

# The Reform of Foreign Language Teaching Modes under the Background of Big Data

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## Abstract

Big data technology is a new opportunity for the foreign language teaching mode reform at present, which can bring profound changes to the traditional foreign language teaching modes; it directly promotes foreign language teaching development through advanced information technology and rich teaching resources. How to apply big data into foreign language teaching and promote reform of traditional foreign language teaching modes are issues that we need to study. The current traditional foreign language teaching modes have been unable to meet the students' learning needs, and therefore advanced information technology should be continuously integrated into foreign language teaching and the reform of teaching evaluation modes. In this paper, the reform of foreign language teaching modes are systematically analyzed and studied under big data background, and reform strategies of foreign languages teaching mode are proposed.

## Keywords

Big data era; foreign language teaching; reform; teaching quality.

## 1. Introduction

The 21st century is witnessing rapid development of information technology. With increased frequency of political and economic interflow between China and other countries, foreign languages, as vital media of cross-cultural communication, not only occupy a prominent position in China's education system, but also bear an significant strategic mission. Big data technology brings profound changes to traditional foreign language teaching modes. As a result, the learning approaches of students is no longer limited to the classroom in the traditional sense. Rather, online learning is increasingly becoming an important mode of foreign language learning. Moreover, it has directly promoted tremendous changes to students' learning mode as well as teachers' teaching mode, and promoted the development of the cause of education.

## 2. The Concept of the Big Data Era

Big data, as opposed to data in the general sense, is featured by data collection where data volume rises extremely fast, which therefore cannot be acquired, handled, stored, and computed within a certain time through common data tools. Big data represents new capacity which is unique to today's society. Through mass data analysis, products and services with great value can be obtained, and big data is characterized by the mass data, fast data addition, diversified data sources, and low data value density.

## 3. Foreign Language Teaching under the Background of Big Data

Big data has transformed people's social life and thinking pattern. Big data era brings open data and data resource sharing, and public resources can be found everywhere. These public data include not only digital information, but also massive text information. Big data era makes

teaching resource richer, so teachers can use big data to collect teaching materials and apply them to foreign language classroom teaching. Teachers can also use big data to guide students in various learning research and assist foreign language teaching in the classroom to enhance students' learning and research capabilities. In the educational field, big data promotes change of teaching models as well. Flipped classrooms, micro-classes, and MOOC emerged one after another, and have gradually been adopted in the teaching practice of adult education.

Flipped classroom is teaching mode where students see teaching video independently before teaching; and teacher examines the learning effect and solves problems students may find difficult to deal with on their own, which overturns the traditional classroom completely. Students can watch video learning courses at home, and bring their problem to the classroom. Then teachers would provide help to students who have difficulty in completing homework or experiments in the classroom. MOOC, the abbreviation of massive open online course, first appeared in the United States in 2011, and has been actively promoted since then, becoming a major event in the global educational field. At present, MOOC attracts the attention of many Chinese educators, especially those in the foreign language teaching field. Many schools begin to try to establish MOOC platform to guide students' foreign language learning.

In addition, various courses on the Internet help foreign language learners broaden their academic horizons while improving their foreign language skills and abilities. At present, foreign language teaching reform in the big data era, such as flipped classrooms provide students with learning opportunities after class. The teaching resources on the Internet can simultaneously benefit students from various aspects. Courses can be selected on condition that the contents be systematic, complete, rich, and as detailed as possible with every knowledge point, as well as colorful pictures, PPT courseware diagrams, video etc.. Students thus can learn freely with their diversified needs being met. Now that different knowledge points of the courses are divided through various learning methods, it is helpful for students to arrange their learning schedules according to their own needs.

## **4. Characteristics of Foreign Language Teaching in the Era of Big Data**

### **4.1. Changes of Learning Environment**

Under the traditional foreign language teaching modes, students can only obtain basic foreign language knowledge through the classroom or library. Teaching and learning activities have huge limitations, and the problems faced by students in learning cannot be solved timely due to insufficient communication. Currently, foreign language learning facilities in many schools have been updated. Application of advanced equipment such as the Internet and multimedia equipment has improved students' learning environment, making virtual classroom the main mode of foreign language learning. This kind of fragmented, interactive, and random learning mode is generally welcomed by students, with diversified platforms for teachers and students to interact. This flexible and diverse learning mode has undoubtedly improved students' learning enthusiasm and learning outcome, and also greatly promoted development of virtual teaching platforms.

### **4.2. The Change of Teachers' Role**

In big data era, with the role of teachers facing tremendous and far-reaching changes, teachers nowadays are no longer the main body of classroom teaching activities, but gradually begin to be transformed into the guide of students learning activities, which coincides with the teaching ideas of quality education. Foreign language teachers at all stages of education should deepen their understanding of their own teaching positioning in big data era, strive to cater to this development trend, and have specific understanding of students' learning characteristics and even personality characteristics. They should be the integrators of teaching resources,

cultivators of students' good learning habits, and users of advanced teaching equipment, so as to complete the transition from the leader of classroom teaching to the guide of students' foreign language learning.

