A Study on the Application of Blended Teaching to English Reading Course under the Background of Artificial Intelligence

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Abstract. The development of artificial intelligence technology brings a lot of benefits to various fields, including education. This paper discusses how artificial intelligence leads to the opportunity to improve learning processes and develop innovative approaches to education like blended teaching. Based on that, the author tries to provide tentative suggestions on the application of blended teaching to English reading courses with the help of artificial intelligence technology, in the hope of improving teaching and learning quality of this course, benefiting both teachers and students.

1. Introduction
The term, artificial intelligence (AI), can be traced back in 1956 when Minsky and McCarthy, the father of this field, proposed it for the Dartmouth Conference, the first artificial intelligence conference. He described AI as the simulation of human intelligence in machines that can perform a variety of human-like tasks. With the development of half a century, AI has grown into a driving force of science and technology, and has a major impact on all walks of life. Artificial intelligence is widely used in education today in an attempt to increase the level of it. The emerging technology in the form of artificial intelligence and machine learning is beginning to alter education tools and institutions, and changing what the future might look like in education.

2. AI in Education
AI technology has found its way in a wide range of teaching and learning activities, which brings a lot of benefits to both teachers and students.

2.1 Benefits for Students

2.1.1 Education at any time
AI-based apps provide an opportunity to study in free time. All the students need to do is to click on their smart phones or tablets. In addition, they can get feedback in a real time mode.

2.1.2 Personalized learning
AI-driven system provides learning, testing and feedback to students on various levels in order to give them challenges they are ready for. It offers suitable learning materials, tasks and courses to help students with their weak points and track their progress at the same time.

2.1.3 Tutoring outside the classroom
AI-enabled Platforms create possibilities for students who might not be able to attend school or who
require learning at a different level or on a particular subject that isn’t available in their own school. Many tutoring and studying programs are provided, and there are also AI tutors to help students with their study.

2.2 Benefits for Teachers

2.2.1 Automated grading
Teachers always find it a tedious work to grade homework and tests, which always takes up a great amount of time. However, AI technology makes it possible to automate grading for multiple choice and fix-in-blank testing. Essay-grading software is available as well, which can correct the errors in an essay and give suggestions at the same time.

2.2.2 Finding out weakness
AI technology involves students in a more interactive education process. It helps teachers to monitor the learning process of students and be aware of the weaknesses in students’ knowledge. For example, the system alerts the teacher when it finds a large amount of students submitting the wrong answer to a particular question.

2.2.3 Curriculum creating
Teachers spend less time creating a curriculum, for many educational platforms provide necessary materials. This allows teachers to emphasize more on in-class activities and online interaction with students.

3. Blended Teaching in English Courses under the Background of AI
Science and technology has driven the reform of English teaching and learning since the early days. From radio to recorder, language laboratory to modernized multimedia computer, and network, Science and technology has effectively promoted the development of English teaching and learning. At present, technology of language parsing, speech recognition and machine translation developed on the basis of artificial intelligence technology are applied in classroom in an attempt to increase the efficiency of English teaching and learning. Researchers claim that speech recognition technology in China has reached the world's leading level, the accuracy rate of which is over 97%. Applying speech recognition technology to English learning can effectively help learners improve their listening, speaking and translation abilities. Additionally, It plays an important role in optimizing learning guidance, evaluation and process. With the sophistication of artificial intelligence technology, innovative teaching modes, strategies and approaches should be adopted to deepen the English teaching reform.

3.1 Blended Teaching and AI
Development of AI revolutionizes the teaching approaches to education. One of them is blended teaching, a blend of digital and traditional strategies. It combines online and face-to-face instruction, involving the use of AI tools, online educational resources, opportunities for interaction online and traditional place-based classroom practices. There are many AI tools such as Rain Classroom and Tencent Conference that help carry out online teaching in an effective way, fulfilling the demand for distant instruction, discussion and testing, and keeping active interaction among teachers and students both in and out of the classroom. The development of educational platforms like Superstar, Wisdom Tree offers more flexibility in design and creation of a online curriculum.

Online classroom features student-oriented teaching. Teachers are responsible for integrating teaching resources and designing teaching content. Students can decide when, where and how to learn in the online classroom based on their own, which can greatly arouse students' initiative and enhance the participation in learning; while offline teaching in a face-to-face classroom features the guidance and instruction. Teachers organize the Q&A discussion and a variety of activities according to feedback on students' online behaviors so that the deficiencies in online learning can be made up face-to-face. Online teaching is a trend of educational development and reform in the future. In fact,
the Rain Classroom, Superstar, Wisdom Tree, etc. mentioned above provide technical support for the rapid development of online teaching.

