

“Intelligent Learning Partner” Helps to “Suspend Class, Ongoing Learning”

Qing Li^{1, a}

¹School of Communication, Jiangxi Normal University, Nanchang 330022, China.

^a1945676684@qq.com

Abstract

During the period of “suspending class, ongoing learning”, all kinds of online teaching platforms solved the problem of separation between teachers and students, met the basic needs of teaching, and exposed problems such as teachers' inability to understand students' learning situation in real time. From the perspective of big data analysis of education, “Intelligent learning partner” solves the problem of learning gap between teachers, individual students and the whole class. Meanwhile, it supports students' personalized learning. Based on big data of students' learning behavior, it constructs an integrated teaching model of online exam-learning-evaluation.

Keywords

Intelligent learning partner, suspend class, ongoing learning, Online teaching.

1. Introduction

1.1. The Background of “Suspending Class, Ongoing Learning”

The sudden outbreak of COVID-19 during the winter vacation in 2020 caused school closures across the country. In order to ensure the teaching progress and teaching quality during the epidemic prevention and control period, the General Office of the Ministry of Education issued the Notice on the work arrangement of "suspending class, ongoing learning" during the extended term of primary and secondary schools, requiring all kinds of schools to actively carry out online teaching activities such as online teaching relying on various online course platforms and other carriers [1]. Subsequently, various tools and platforms have sprung up to support online learning. Among them, Platforms such as Ding Talk, Tencent Classroom, Rain Classroom and Learning Pass have been adopted as online learning tools by teachers and students due to their complete functions and easy use. These platforms support online live streaming functions, simple resource sharing, communication and discussion, assignment uploading and other functions, which solve the teaching and learning problems caused by the separation of teachers and students, meet the basic learning needs of students, and realize the original intention of suspending classes. However, while online learning brings opportunities to all kinds of learning platforms, it also exposes many problems. Teachers cannot fully understand students' learning situation in real time, and the learning process lags behind, so the effect of online learning cannot be guaranteed.

1.2. Intelligent Learning Partner

“Intelligent learning partner” is an adaptive learning platform developed by The Advanced Innovation Center for Future Education of Beijing Normal University. It has the characteristics of “data collection in the whole learning process, modeling of knowledge and ability structure, diagnosis and improvement of learning problems, discovery and enhancement of discipline advantages”, etc., and takes practice evaluation, learning interaction and work analysis as the main means of data aggregation. Collect all kinds of data generated by learners in the learning

process, use big data analysis to make learning assessment evidence-based, gradually shift from empirical assessment to developmental assessment based on scientific data analysis, and provide support for personalized teaching [2]. "Intelligent learning partner" is featured by accurate teaching. By analyzing the data in the online learning process and adjusting teaching strategies in time, it provides personalized services for learners, breaks through the limitations of other teaching platforms, and provides more optimized services for online teaching.

Under the background of "suspending class, ongoing learning", the problems encountered by teachers and students in online teaching and learning are analyzed in this paper. The countermeasures are proposed to solve online teaching problems based on "intelligent learning partner", and the current situation of online teaching is improved with its precise teaching characteristics.

2. Problems Encountered in Online Learning

2.1. Teachers' Misunderstanding about Online Teaching

Because of the characteristic of the "separation" between teachers and students online teaching, online teaching some teachers simply understood as live online classroom teaching process, one person in all the way, the lack of interaction with students, do not understand the students' learning progress and knowledge to master degree, lead to can't specify suitable teaching plan, online courses cannot assure the real-time and effectiveness of teaching. To a large extent, online live teaching has become a one-man show for teachers, and students' learning subject status has been lost, which leads to the unsatisfactory effect of online teaching.

And some teachers lack of information literacy, just put the unified single to students learning resource bundle and homework, let the student to carry on the so-called "autonomous learning", problems arising from the students in the learning process can not be timely feedback and solve, because each student's learning progress situation, with the progress of the unity of learning resources and curriculum to meet the demand of each student's learning.

A good online teaching activity not only enables students to have a sense of experience and involvement in face-to-face teaching, but also enables each student to participate in various course activities. Teachers can monitor students' online learning situation in real time, and make teaching plans for accurate teaching based on students' learning situation.

