Research on Improvement Paths of English Autonomous Learning Ability of Students in Colleges of Science and Engineering

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Abstract: Good autonomous learning ability is powerful tool for student's professional learning and ability development in science and engineering colleges. How to cultivate and develop Autonomous Learning Ability has become a hot topic in the field of college English teaching, and it is also a major focus of English teaching reform in contemporary colleges of science and engineering. This paper analyses the necessity and main problems of student's English autonomous learning ability, and points out some suggestions for improvement to effectively improve the student's English level of in science and engineering college.

1. Introduction

Holec, an educator, first put forward the concept of autonomous learning ability in 1981. [1] He pointed out that autonomous learning refers to learners' ability to take responsibility for their own learning in the learning process, that is, learners can make decisions on each learning step, including determining learning objectives, determining learning content and learning progress, selecting learning methods and skills, monitoring learning process and evaluating learning effect. Since then, educational researchers have defined the concept of learners' autonomous learning ability in different dimensions. Some scholars believe that autonomous learning ability is a learning ability, while others believe that autonomous learning ability is a learning behavior. However, no matter which dimension is defined, there is one thing in common, that is, autonomous learning ability means that learners control their own learning and are responsible for their own learning behavior. However, the role of teachers should not be neglected in cultivating learners' autonomous learning ability. Especially for students of science and engineering colleges, teachers' guidance and help are particularly important in the process of cultivating college English autonomous learning ability. With its own advantages, network multimedia provides abundant materials and teaching information for college English teaching process, and its information capacity is large and its update speed is fast. To a certain extent, it enriches the teaching content and breaks the traditional teaching mode. Through the network multimedia to provide students with demonstrations, simulated teaching, attract students' attention, stimulate students' interest in learning, so that college English classroom is no longer boring and boring, but can attract students to actively study and think in the process. In addition, there are many English teaching websites which are also the embodiment of their rich English teaching resources. They can also realize the autonomous inquiry learning of students in science and engineering colleges.

2. Improvement Necessity of English Autonomous Learning Ability of Students in Colleges of Science and Engineering

Self-regulated learning is a learning model that learners take their own learning attitudes and strategies as the dominant factor and can achieve their learning goals according to the external macro-learning mode and their own basic conditions. In the process of autonomous learning, students need to be fully responsible for their own learning situation, learning goals are entirely determined by themselves, and learning rhythm and time are under their own control. It can be seen that autonomous learning is an intrinsic motivation mechanism of students' leading learning. Self-regulated learning

ability of college students mainly refers to the basic ability of college students to successfully accomplish their learning goals by means of self-regulated learning. This ability is not inherent, but formed and strengthened after the gradual cultivation and development of the day after tomorrow, and its sense of responsibility and ability training will inevitably undergo a process of transfer from teachers to students. As one of the main objects of English teaching in colleges and universities in our country, most of the students in science and engineering colleges have contacted and learned English since they were young. Although English majors have not been chosen after entering the university, English learning has become a necessary condition based on the application value of English and the requirements of the social environment. English may not be an interesting subject for most students of science and engineering colleges. A great part of the motivation for English learning comes from the pressure of examinations and employment, and some universities still lag behind in English teaching mode, which continues the previous cramming classroom teaching mode, making students feel bored and dull when learning English. In the era of rapid development of information technology, in order to better meet the needs of society, alleviate the increasing pressure of English teaching caused by the continuous expansion of college students, strengthen students' English expression skills, train and exercise their autonomous learning ability, and create more convenient conditions for students to learn English better. Online autonomous learning is a new way of English teaching in science and engineering colleges [2].