Blended teaching enriches our traditional teaching modes. The ultimate goal of the combination is to stimulate interest and engagement in learning and make it more personalized.

### 3.2 Application of Blended Teaching to English Class

#### 3.2.1 Listening training

As a basic part of English teaching, listening training is crucial to the growth of students' ability to use English language. Whether the variety in listening resources can meet an individual student’s particular needs largely determines the learning effect. Therefore, in the construction of English blended classroom, artificial intelligence technology can be used to increase the variety in listening resources. Various AI-enabled algorithms can analyze the users’ knowledge and interests and provide more personalized recommendations and training programs. With the help of its unique corpus, automatic matching can be completed so that students can quickly obtain the listening materials in accordance with their needs, and then they can carry out targeted exercises by interacting with artificial intelligence tools. In achieving this purpose, students first enter the age, grade, level, topics they are interested in and other basic information in the online AI system which will automatically search for the listening materials corresponding to the data, so as to omit the tedious work of manual data collection. For example, when a student chooses "mobile phone" as the topic of his training material, the corpus can automatically screen out irrelevant listening materials and sort out those sharing the similar information.

#### 3.2.2 Writing instruction

In English teaching, writing is considered as an important activity to train students in the use of grammar, vocabulary and sentence patterns. However, traditional English writing class fails to realize this purpose due to students' limited ability. It is difficult for them to notice the weaknesses and strengths in a composition when it has to be revised. However, when using artificial intelligence technology to guide English writing, students can use the writing frameworks, vocabulary, expressions and topic-related materials provided by the writing system, and automatic correction function can complete the examination and revision of a composition.

In online teaching, teachers can first assign a certain topic to students. Students organize their ideas in the writing AI-supported system, which offers frameworks, words and sentences for reference. When students go offline in the face-to-face classroom, review of the automatic correction begins. Students exchange ideas about the evaluation by the system with one another and the teacher, finding out the highlights and shortcomings in their writing. This combined evaluation gives better feedback on how to improve writing ability.

#### 3.2.3 Translation exercise

The task of translation is performed based on sufficient accumulation of words and sentences and listening practice. It has special requirements for learners' ability of encoding and decoding the languages and the ability of organizing and expressing ideas. Therefore, there are more difficult points in the learning process. How to improve the accuracy of translation has become an important issue in the teaching process. The application of cloud platform supported by artificial intelligence offers new channels for English translation teaching.

On the one hand, it helps create contexts to engage students in translation practice immediately. On the other hand, it helps analyze the logical relationship between sentences, so as to improve the accuracy of translation. First of all, students can use artificial intelligence technology to create an immersive language atmosphere in the face-to-face classroom. For example, when translating the sentence "For a time, the weather changed suddenly, heavy rain and thunder, pedestrians on the road were looking for eaves to avoid", the system can automatically extract the keyword "Thunderstorm" and play it on the device. The sound and video of "rain and thunder" will lead students into the language situation. After completing the translation exercises in the scene, students can upload their
translations to the online cloud platform. The cloud platform will carry out quantitative evaluation on the translation results, so that students can quickly notice their problems and do supplementary exercises.

3.2.4 Oral practice
The ultimate appeal of English teaching lies in the development of proficiency in language use. However, oral practice in traditional classroom is inefficient to transform students into proficient language users. The emergence of artificial intelligence technology, to a large extent, has broken the ice when it comes to the organization of dialogues in English classroom. Students can establish a one-to-one relationship with artificial intelligence robots when practicing dialogues. Students can carry out self-practice by setting key words or topics they are interested in, and then artificial intelligence robots will work with them to complete a dialogue practice around the topic. Meanwhile, practicing with a robot can avoid the embarrassment of talking with a real person, which helps to achieve a higher level of fluency in a relaxed state. In classroom teaching, artificial intelligence robots can also be used to enhance the effect of practice. For example, in organizing group oral practice, intelligent robots can be used to provide some fixed phrases or sentence patterns in order to keep conversation smooth. Adjusting the level of dialogues intelligently for different students, robots help to achieve the goal of improving the effect of dialogue practice.

