

Use of "Rain Classroom" Teaching Tools to Promote Effective Learning*

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Abstract—In today's era, the total amount of knowledge increases dramatically, the speed of knowledge update is accelerated, and the effective learning of students is increasingly important. The traditional teaching model can no longer meet the needs of education and teaching, and the new teaching model with the help of intelligent teaching tools is more conducive to students' effective learning. The teaching tool of "rain classroom" is student-centered. With the help of PPT and WeChat, teachers can communicate with students in real time on the basis of their independent learning, grasp the learning status of each link of the students through learning behavior data, constantly adjust the teaching design and teaching method, and help students realizing effective learning.

Keywords—rain classroom; teaching tools; effective learning

I. INTRODUCTION

With the rapid development of information technology, the amount of knowledge created by human society presents an explosive growth, and new knowledge fields and knowledge systems emerge in an endless stream. Nowadays, with the rapid development of all walks of life and the ever-changing knowledge, learners must learn more knowledge within a limited time to meet the needs of The Times. Hence, how to learn becomes increasingly important.

II. THE IMPORTANCE OF EFFECTIVE LEARNING

Learning enables human beings to transcend their own limitations, and is a huge driving force for the progress of human civilization. It can realize the value of individuals and develop their potentials. Only through continuous learning can individuals further develop their potentials and meet their own needs. Nowadays, the total amount of knowledge increases dramatically and the speed of knowledge update is accelerated, but the time and energy of people are limited. To adapt to the ever-changing objective environment, effective learning is essential. Effective learning is the need of individual growth and social development; it is also an important goal of educational reform, and the premise and ultimate goal of educational success. Therefore, effective

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learning is of great significance to learners and education and teaching. As soon as the concept of "effective learning" appears, it has aroused wide attention in the educational circle and exerted a positive influence on teaching practice.

III. INTELLIGENT TEACHING TOOLS ARE CONDUCIVE TO EFFECTIVE LEARNING

The purpose of effective learning is to construct a model of students' active inquiry, active and effective mastery of knowledge, comprehensive progress and growth, and self-education. The effective study of students is the fundamental purpose of classroom teaching and the need of students' all-round development.

Effective learning has three layers of meaning. First, learning effect refers to the fact that learners have completed their learning tasks and achieved their learning objectives. Second, learning influence refers to that the input of external forces (including schools, teachers, teaching environment, teaching design, etc.) has a good impact on learners' knowledge acquisition. Third, learning efficiency refers to the fact that learners have made new changes to their cognitive structure and improved their cognitive level in a relatively short period of time. Therefore, in order to achieve the purpose of effective learning, it is necessary to make the organic combination of improving learning effect, enhancing learning efficiency and improving learning efficiency, which is internally unified in the whole learning process of students, so that students can improve their own ability while acquiring knowledge.

Against the background of the Internet, the development of the Internet and information technology has a profound impact on education. Intelligent teaching tools integrate cutting-edge information technology, such as the Internet, data mining, etc., into teaching scenes, intelligent teaching tools are also dedicated to provide digital, intelligent information support for the teaching process, and helpful for teachers to organize and evaluate students' learning effectively and for students to improve the effect, influence and efficiency of learning, thus to promote students to realize effective learning.

IV. THE USE OF "RAIN CLASSROOM" TEACHING TOOLS TO PROMOTE EFFECTIVE LEARNING

The traditional teaching is based on classroom teaching, the classroom is the main place for students to learn, the textbook is the main source for students to acquire knowledge, the teacher is the main body to impart knowledge, and the examination is the main evaluation method. It is difficult for students to achieve effective learning due to the unidirectionality of classroom teaching information transmission, the relative fixity of textbook content and the limitation of information feedback.