2.2. Problems of Students' Online Learning

Some students have poor adaptability and are unable to timely change from "face-to-face" traditional classes to "screen space" online classes. Teachers cannot understand the mental health status of students studying at home, and the learning atmosphere of independent learning at home is not as good as that of studying with peers in the classroom. Students' learning attitude is prone to deviation, and learning lacks subjective initiative. Poor self-control, low self-learning management ability, low enthusiasm for online learning, which requires teachers to use scientific means to supervise and urge students.

In the online learning environment, classes and individual students at different levels use the same learning resources and follow the same learning progress. Individual differences of students are not respected, which hinders students' learning development. Therefore, teachers should provide students with learning resources at different levels. The problems that students encounter in the process of independent learning cannot be solved in time, which leads to the low efficiency of students' independent learning at home. Faced with a variety of situations that hinder students' learning, teachers need to use scientific and reasonable means to solve students' learning problems with the help of the function of teaching platform. It is worth noting that during the period of "suspending class, ongoing learning", the role of examinations was weakened. Some schools even never organized examinations, which led to the lack of basis for

evaluating students' learning and adjusting teaching programs, and separated the relationship among teaching, examination and evaluation.

3. “Intelligent Learning Partner” Helps to “Suspend Class, Ongoing Learning”

3.1. “Intelligent Learning Partner” Helps Dynamic Class Management and Promotes All-Round Development of Students

“Intelligent learning partner” platform makes up for the deficiency of other learning platforms that only pay attention to students' learning situation, and pay attention to students' psychological condition as well as their academic performance. Help teachers to pay attention to students' academic progress in terms of students' learning progress, class learning situation and students' ability level. To help teachers understand students' mental health at home in terms of students' mental health, parent-child relationship and student self-management. In terms of class management, teachers can conduct class teaching homework management with the help of “intelligent learning partner”, check the learning progress of each student, and test whether the students have learned resources and how long they have studied. The head teacher can keep track of the learning progress of each subject in the class. After the data of students' subject learning are collected, the class teaching map is formed. The teacher can intuitively understand the weaknesses of the whole class and thus make teaching priorities. Teachers can also learn about the content of each subject based on the dynamic process of data, such as the number of one-to-one counseling, the number of questions and so on, and reasonably increase the arrangement of reviewing classes.

In terms of students' psychological state, teachers can understand students' online learning state based on comprehensive psychological data. A variety of comprehensive psychological assessment tools are provided on the platform to measure students' mental health, parent-child relationship and self-management ability during home-based learning. Based on the data of class students, teachers can timely guide students and conduct moral education for key students. In addition, teachers can set up some puzzle games, chat rooms, themed class meetings and other online activities to alleviate students' bad mood at home and maintain a good learning attitude. With the help of “intelligent learning partner”, teachers can scientifically monitor students' learning situation and mental health state at home, so as to promote students' all-round development.

3.2. “Intelligent Learning Partner” Provides Personalized Support for Online Personalized Hierarchical Intervention Teaching

Traditional online learning platform resources are pushed to all students, ignoring individual differences of students. Teachers cannot intervene in teaching one-to-one according to students' learning progress. Based on the accurate teaching from the perspective of big data, “intelligent learning partner” can provide personalized support for students' learning. According to the data analysis, teachers conduct personalized and layered intervention teaching, which mainly includes the following three aspects.

(1) Through a variety of assessments to accurately understand the students at different learning levels

Make daily assessment according to the assignment of class hours. Homework can be divided into public question bank and individual question bank. The public question bank is the last question according to the overall level of the class, while the personal question bank is the question suitable for students' learning level that teachers upload independently according to the learning data of students backstage. According to the core literacy, combined with textbooks, staged unit microtests were carried out according to the standards of curriculum

standards for developing and evaluating discipline ability, so as to understand students' learning situation and systematically diagnose their home-based learning progress [3]. Through examination, examination and other forms of general test, the function of "intelligent learning partner" intelligent group paper can reduce the pressure of teachers. By comparing students' previous scores through daily assessment, unit micromasurement and general test, the broken line chart of students' learning scores can be obtained for accurate analysis and reference for subsequent teaching.

