Research on the Construction of English Autonomous Learning Monitoring Mode under the Background of Big Data

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Abstract: The era of big data is coming, the combination of big data and traditional teaching can provide more and more accurate services for students' self-learning, and it is a good way to teach students according to their aptitude. In this background, a learning society is coming, which aiming at learning, autonomous learning and lifelong learning. Learning society emphasize the ability of learning autonomy for students unprecedentedly. Learning is no longer limited to the campus. Learning ability will accompany learners' social life and become an active and healthy lifelong activity. Autonomous learning is a learning theory that goes with the requirements of The Times and has a broad development prospect. The study of Autonomous learning not only has a very important guiding significance for the educational and teaching practice in China, but also plays an important role in the life development of every student. The subject of learning is gradually transferred from the classroom, teachers and textbooks to the students themselves. Teachers should not only impart knowledge and answer questions, but also, most importantly, teach students how to exert their autonomy in autonomous learning. After investigating and researching the existing monitoring model of autonomous English learning in colleges and universities, our group found that in practice, there is a lack of corresponding monitoring mechanisms and means, and autonomous learning has gradually become formalized. Therefore, according to the actual situation of autonomous English learning in our country's universities, the monitoring model of autonomous English learning has been reconstructed, and an effective comprehensive evaluation system has been established to effectively improve students' English learning ability.

1 Introduction

China's Internet technology and the field of big data are developing rapidly. Today, China is entering the era of big data[1-2]. The field of big data information is the main source of education and learning. There are more and more discussions on big data, which has been widely concerned and studied by researchers in the information science field. Through manual processing and machine learning, big data technology can quickly access information for various purposes (such as built-in, equal location and data based information); the principle is to use computers instead of human beings to obtain information and knowledge[3-4]. In addition, with the rapid development of cloud technology and Internet technology, the speed of information transmission and processing such as text, audio and video images is greatly improved, which saves time and money, and provides a basis for further research. In the back ground of big data English self-learning model provides an opportunity for some users who like English.

Autonomous learning ability is the basis to test

whether a person can adapt to social development. With the development of science and technology, people's lifestyle has changed. If they don't have the ability of self-study, they will be eliminated by society. Therefore, autonomous learning ability is one of the core qualities of college students. College students should not only have the spirit of active inquiry learning, but also cultivate good learning habits and scientific learning methods, so as to realize long-term and continuous learning, not easy to give up, and constantly adjust their learning ideas, learning methods and learning strategies according to the actual situation. In this case, the use of effective information technology in English learning can not only improve students' autonomous learning ability, but also improve their English knowledge level, which can be described as killing two birds with one stone. In the university stage, English curriculum plays an important role, and most students adopt the traditional learning mode[5-6]. In the process of learning, if students are forced to learn for a long time, it is difficult to improve their English level. In view of this learning environment, teachers need to use advanced information technology to build an independent learning platform for English teaching. Compared with the traditional learning mode, autonomous learning mode can effectively mobilize the enthusiasm of students and help them improve their interest in learning. In this case, autonomous learning mode can stimulate students' desire to learn English, and then can effectively improve their English autonomous learning ability. Teaching under the background of big data can share educational resources. Teachers and students can obtain educational resources through online forums[7-8]. In this process, students enjoy learning English, which can greatly improve their English autonomous learning ability. The improvement of this ability is of great significance to their future learning and development.

After the investigation and analysis of the existing monitoring models in Colleges and universities, it is found that[9] in the network environment, the lack of monitoring methods makes it more difficult to improve students' English learning ability, and students waste learning time and cannot achieve good learning effect[10]. Therefore, the most important thing is to establish a scientific and independent college English autonomous learning mode. This paper studies and analyzes the current situation of College English Autonomous Learning Mode in China. According to this research, from a new perspective, big data makes English autonomous learning mode have a new starting point, teachers and students are no longer limited to traditional classroom teaching, and they can access education resources online.

2 Autonomous Learning Model and Big Data Technology

2.1 Self-learning Monitoring Mode

Scientific and reasonable monitoring method is very important to ensure the quality of autonomous learning. Monitoring can be divided into self-monitoring and external monitoring. The classification is based on whether the subject and object of monitoring are consistent. Self-monitoring refers to the process in which students plan, organize, reflect and adjust their own learning activities, which can be completed by developing students' cognitive strategies. One of the ways to solve the time-consuming and ineffective autonomous learning in the network environment is to gradually develop students' cognitive strategies, fully control the role of "internal factors", and finally enable students to complete the task of self-monitoring. The concept of "external monitoring" refers to teachers' management, intervention and adjustment of students' learning and practice. Through a series of rules and regulations and teaching management process, it intervenes, adjusts and limits students' learning activities and corrects bad learning behaviors.