### **4.3. Changes in Student Learning Mode**

The big data era not only promotes transformation of teachers' position, but also directly promotes the transformation of student learning patterns. Under the new teaching modes, students' learning activities are no longer limited by classroom. With the help of Internet technology and mobile terminal equipment, students can browse related websites and watch related teaching videos anytime and anywhere according to their needs, watch relevant teaching videos and course teaching content, complete the learning tasks within certain time, and answer questions through teacher-student communication or exchanges between students when encountering difficult problems, and complete their own learning activities after class.

## **5. The Promotion Roles of Big Data to Foreign Language Teaching Mode Reform**

### **5.1. Abundant Teaching Materials**

The big data provides rich information and resources for foreign language learners. On the Internet, various original films and television dramas, news, speeches, interviews, entertainment programs, etc., can greatly enrich the students' extracurricular activities, help them understand the national conditions, current affairs, customs and cultures of other countries, and stimulate students' learning interests. In addition, the open classes and MOOC recorded by famous foreign schools can help foreign language learners expand their academic horizon, and raise their foreign language skills and abilities. At present, domestic foreign language colleges are gradually carrying out the foreign language teaching mode reform against the backdrop of big data, such as flipped classroom, which can provide students with learning materials after class. In addition, inter-school cooperation between universities, collaborative production of lecture videos, mutual recognition of MOOC credits, etc., have also integrated together the advantageous resources of foreign language teaching, so that students have the opportunity to get into touch with first-hand teaching contents of the top-class teachers. As a result, foreign language teaching materials are no longer just paper materials, and various text and video resources on the Internet have become the active supplement to classroom teaching.

### **5.2. Different Teaching Modes**

The traditional cramming teaching method of foreign language classroom cannot meet the needs of cultivating foreign language talents in foreign affairs as well as foreign trade any longer. The flipped classroom has changed teachers and students' roles in foreign language teaching, where students become the main body of the classroom and teachers play a guiding and auxiliary role. The purpose is to raise students' self-learning ability, exploration spirit and innovative consciousness. Uploading grammar rules, vocabulary meanings, phrase usage and text background knowledge on the Internet in the form of "micro-class" can save classroom teaching time, improve teaching efficiency. Teachers would answer questions in the classroom, and organize students to do more exercises flexibly and proficiently. While mastering grammar and vocabulary knowledge, students carry out various activities such as reports, discussions, debates, and presentations to improve their ability in language application. Students who are relatively lagging behind can also watch the lecture videos repeatedly before or after class, understand the teaching content, summarize the problems, and then communicate and help each other through online platforms, or consult the teacher during face-to-face instruction. Students are encouraged to take the initiative to explore and try to solve problems through

efforts after class, which is more effective than teachers tell them everything directly. With the students' active participation, the internalization of knowledge can be realized.

### **5.3. Overcome Distance Barrier**

The popularity of the Internet makes distance education possible. Students do not need to go abroad to learn overseas courses. Instead, they can get them from every corner of the world for free; students studying abroad can also learn about the contents of domestic professional studies, consolidate their theoretical foundation, and improve their knowledge structure. Students can learn related courses in advance by watching MOOC, micro-classes and community discussions at home. Students who study well can also arrange their own study time and study courses in advance.

### **5.4. Track Students' Learning Progress**

In big data era, powerful and empirical tools enable teachers to track the learning process of students online, including each student's learning time and learning effects, overall learning quality, common learning difficulties. In this way, teachers can analyze problems for students through online communication in time. By helping students get rid of inertia, advanced technology can make students self-supervise, and observe the learning progress of others to effectively motivate themselves. Teachers can also analyze relevant data and conduct experimental reforms based on students' learning progress.

### **5.5. Teaching Benefits Teacher and Student**

Flipped classroom where students complete self-study with various teaching materials before or after class, gives students the opportunity to express their opinions more in class. Through exchanges and discussions, teachers can learn from students and discover new problems, find new perspectives and draw from them useful experience. In big data era, the explosion of knowledge and information and the ever-changing technological revolution require teachers to strive to raise their professional level, track new moves of academic frontier, continuously expand and update teaching materials, improve traditional teaching models, and establish a scientific evaluation system.

## **6. Challenges and Countermeasures of Foreign Language Teaching Reform in Big Data Era**

### **6.1. Information Screening**

While big data technology is bringing profound changes to foreign language teaching, it has also caused many problems. Despite the high-quality digital teaching resources provided by teachers, the internet is flooded with many similar teaching resources, which are of varying qualities, i.e. some are good while others may be otherwise. It poses new challenges to students' judgment and screening abilities. Once the selection of teaching resources is unreasonable, it will directly have a negative impact on students' learning activities. Moreover, retrieving information on these resources will also cost students much time and energy. Sometimes the loss even outweighs the gain. For this reason, as the organizer of the information classroom and the leader of students' learning activities, teachers should take the main responsibility in this aspect, actively do a good job in screening of foreign language teaching materials, and recommend premium digital teaching resources to students in time.

