j'i}) \right] \) the superiority of \( u'_i \) to \( u''_i \), as shown in equation (3):

\[
s(u'_i > u''_i) = p \left( f(u'_i) > f(u''_i) \right) + 0.5p \left( f(u'_i) = f(u''_i) \right)
\]

(3)

Where the aggregate function indicates the event probability, as shown in equations (4) and (5):

\[
f(u'_i) = \sum_{j=1}^{m} \lambda^*_j w^*_j (i', i'')
\]

(4)

\[
f(u''_i) = \sum_{j=1}^{m} \lambda^*_j w^*_j (i', i'')
\]

(5)

Hardware equipment for making and watching videos ... Since the implementation models based on multimedia and online independent learning platforms have been basically established. The popularity of teachers, students using computers, electronic reading rooms, and autonomous learning platforms has been high. This provides the necessary hardware foundation based on the digital audio media curriculum flipped classroom model. In the questionnaire survey, 100% of teachers and 71% of students already have their own personal computers, and 29% of students said that although there is no personal computer, the electronic reading room provided by the school and the web-based autonomy of the campus. The learning platform can fully meet their requirements for watching videos outside the classroom and learning digital audio media courses.
5. Conclusions
In conclusion, the teaching model based on digital audio media has the advantage of allowing the students to control their study independently, increasing interaction in learning, and improving the psychological superiority, which can make up for the insufficient of the existing college English teaching model effectively. Meanwhile, the questionnaire survey results also suggest that the situation of college English teachers and learning characteristics of college students in our country can meet the human resources requirements for implementing the flipped classroom teaching model based on digital audio media. Hence, it is feasible to apply the flipped classroom teaching model based on digital audio media in college English teaching in China.

Acknowledgement
Educational science research of China Institute of Communications Education, 1802-136.

References
[1] Mehmet Şahin, Şule Y. E. Seçer. Challenges of using audio-visual aids as warm-up activity in teaching aviation English[J]. Educational Research & Reviews, 2016, 11(8):1-13.
[2] Karolík, ?tefan, ?ipková, Elena, Mázorová, Henrika. Application of digital technologies in the geography teaching process from the teachers’ perspective[J]. International Research in Geographical and Environmental Education, 2016, 1(2):1-16.
[3] Poole, N. R. The application of simulators in teaching digital electronics[J]. Engineering Science and Education Journal, 2016, 3(4):177-0.
[4] Laura J. Gurak, Ann Hill Duin. The Impact of the Internet and Digital Technologies on Teaching and Research in Technical Communication[J]. Technical Communication Quarterly, 2018, 13(2):187-198.
[5] Govan, Michelle. The application of peer teaching in digital forensics education[J]. Higher Education Pedagogies, 2016, 1(1):57-63.
[6] Erdener, Do?u. Basic to applied research: the benefits of audio-visual speech perception research in teaching foreign languages[J]. Language Learning Journal, 2018, 44(1):124-132.