In order to effectively stimulate the connection and association between old and new knowledge, in constructivism learning theory and data-driven learning theory, learners can create big data corpus teaching situation through the Internet and computer network, and use the existing cognitive structure and experience to absorb new knowledge and give it certain significance. However, the "input hypothesis model" shows that as long as the input of "I + 1" is understood, the input will be automatically obtained. With the rich resources of big data learning corpus, together with the construction of network and multimedia learning environment and the actual situation of autonomous learning, it can provide learners with enough real and valuable information input (I + 1), extract knowledge from permanent

memory system, promote learners' activation experience and expression, and promote learners' ideal input, It also helps to promote learners' ideal input, improve the effect of language acquisition, and help learners focus on the interpretation of meaning. Therefore, in order to cultivate and promote the guiding role of English autonomous learning and realize and play the above theories and technologies, it is necessary to give full play to the functional characteristics of computer network, multimedia and big data corpus. The purpose of learning English is to construct Western mindset according to the meaning of English language and cultural knowledge. In autonomous learning, the interactive language and culture learning environment constructed by "human-computer interaction" mode uses computer network, corpus technology, pictures, texts, sounds, images and other sensory stimuli to help students select various teaching information resources and language knowledge according to hypertext mode, and mobilize students' enthusiasm to participate in the learning of metaphorical language and cultural background knowledge The combination of face-to-face teaching and autonomous learning is helpful for students to construct the meaning of English language and cultural knowledge.

2.2 Big Data Technology

At present, the era of big data is a hot word in the field of information technology. With the rapid popularization of the Internet and the continuous expansion of the field of information technology, people's dependence on the Internet in production and life is increasing, and the number of Internet users is also increasing year by year. The basic concept of the era of big data is thus generated. Big data is also known as massive data. The era of big data can also be understood as the era of massive data and information. However, the core connotation of big data era is not the existence of massive data, but the potential application value of data information. Fully tap and reasonably use the intangible value of data information to provide high-quality services for the development of all walks of life.

Big data technology usually refers to the technology that can effectively deal with a large number of complex information and data mining. The society is in a period of rapid development of data, the amount of information in the world is growing rapidly, and traditional information technology cannot handle large-scale technology. Therefore, in recent years, large-scale information processing technology has been developed and widely used. At present, the key data technology is mainly stored in six areas. One is the field of structured database. Data mining and statistical analysis can quickly and accurately process a large number of structured data available in many scientific research fields and commercial research. The second is the field of text analysis. Text is the main form of data storage, while public information retrieval, machine learning and data mining are the main forms of information processing technology. Third, in the field of network analysis, data mining is carried out through database, data acquisition, natural language system and text mining. The fourth is multimedia analysis. With the rapid development of modern technology, multimedia information plays an important role in people's life and work. At present, review, index, retrieval and event analysis are important fields of information technology research. The fifth is social network analysis. Social network information has shown an amazing growth rate. Therefore, the use of big data in the network field is mainly focused on link based network node analysis and content-based analysis. The sixth is mobile analysis. With the rapid development of smart phones and tablet computers, the amount of data generated by mobile terminals cannot be ignored, and mobile data has unique functions. It is very important to use big data for data analysis of mobile terminals.

3 Experimental Ideas and Design

3.1 Experimental Ideas

In recent years, many college English teachers have uploaded online courses to learning software, mobile learning applications and other online platforms. However, due to the lack of self-monitoring ability, college students are often distracted by other information on the Internet, unable to focus on learning, which greatly reduces the learning effect and further affects students' English performance. Therefore, under the background of big data, college students can improve their self-monitoring ability in the process of English learning. This paper discusses how to establish English autonomous learning monitoring mode under the background of big data, formulate reliable self-monitoring strategies, develop

students' autonomous learning experience, and establish effective ways and learning mode of self-management.

3.2 Experimental Design

In the experimental design, this paper uses the methods of questionnaire and on-the-spot interview to analyze the situation of Chinese college students' English autonomous learning. The subjects of the survey were 164 non English major sophomores in a university in Jilin province, including 77 males and 87 females. The questionnaire included students' personal information and their English autonomous learning. Table 1 show that the situation of College Students' Autonomous English learning is generally not ideal. The questionnaire survey shows that most students cannot abide by their own learning strategies.

