Improvement and Sharing of High-quality Educational Resources in Online Schools

-- Take Chengdu No. 7 Middle School Online School as An Example

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Abstract

With the development of information technology, the remote live teaching model has developed rapidly in the field of education, and high-quality educational resources can break through the limitations of time and space and improve the teaching quality of underdeveloped areas. In 2002, Chengdu Seventh Middle School Wendao Online School was established, as the first distance education practice online school in China to support formal academic education, the online school has formed a "four simultaneous one four-in-one" remote live broadcast teaching model after exploration and development. Through the analysis of literature research, online interviews and live lectures, this paper summarizes the problems arising in the teaching of English and physics in the remote live teaching mode of online schools and proposes corresponding solution strategies. We hope that relevant research results can provide reference and reference for policy decisions related to distance education in secondary schools and promote educational equity.

Keywords

Remote live teaching; Teaching English; Teaching Physics; Online Interviews.

1. Introduction

Distance learning is the use of multimedia information technology to use satellite retransmission to enable remote schools to receive information resources such as teaching content and teaching methods of front-end schools, thus realizing the sharing of high-quality educational resources. Distance education has become a key strategic tool for countries around the world to achieve UNESCO's Education goal that for all in 2015. For developing countries, the adoption and introduction of non-traditional forms of education such as distance education have also become an important strategy for the country to promote the balanced development of education.

Chengdu Seventh Middle School Wendao Online School is different from the Beijing 101 Online School and Beijing No. 4 Middle School Online School that emerged in the mid-to-late 1990s, this unique full-time distance education practice online school has been explored and developed for nearly 20 years[1], and now has 300 in 10 provinces A number of poor secondary schools provide full-time distance live teaching in high schools. However, live classrooms are a collaboration between the front and the far end, which tests the ability of teachers to apply multimedia technology. Moreover, in the process of remote live teaching, students and teachers are in a relatively separate state. Students and instructors are in different spaces but at the same time, which is a great test of the teaching level of front-end teachers. Therefore, in the application process of the remote live teaching model, there are also some urgent problems to be solved.
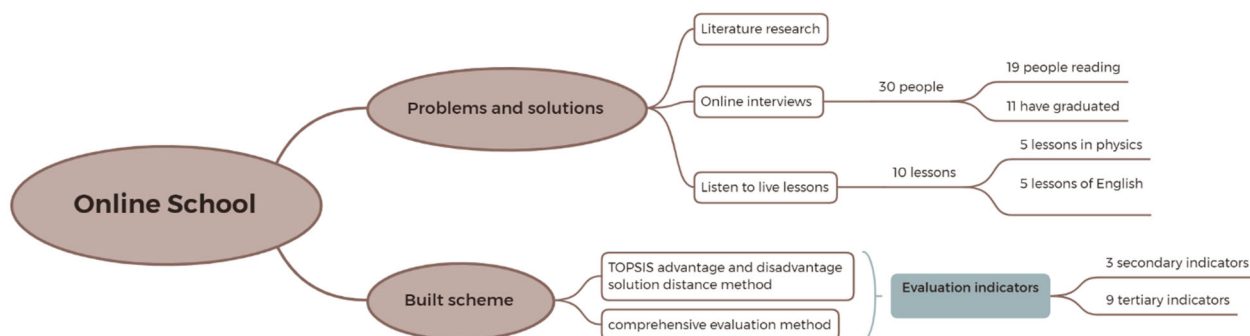
2. Research Methods

Figure 1. Research Methodology

We conducted our research using three methods: literature research, online interviews, and live lectures.

In the literature research stage, the research group analyzed 50 relevant literatures and systematically learned the physics teaching method and the English teaching method.

During the online interview stage, we interviewed 30 users of Chengdu No. 7 Middle School Online School, including 19 students and 11 graduates, 4 front-end students, and 26 remote students. Among its remote students, there are 6 liberal arts students, 20 science students, 3 of the remote students who have withdrawn from the online school class due to high pressure, and 2 students who have been admitted to 985 and 211 colleges.