(2) Learning resources are recommended by competence level

Based on the analysis report of students associated with wisdom learning, teachers integrate experience and data to judge the classification basis of student groups and assign different types of online homework, different classes and different students. Design differentiated learning tasks, supervise and follow them, and promote the completion of learning tasks. For example, in the recommendation of micro-course resources, teachers can understand the weak grasp of students according to the data and push the contents in the area where students learn the latest development.

(3) According to the level of students to provide a consolidated, superior learning content

Teachers provide corresponding learning content based on the level of different students, and provide advanced level ability homework and learning resources for excellent students. For the weak students, provide basic ability training exercises. Monitoring progress for all students, directional tutoring for individual students, corresponding tutoring for individual students on the basis of ensuring the overall learning progress of the class, so as to realize the progress of individual students and promote the progress of the class as a whole.

3.3. "Intelligent Learning Partner" Constructs the Integrated Teaching Mode Of Online Exam-Evaluation-Learning

Most of the online teaching platforms have separated the relationship between teachers' teaching, students' learning, examination and evaluation, while the "intelligent learning partner" platform reshaped the relationship between the four based on big data of education and constructed an integrated teaching mode of online examination, evaluation and learning. The significance of online examination is to understand students' learning progress, and the value of evaluation is to have a horizontal insight into the progress of different individuals, to adjust the content of teaching in real time and to arrange learning more suitable for development [4].

(1) Online quizzes and exams: Keep track of your progress

The content of the online examination and examination mainly includes the students' mental state of studying at home and the students' mastery of the subject. Through measuring tools such as mental health, autonomous support, psychological controlled perception, behavioral controlled perception, and multidimensional student life satisfaction, the attention concentration, learning problems and mental health problems of students are measured to timely understand students' home-based learning status. Standardize the online examination process, by the school to choose the subject evaluation paper, determine the content of the examination. Match the class information and select different papers according to the learning progress and learning situation of each class. Intensive time for exams, school leaders and teachers invigilate online. Through online examination and examination, timely understanding of students' current state of mind and learning.

(2) Evaluation analysis: to provide basis for teaching

In the form of online model test, students can be better understood and the tested content can be used as the teaching basis. During the online review process, teachers can help teachers find out the typical performance of students and find out the shortcomings of students. "Intelligent learning partner" background automatically generates school report, class report and

individual achievement report. Through the analysis of data, make timely learning regulation measures. Such as through the overall situation analysis, study results analysis, crowd analysis, test score analysis and other multi-angle analysis, positioning the weak points of students' learning situation.

(3) Oriented Teaching and Learning: to achieve accurate teaching

At the school level, based on the overall class data, the whole analysis report can identify key groups and key teaching contents, understand the online teaching situation of different classes and teachers, and provide teachers with better guidance and reference. At the class level, the group characteristics of the class can be understood based on the data of students, so as to carry out targeted teaching and learning, not only for students, but also for teachers. Students' individual targeted learning, knowledge point orientation, overall grasp, and clear the next goal [5]. The assessment tool of students' mental state at home, "intelligent learning partner", can help teachers understand students more deeply, quickly generate class group reports, and help teachers locate the most deserving groups through big data. For example, teachers often mention children's lack of self-control. Although it is uncertain whether learning has occurred, students' learning progress and online learning problems will generate big data, which can be used by teachers to monitor and adjust management.

4. Conclusion

"Intelligent learning partner" features accurate teaching from the perspective of big data analysis of education, which makes up for the shortcomings of other teaching platforms and provides a good supporting platform for online teaching during the period of "suspending class, ongoing learning". "Intelligent learning partner" records the data of learners' whole learning process, and analyzes and interprets the data by using data analysis methods and learner models, which not only helps teachers to manage the class dynamically, but also provides effective data support for teachers to make accurate teaching goals and decisions and meet the learning needs of different people. The educational big data of "intelligent learning partner" provides a scientific basis for constructing the online exam-evaluation-learning teaching mode and facilitates the online management and teaching of schools, classes and teachers.

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