**Table 1.** Investigation on the self-study ability of college students

	Number of boys	Number of girls
Full compliance	30	44
Generally observed	40	34
Sometimes	2	4
Not usually observed	3	3
Not at all	2	2

4 Discussion

4.1 Analysis of the Status Quo of the Monitoring Model of English Autonomous Learning under the Background of Big Data

Different from traditional education, the content and form of College English Curriculum in the era of big data have changed. As we all know, traditional teaching methods cannot adapt to the current state of information resources. Only by creating and modifying the contents and methods of College English teaching can we improve the teaching level and quality. However, at present, many universities cannot make full use of the cutting-edge technology under the background of big data, and still adopt the traditional English teaching mode, which makes the English learning mode of college students unable to keep pace with the times, resulting in poor English learning effect. Therefore, in this regard, the university should require college English teachers to master the concept of big data and provide them with professional training, so as to effectively use big data to guide teaching in their teaching, so as to improve the classroom efficiency and redesign the teaching mode, so that students can better adapt to the English classroom. As can be seen from Figure 1, most boys and girls are very satisfied with the monitoring mode of English autonomous learning. Due to the development of information technology in College English, students' English learning methods have been greatly innovated. Compared with the previous English learning mode, the learning mode based on advanced information technology provides more autonomous learning methods. At the same time, the innovative English learning mode can improve students' interest in learning and make them more self-reliant in learning English and improving their learning skills. Therefore, in College English curriculum, teachers can use big data technology in class to help students establish new English learning mode and effectively improve students' English learning performance. With the rapid development of technology, students pay more and more attention to mobile software. Therefore, according to the needs of students, schools need to use advanced big data technology to develop mobile learning APP, so as to provide convenience for students.
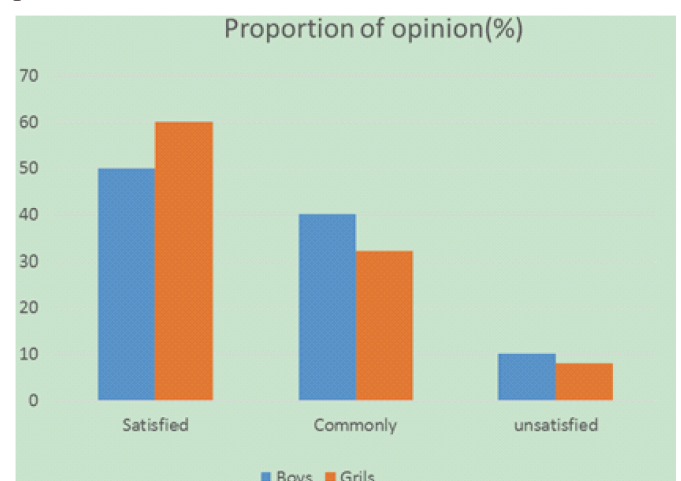
Figure 1. A survey of students' satisfaction on the monitoring model of English autonomous learning

In addition, after the research and investigation of the existing students' learning motivation, it is found that some students' learning motivation is to

achieve good results in the final examination and complete the teacher's homework, which easily leads to people's loss of curiosity. On the online English learning platform, students can easily get answers without thinking. This phenomenon is closely related to students' correct learning motivation. Therefore, we need to change the concept of students' learning motivation, popularize the concept of learning for use, concentrate on cultivating students' general language skills and improve their learning quality.
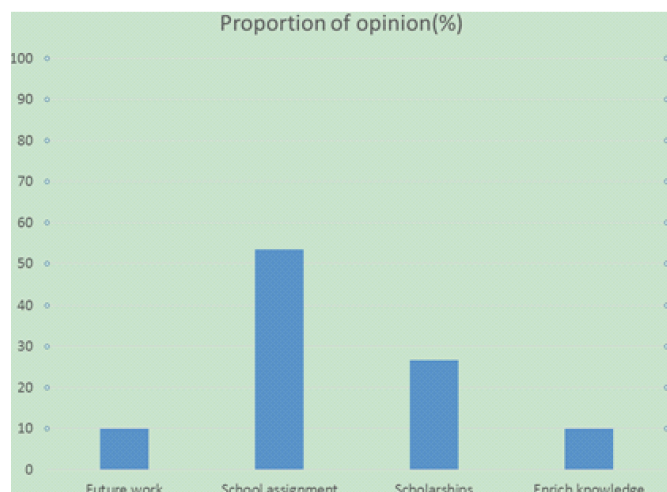