During the live lessons, we selected 5 live physics lessons and 5 live English lessons. These include 2 classes of Physics class of Teacher Fan Bo's senior year, 3 lessons of Physics class of Li Na's senior year, 3 lessons of English class of Guo Leilei's senior year, and 2 lessons of English class of Li Xiaodong's senior year.

3. The Problems Existing in the Distance Teaching of Chengdu No. 7 Middle School Online School

3.1. Problems in the Teaching of Physics in the Online School of Chengdu No. 7 Middle School

3.1.1. Poor Interaction Between Teachers and Students [2]

For online school front-end teaching, teachers and students can interact face-to-face normally, while students at the remote end have been in a passive listener state for a long time, lacking the communication between teachers and students in the actual classroom. Some remote students may be lazy to think due to the lack of participation in the classroom.

3.1.2. Lack of Supervision of Teaching Process and Results

The front-end teacher can not understand the learning status of the remote students in time, can not ensure that the remote students can actively prepare for the class, and cannot accurately understand the learning effect of the remote students after listening to the corresponding courses. Only through synchronous course study and examinations, it is impossible to fundamentally solve the problems of some students.

3.1.3. Can Not Achieve Teaching That Changes According to the Locality and Teaches According to the Aptitude [3].

The learning foundation of remote students is relatively poor, and the front-end physics teaching is difficult and the pace of classes is fast, if the remote students can not keep up with the teaching progress of the front-end for a long time, it will seriously hit the enthusiasm of students to learn, affect the learning effect of students, and even change their learning attitude.

3.1.4. Insufficient Sharing of the Latest High-Quality Resources

Physics is an experiment-based discipline [4], and experimental teaching is an important part of physics teaching. For remote schools in remote areas, some experiments can not be carried out due to the lack of advanced experimental equipment [5].

3.1.5. Remote Schools Lack Technical and Professional Training for Local Teachers

On one hand, front-end schools share high-quality courses.On the other hand, remote schools lack the necessary training for local teachers, some old teachers' old ideas still need to be changed, and the professional quality and teaching level of local teachers also need to be improved through corresponding training.

3.2. Problems in English Teaching in Chengdu No.7 Middle School Online School

3.2.1. Students Have Strong External Motivation and Ignore Internal Motivation

According to Lin Xiaoling's research, it can be found that the vast majority of students are motivated by course examinations and so on, and few are motivated by personal interests [6]. However, in the form of online school teaching, higher requirements are put forward for students' initiative. Extrinsic motivation only urges students to accept test-taking knowledge in english classes, and rarely takes the initiative to learn additional knowledge, and students are less likely to actively learn and consolidate Their English knowledge after the test. This has seriously affected the teaching effect of English online courses.

3.2.2. The Student's Autonomy Is Not Strong

In the online school teaching mode, middle school students need to receive English content through electronic devices. However, in the context of the rapid development of network technology, the psychological characteristics of middle school students' greed prove that it is difficult for them to control themselves from using electronic devices to play games, so electronic devices not only fail to play a role in learning English, but also become a tool to help students entertain.

3.2.3. Students Lack the Ability to Construct An English Knowledge Framework [7].

English knowledge is relatively scattered, the connection between units is not too close, and in the online school teaching mode, teachers will not help students to build an English learning framework but go straight to the topic to explain the content of this English lesson; and few students have the habit of pre-studying before class and reviewing after class, so students generally go to the end of each English class.

3.2.4. The Level of English Education In Remote Schools Varies Greatly

The area radiated by Chengdu No. 7 Middle School is wide, and the level of education development in various regions is uneven [8]. However, the level and content of English teaching are very different in the north and south, and between the east and the west - the level of English teaching in the northwest region is not as high as that in the south. This has led to the difficulty of determining the standard of English teaching level in online schools, if the English level of the southern schools is obviously not improved according to the northwest region; if it is according to the southern schools, the students in the northwest region will not be able to keep up with the English curriculum.