3. Problems of English Autonomous Learning Ability of Students in Colleges of Science and Engineering

Due to the regional differences in the college entrance examination system in China, there are also great differences in the English teaching modes of senior high schools in different provinces and regions [3]. This leads to the uneven English proficiency of students after they enter the University of science and technology. To a lesser extent, due to the influence of student's autonomous learning ability and English learning ability, the English ability of students in the same class is also polarized. Therefore, the traditional college English teaching model cannot meet this basic situation. At present, most students are dissatisfied with their autonomous learning ability. However, due to the influence of traditional English teaching on their English learning habits, they are more inclined to passively accept the knowledge imparted by teachers in the classroom, while they seldom or almost cannot actively study after class. This has greatly affected the development of college students' English learning. Any work related to intelligence is inseparable from the support and guidance of interest. Interest is the best teacher. When students have interest in learning, student's learning activities will be transformed from burdens into enjoyment and experience. Therefore, it is the primary task of every English teacher to cultivate learners' interests in English learning and their lasting motivation. Obviously, colleges and universities have built and maintained an autonomous learning platform on the Internet, which has enabled students to acquire a good English learning environment and improved their learning enthusiasm. However, the platform is built only under the condition of perfect hardware facilities, and many students have only a short and limited interest. After this new period, students can easily return to their previous learning state. This interest in learning will be difficult to maintain for a long time because of lack of motivation. More students graduate with the traditional goal of earning enough credits. Such motivation is characterized by strong utilitarian nature, which is not conducive to the training and cultivation of autonomous learning ability in science and engineering colleges [4].

4. Improvement Paths of English Autonomous Learning Ability of Students in Colleges of Science and Engineering

4.1 Strengthen Awareness of Autonomous Learning.

Although English is highly planned and targeted, students in polytechnic colleges do not fully understand the specific requirements of autonomous learning. The main source of this contradiction

lies in the fact that many students in science and engineering colleges learn English mainly because of the rigid rules of teachers or schools or the pressure of examinations. Few students want to know what the real purpose of learning English is, so the ability of autonomous learning of English in the network environment is not strong. In addition, students lack self-supervision consciousness and poor self-discipline. They often chat on the Internet and watch movies in the prescribed time of self-study. Online autonomous learning is a mere formality. We can chat and set up groups to discuss the problems that arise in learning English. Students learn English independently through the network environment, and the enthusiasm and initiative of learning is the key. We should give full play to the advantages of indoctrination education and strengthen indoctrination and explanation. Students are not really employed and socialized. They are not familiar with their future professional abilities and knowledge composition. To strengthen the inculcation and explanation is to provide students with learning directions and accumulate knowledge reserves for future work. What should we learn in English autonomous learning? Teachers should combine diverse needs with individual differences organically. They should not only highlight the commonness and common orientation of autonomous English learning, but also let students choose their own personalized learning content according to their own needs. Guiding students to cooperate and help each other learn. Cooperation can help each other and solve all kinds of difficulties and puzzles encountered in learning: cooperation is also a kind of supervision to avoid learning slack. Strengthen the education of students' network media literacy and improve the quality of resources screening. Teach students how to use the Internet to collect high-quality English learning resources. Teachers can conduct general explanations, that is, keyword search, and guide students in science and engineering colleges to collect desired learning resources through keywords.

4.2 Cultivate Interest of Autonomous Learning.

The formation and application of web-based autonomous learning platform is an important step in the reform of education and teaching in modern colleges and universities, which belongs to the external environment. Students are the main body of self-regulated learning, and play a key role in the process of self-regulated learning. Moreover, students' motivation and interest in self-regulated learning are directly related to the final results of self-regulated learning. Therefore, it is necessary to strengthen students' awareness and ability of self-regulated learning, enrich their motivation, and cultivate and enhance their interest in learning. Teachers, as the main executors of education and teaching, shoulder the important mission of educating people correctly. They should shoulder the basic responsibility and obligation of discovering, stimulating, cultivating and strengthening students' learning potential and self-learning ability. First of all, teachers should guide students to understand the purpose of learning English rationally and provide students with the motivation of continuous learning. To make them change their original learning goals and psychological hints, that is to say, learning English is to find a job, but should be to improve their overall quality and facilitate communication with others. Teachers should change the traditional teacher-centered education model, listen more to students' voices and needs, and strengthen the education and guidance of autonomous learning in the classroom. Teachers should first change the traditional educational concepts, so that teachers can understand the inherent meaning of autonomous learning, and truly realize that the key point of autonomous learning is sitting. Independent learning is not only a matter for teachers, but also for students. Teachers should recognize this correctly, so as to re-orientate their role. Knowledge changes with the development of society. It has dynamic characteristics like social development. Students should change their passive learning attitude, find more interesting points in relevant articles, search for information online, understand the background knowledge related to texts, actively stimulate their interest in things and enrich their learning motivation. Teachers should make full use of the multimedia network environment, create a good learning atmosphere, and visualize the abstract teaching content.