Figure 2. An investigation of students' motivation for autonomous English learning

4.2 Suggestions on the Development of Monitoring Mode for English Autonomous Learning under the Background of Big Data

4.2.1 Cultivate students' autonomous learning habits

In recent years, various forms of learning methods have been introduced on the Internet platform. However, due to the lack of self-management ability, their learning process is often affected by other information resources, which greatly reduces their English learning effect. Therefore, under the background of big data, college students need to improve their self-management ability in the process of English learning. In addition, teachers should help students set realistic learning goals, educate students to develop good autonomous learning habits, and fully improve students' autonomous learning ability. For example, teachers should make a reasonable learning plan according to the actual learning situation of students, and require students to complete the course in the specified free time. Or, in the process of students' autonomous learning, teachers

can communicate with students in real time through we chat, QQ, mobile applications and other tools to better understand students' self-learning experience.

4.2.2 Building an information English class

The development of new curriculum in China has profound significance, and the traditional English teaching mode has been outdated. In the era of big data, it is necessary to bring the reform of English teaching into the planning. Teachers can use advanced information technology to change the teaching environment and eliminate the boring traditional classroom environment. With the help of big data technology, video tutorials can be used to attract students' interests. In addition, teachers can help students choose learning software which is conducive to improving learning efficiency, so that learning resources in learning software can meet the needs of students with different English proficiency. At the same time, teachers should abandon the use of learning software without practicability, and then improve the students' English autonomous learning ability in general and fully explore the advantages of students.

4.2.3 Monitor student learning process

At present, some college students' self-control ability is very poor, so teachers need to strengthen the supervision of students' autonomous learning. First of all, teachers make self-directed learning plans for students and require students to adjust their study time accordingly. Teachers should also communicate with students in a timely manner; analyze the challenges faced by students in autonomous learning, and guide students to understand English culture and history. Secondly, teachers can use the monitoring platform based on big data technology, so that they can monitor students' autonomous learning process with the help of the platform, and view students' learning time, learning content and learning evaluation. Therefore, we can constantly adjust students' learning objectives according to the actual situation and effectively improve their English level.

4.2.4 Establishing multiple evaluation system

The establishment of multiple evaluation system plays an important role in College English Autonomous Learning under the network environment. An effective evaluation system is the guarantee and motivation of autonomous learning,

which helps learners to understand their learning situation in time and adjust their learning strategies, so as to effectively control the learning process and achieve high-quality learning effect. It can be divided into four parts: self-evaluation, mutual evaluation and so on. In the process of autonomous learning under the network environment, teachers should establish a perfect evaluation system combining formative evaluation and summative evaluation. Formative assessment mainly aims at students' performance, learning attitude, participation and learning effect in the learning process, including classroom learning activity evaluation, usual examination score evaluation, learning file evaluation and autonomous learning activity evaluation. Summative evaluation is a test of students' comprehensive language ability, including mid-term and final examinations. Teachers should establish an open online evaluation system to evaluate students' autonomous learning in stages and tracking. This has a positive effect on supervising and promoting students' long-term autonomous learning.

5 Conclusions

In the era of big data and under the background of new talent demand, the demand for compound talents with good foreign language communication ability is increasing year by year. The purpose of autonomous learning monitoring is to find out learners' deviating behaviors, take effective measures to correct them, achieve learning tasks and achieve learning goals. Independent learning is not only the monitoring of learners' learning behavior, but also the monitoring of teaching management and teaching quality. In the context of the general reduction of college English learning hours and the relatively poor autonomous learning ability of learners, it becomes particularly important to improve the monitoring intensity of autonomous learning. Therefore, autonomous learning objectives and tasks focus on cultivating the basic English knowledge of learners while cultivating their basic learning skills, laying a foundation for lifelong learning. The autonomous learning mode constructed under the background of big data conforms to the law of language knowledge acquisition, can ensure the integrity and continuity of learning tasks and monitoring, and is conducive to improve quality of learning and teaching. According to Zimmerman's basic framework of autonomous learning, the research and evaluation are carried out from the three modules of learners, teachers and technology along with the cognitive path in teaching, centering on the two participants of teachers and learners. It pays attention to the main indicators of the monitoring project, which is convenient to determine the research scope of autonomous learning monitoring, formulate reasonable learning tasks and objectives, facilitate the development of statistics related to autonomous learning, and promote the monitoring quality and related research of autonomous learning. The improvement of self-regulated learning monitoring mode will have more positive effects on foreign language teaching reform.

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