"Rain classroom" is an intelligent teaching tool jointly launched by Tsinghua university's online education office and Xuetang online. "Rain" classroom teaching tool is student-centered, and with the help of PPT and WeChat, it pushes various course resources to students. On the basis of students' independent learning, teachers can communicate with their students in real time, and master students' learning status through learning behavior data, which is helpful for teachers to evaluate the learning effect objectively and help students to realize effective learning.

A. Using "Rain Classroom" to Change the Teaching Scene

Traditional teaching activities are in class, mainly in the classroom. With the construction of campus network, the popularization of online learning resources and the emergence of intelligent teaching tools, the traditional classroom teaching mode is gradually being changed. "Rain classroom" teaching tools can be used to easily construct intelligent teaching scenes without the limitation of time and space, which are open and shared. Learners can learn anywhere and anytime by using smart phones and WeChat. Learning extends from the classroom to before and after class, and from inside the school to outside, so as to promote effective learning of students.

B. Using the "Rain Classroom" to Change the Way of Learning

The traditional teaching mode focuses on the imparting of knowledge. Under the background of the Internet, the use of "rain classroom" teaching tools has greatly changed the way students learn. Before class, the teachers push the preview PPT containing all kinds of network video, micro class, as well as the teacher's personal voice and other contents to students, and release the teaching task. Students preview online according to the learning materials pushed by the teacher, and learn the basic knowledge. In class, teachers, according to the before-class feedback of students, mainly focus on key points and difficulties, and students use "don't understand" button and "barrage" function to communicate with teachers and use "collection" buttons to collect difficult point contents, then teachers according to the data provided by the platform feedback timely adjust teaching activities and conduct tests on the basis of summarized learning contents. After class, teachers select exercises according to students' learning performance in class and data provided by the platform, push exercises to students, and students answer questions online and summarize, apply the knowledge

learned to solve practical problems, and communicate with teachers timely to achieve the purpose of effective learning.

C. Changing the Role of Teachers by Using "Rain Classroom"

The traditional teacher-centered teaching mode forcibly inculcates knowledge into students without considering individual differences and receptivity of students, which goes against constructivism teaching theory. In the context of the Internet, students' access to knowledge is no longer limited to teachers and textbooks, and teachers' responsibilities are no longer limited to lesson preparation and lecture, but guide students to search and learn knowledge, and help students build and improve the system and structure of knowledge.

The teaching practice based on "rain classroom" is student-centered. Students preview before class according to their own situation, and establish a preliminary understanding of the content pushed by teachers on the basis of existing knowledge and experience. In class, according to the teacher's explanation of the key and difficult points, students actively communicate with others for further digestion and understanding of new knowledge. Students can review in time after class, and use the knowledge to solve problems, draw inferences, and deepen the knowledge. Each link needs students to participate actively, and the teachers transform from the teaching dominators to the teaching guides, and that raises the student's independent study ability consciously, promotes the student to study effectively.

D. Changing the Evaluation Method by Using "Rain Classroom"

The traditional teaching mode focuses on the result assessment but ignores the evaluation of students' learning process. By using the real-time, objective and comprehensive data of each link of students' learning provided by the teaching tool "rain classroom", teachers can better understand students' learning situation and combine the process assessment with the result assessment. According to the data of students' preview before class, teachers can master students' preview time and preview situation. Understand students' mastery of key and difficult points according to their classroom performance and classroom response data; According to the data of students' review after class, teachers can find out whether students' mastery of knowledge and self-study ability are improved.

The "rain classroom" teaching tool automatically collects all the learning behavior data of students in the process of using, and timely feedback to the teacher after the integration and analysis, to help the teacher quantify the learning effect of students, and then adjust the teaching strategy to promote the effective learning of students.

V. CONCLUSION

The purpose of effective learning is not only to learn knowledge well, but also to improve students' ability to explore and solve problems and lay a good foundation for the cultivation of their innovative spirit. The use of "rainy classroom" teaching tools can help to change the teaching

scene, the way of learning, the role of teachers and evaluation method, help teachers improve the quality of teaching and help students to achieve effective learning.

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