4. Application of Blending Teaching to English Reading Course Based on Superstar Educational Platform
Blended teaching used in the reading course enables interaction to happen among students, students and teachers, students and platforms, facilitated by artificial intelligent technology. Various interactive channels make possible the instant and non-instant communication among the whole class, smalls groups and individuals. Teachers should design different interactive activities based on the reading tasks and students' class performance, to meet their communicative need. Due to the limitation of teaching time in face-to face classroom, those issues that need in-depth and critical thinking, should be exposed to students online, and then brought to offline in the classroom. Students have a discussion or debate under the guidance of teachers.

Communications help students better understand topics and standpoints in reading texts, and see the world from a different perspective. For those students who are anxious and timid in face-to-face communication, they can exchange views and exchange learning experience on the online forum through the AI-driven platform. The learning resources formed by online discussion can be browsed, supplemented or questioned by students at any time, so as to improve their reading skill and thinking ability.

Superstar learning APP provides online educational platform is developed for teachers and students, which can be used on mobile terminals like smart phones, tablets. Teachers use the online platform to create curriculums and manage their teaching. When trying to create a reading course on the platform, teachers upload the relevant materials to the platform, such as teaching plans, reading texts, courseware, videos, etc.; students attend the class by scanning the QR code and share the learning materials uploaded by teachers. Students can take part in activities, such as check-in, testing, discussion through Superstar learning APP. Teachers can also check students' learning progress in the system. Opportunities of online and offline interaction, supervision and feedback are provided on the platform of Superstar learning APP, which can promote active learning in the reading course during fragmented time.

4.1 Preparation before Class

4.1.1 Integration of teaching resources
First of all, teachers begin the creation of the reading course on AI educational platform, including the creation of portal page and introduction to the course requirements, standards, features, learning materials and procedures, etc. Teachers need to upload such digital teaching materials as courseware, videos, films, images, recordings. In this way, students have a better understanding of the syllabus,
content and objectives of this course, so as to be impressed and attracted by the course.

4.1.2 Assignment of learning tasks
Teachers give out particular reading texts and topic-related learning materials which should be completed in a given time period. Each student's progress is closely monitored through the platform, which help teachers learn about the gaps in his reading ability, and make up the deficiencies in the teaching. Online discussion is also made among students and their teacher when there are troubles in reading activities. 4.1.3 Check in before class
Taking attendance in a traditional classroom usually take time, which shortens the actual teaching. By using the check-in function of educational platform superstar, students will be urged to enter the classroom and get prepare for class as soon as possible. This is conducive to the effective use of class time.

4.2 In-class Teaching

4.2.1 Instruction in the classroom
With the preparations, teachers can focus on the key points in a reading activity, which ensures the effectiveness of classroom teaching and learning. During the instruction, teachers use Superstar learning App to project the courseware onto the screen in front of the class and make instant interactions with the AI system. Teachers can also share with students the current slides by sending them to students' mobile terminals. Students can review them repeatedly anytime they want.

4.2.2 Interaction in the classroom
Teachers asks students to work in groups, with each group making topic-related discussion from a given perspective. After that, group instruction ten begins according to results of group discussion, which can by checked by teachers on the APP. When the activity is finished, the discussion reports will be shared through the projection on the screen. Each group gets an opportunity to demonstrate the report in class.

4.3 Review after Class

4.3.1 Online testing
In the blended classroom, teaching and learning can run through the whole process without being limited by time and location. After the place-based class, students will have a quiz on the platform. The quiz are created by teachers based on corpus materials and can be done in spare time, which makes it easy to check and review the knowledge of this lesson.

4.3.2 After-class reflection
Traditional learning and teaching mode fails to offer students the opportunity to review what is taught in class, which is not conducive to the self-examination of students for their learning. But Superstar platform enables students to have a comprehensive and effective review of the in-class courseware, videos, recordings and task in order to better understand what they have learned.

4.4 Evaluation
The AI system can automatically evaluate the performance of students in their study. in addition, teachers can use the Superstar learning APP to issue questionnaires to learn about learning situations, the common problems found in the homework. Adjustments can be made according to instruction, course content and teaching resources to meet students' personalized needs.

In conclusion, the application of blended teaching to English reading course on Superstar educational platform can be realized in the following steps: pre-class preparation, in-class teaching, after-class review and evaluating. The integration of teaching resources, task-releasing, pre-class check-in, classroom instruction and interaction, after-class review, online testing, reflection and evaluation are carried out to make teaching and learning run through the whole process of the reading
course to improve the teaching and learning quality.

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