4.3 Improve Environment of Autonomous Learning.

In order to improve students' English learning ability, it is necessary to build an efficient and strong learning atmosphere for students in science and engineering colleges. Students need to be

nurtured in such an environment. Under the network environment, English teachers should use Internet technology, microcontroller and multimedia technology, which can bring very professional and personalized learning materials and self-learning training for students in science and engineering colleges. Schools should invest more in teaching software and hardware, and set up specialized English learning webpages, speech labs, multimedia labs, etc. On this basis, an active and open student-centered teaching environment can help students improve their autonomous learning ability, and truly achieve the decentralization of teachers to students, so that students do more exercises, while reducing the theory of cramming, leaving time for students, so that students practice more, so that students practice more. Students can understand their shortcomings. Teachers guide students in science and engineering colleges to use the Internet platform to constantly improve their knowledge, and to dabble in knowledge in many ways. In order to promote students' autonomous learning of English and enhance their autonomous learning ability under the network environment, it is necessary to provide high-quality learning resources for students. Teachers should be the main provider of high-quality self-regulated learning resources. Teachers have a high ability to organize and distinguish resources. The learning resources provided can help students reduce the time of information collection, reduce the cost of screening, and improve the quality and efficiency of learning. For the provision of these learning resources, English teachers themselves can organize, but the richness and diversity of English autonomous learning needs, teachers may not be able to fully meet. In this context, teachers should give full play to the principle of sharing and co-construction, and strive to obtain appropriate educational resources in the field of foreign language teaching. On the other hand, we should fully improve the production technology of Mu lesson video, so as to achieve excellence. This enables students who study independently to see clearly, listen clearly and understand easily, so as to attract students of science and engineering colleges to study independently.

4.4 Perfect Mechanism of Autonomous Learning.

Monitor English autonomous learning to ensure that students in science and engineering colleges and universities are gradually completed in accordance with the established learning objectives and plans. Monitoring should avoid the dissolution of autonomous learning motivation in the network environment. The monitoring of English autonomous learning can be divided into autonomous monitoring and external monitoring. Autonomous monitoring means that students supervise themselves and complete the established learning plan every day. Autonomous monitoring can use the way of planned learning table and learning log to record every day. External monitoring includes the monitoring of students' mutual assistance and teachers' monitoring. Self-regulated learning cannot be separated from the supervision and mutual assistance of students. Students should encourage each other and check their learning situation in time. If students fail to complete the learning plan on time, the other party should put forward criticism and so on. Teacher monitoring means that teachers regularly spot check the students' autonomous learning situation, find out the students' hearts, guide the students to learn actively and autonomously, and adhere to autonomous learning. English learners' autonomous learning is inseparable from the evaluation of learning effect. Evaluation can help students master the learning content and urge them to persist in learning. This kind of evaluation can be divided into independent evaluation and classroom evaluation. The evaluation of English autonomous learning should be based on autonomous evaluation and supplemented by classroom evaluation. After all, for students, autonomous learning is more based on personalized needs such as interests and hobbies, and can only be achieved by independent evaluation. For autonomous evaluation, the random test of online learning platform can be used to consolidate learning in time. Classroom evaluation should be effectively integrated into English autonomous learning and effectively supervise students. Classroom evaluation assesses the students of science and engineering colleges who have common learning in class. Teachers can assign autonomous learning tasks, requiring students to study on a day-to-week basis, and randomly extract content before class for assessment. The results of assessment are included in the usual results.

5. Conclusion

Internet-based autonomous learning model of college English has got rid of the constraints of traditional classroom. Students can choose relevant materials according to their interests and abilities, and carry out personalized learning anytime, anywhere. Good English autonomous learning ability can help students to learn English more efficiently throughout their lifetime, and can also help students to transfer such independent learning ability to other fields. It is very beneficial to the future development of students.

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