### **6.2. Teachers Must Pay Attention to Enhancing Their Own Innovative Consciousness**

In big data era, new knowledge is emerging in an endless stream. Some middle-aged and elderly teachers who are familiar with traditional foreign language teaching approaches are somewhat

powerless and at a loss in this reform wave. In an effort to cultivate innovative talents, teachers must keep pace with advanced teaching concepts and methods. Therefore, schools should actively conduct related knowledge lectures such as "flipped classroom", "MOOC", "micro-class", etc., so that teachers can learn, accept and master foreign language teaching reform methods in big data era. If situation permits, teachers can also visit other domestic schools, or even famous overseas schools, so as to make clear the direction and steps of foreign language teaching reform.

### **6.3. Students Must Focus on Independent Learning**

In big data era, more emphasis is placed on training students' self-study ability, striving to cater to the foreign language teaching goals of online classrooms, and starting from oneself to improve their self-learning ability. However, students at different stages have different autonomous learning awareness and self-learning abilities. Some students even maintain opportunistic spirits, failing either to complete their homework, or to learn new knowledge. As a result, the academic performance of these students do not rise but fell, which is opposite to the original intention of quality education. For this reason, on the one hand, teachers should promptly discover the negative learning emotions in students, strengthen communication with students, help students have an eye on learning, make clear the purpose of learning so as to help facilitate in students the sense of integrity and sound learning attitude; on the one hand, the vast number of scientific and technical personnel should also strive to improve the supervision technology of online courses, so as not to give some students the opportunity to walk academic shortcuts.

### **6.4. Teachers Blindly Pursue Form**

The foreign language teaching reform must not be reform just in form. Some teachers break down the previous classroom lectures into videos, which are then played in the classroom. However, in this way teachers become nothing but broadcasters of the courseware, because they fail to have interactive communication with students, and thus the effectiveness of face-to-face courses are damaged. In addition, some teachers completely hand over the classroom to students in face-to-face instruction during foreign language teaching activities, where they are running the risk of failing to find and solve problems in time, lack the necessary guidance for students, and eventually the organization of foreign language teaching is loose. Foreign language reform requires calm thinking. And it does not mean that teachers do not participate or act at all. How to clarify both teachers and students' roles and cultivate students' abilities deserves our attention. In big data era, blindly following trend is inadvisable.

## **7. The Innovation of Foreign Language Teaching Mode in the Era of Big Data**

Interest is the fundamental motivation for students to persist in foreign language learning for a long time, and the demand for foreign language is the main internal motivation for investing in foreign language learning. Therefore, before carrying out teaching activities, teachers can use big data analysis technology to conduct comprehensive analysis of students' data and information, explore students' potential foreign language needs. Based on students' interests, they can change classroom teaching modes, and stimulate students' curiosity with novel teaching designs, improve the initiative of students in foreign language learning, improve the foreign language knowledge system, and enrich students' foreign language reserves. For example, teachers can use the library retrieval system to dig out students' foreign language reading interests and methods based on students' daily retrieval records, and by analyzing the retrieval results, teachers can provide and recommend foreign language materials to students

in a targeted way, so as to effectively improve the directionality of foreign language teaching and enhance students' acceptance of foreign language knowledge.

In big data era, information is an inevitable development trend, foreign language teachers must understand this educational development trend, actively explore and innovate classroom teaching models, and vigorously build an intelligent foreign language teaching platform. The micro-teaching mode can be introduced into classroom teaching to create personalized foreign language learning programs for students. First of all, with the help of big data information technology, teachers can dig out students' points of interest and then have them incorporated into the teaching objectives, and then turn textbook knowledge into interesting micro-classes, and upload them to intelligent foreign language teaching platforms. Students can choose the corresponding micro-class videos for autonomous learning according to their own needs. In the process of autonomous learning, students can record difficult problems and give their feedback to the teacher through the teaching platform. Teacher can explain individual problems to the students on a one-on-one basis, or explain common questions in the classroom. Moreover, after students have mastered the corresponding grammar, knowledge and skills, teachers can also use teaching software to develop personalized learning schedules for students from different classes, which can provide powerful data support for grasping the most difficult points in classroom teaching.

The data query and analysis system can remind teachers in time to achieve the effect of checking for omissions with the help of big data technology. For example, on the MOOC platform with better application of big data technology, when a certain problem is repeatedly mentioned by students, the system will send notice to teachers, and teachers can focus on this type of problem in class. Moreover, in the intelligent learning environment, big data can combine the data of all aspects of student to match the right people together, improve the effectiveness of collaborative learning, and make foreign language teaching more accurate, so that teachers can carry out differentiated and layered teaching for a certain group.

## 8. Conclusion

Big data technology is a new opportunity for foreign language teaching reform at present. How to apply big data into teaching and promote traditional foreign language teaching mode reform are issues that we need to explore into. It must be admitted is that big data plays important roles in language information processing and language learning; however, due to the limitations of subject background and major development, foreign language teachers' understanding for big data is relatively superficial. How to better analyze mass data, further support students' deep learning, and realize the transformation of teachers from information providers to guiders have become urgent issues for educators.

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