3.2.5. The Teaching Form Is Single and Lacks Attractiveness

The English Discipline is a language discipline that emphasizes the applied practice of students. However, in the online school teaching mode, most teachers can only present teaching content in simple forms such as recording sound and PPT playback, on the one hand, they cannot urge students to say application and help students correct pronunciation, on the other hand, students face the teacher's unchanged posture and lecture method for a long time, it is easy to

lose interest in watching and learning, not only is it difficult to appreciate the charm of teacher teaching, but also easy to lose confidence in the main teacher [9]. 。

4. The Solution to the Problem of Distance Learning in Chengdu No. 7 Middle School Online School

4.1. Remote Schools and Front-end Schools Can Enhance Communication

Before providing students with online school curriculum resources, remote schools first watch and judge whether they are suitable for the level of English teaching in the region, and then communicate with front-end schools to exchange their own needs and opinions, and at the same time adjust the teaching progress according to the students' situation; in addition, remote schools in different regions can also learn from each other, learn from experience, and improve their own teaching level. Front-end schools can combine the needs and suggestions of various regions to produce different teaching levels suitable for representatives, which puts forward higher requirements for the teaching staff of front-end schools.

4.2. Remote Schools and Front-end Schools Play A Joint Role in the Online School Teaching Mode

Front-end schools mainly play a role in disseminating teaching content, while remote schools should play a role in supervising and exercising students' independent learning ability.

Remote schools can allow students time for self-study and create conditions for students to learn independently. At the same time, you can also choose individual students with strong independent learning ability to share their experiences for everyone to learn and emulate. In addition, the school can hold some lecture activities on a regular or irregular basis to teach students the importance of independent adjustment and reflection on the state of learning, guide students to form and establish a sense of independent learning and independent scientific research, recognize from the bottom of their hearts, and then practice after recognition [6].

Front-end schools can add after-school Q&A sessions for remote students, specifically to solve the personalized problems that exist in remote students' classes, assignments and exams. At the same time, according to the learning foundation of remote students, the front-end teachers assign pre-class preparation tasks as appropriate and give targeted guidance to students with weak remote foundations. This can not only mobilize the enthusiasm of remote students to learn, but also reduce the burden of remote students in class, thus improving the efficiency of remote students.

4.3. Meet the Needs of Students in the Learning Process

Front-end schools remind students before each lesson how the lesson will be conducted and how students should learn instead of going straight to the point and going straight to the point.

For the physics department, the front-end school can provide excellent micro-lesson videos to the remote school, so that the remote students can more intuitively see some experimental phenomena, understand the experimental principles, and then improve their observation ability, analysis ability and problem-solving ability, and stimulate the learning interest of remote students through interesting experiments and micro-lesson works, thereby improving the learning effect [10].

For English subjects, remote schools can help students build the English knowledge framework for this semester before providing online school courses, inform students of this semester's English course schedule and prompt students how to learn this semester's English courses. In addition, in the process of helping students build an English knowledge framework, it subtly affects students, so that students develop a good habit of building a knowledge framework and

how to learn English well, and teaches students how to better construct a knowledge framework and find the relationship between English knowledge points.

4.4. Enrich the Form Of Expression of the Curriculum

In addition to a single PPT recording and teacher video recording, front-end schools can cooperate with a variety of interactive methods; in addition, the development direction of online courses is a more humanized teaching environment based on streaming media (real-time teaching scenes, rich teaching support materials) and MUD (MOO) technology such as virtual real teaching environments [9]. 。

Front-end schools can create virtual environments based on the theme of each unit in English to impress students. The remote school can also organize students to watch film and television works or biographies related to the theme of the unit after class, which not only deepens the students' impression of the knowledge of the unit, but also enhances the students' interest in English; at the same time, it can also design a situation suitable for the theme of the unit, allow students to perform, strengthen oral learning, and consolidate knowledge points.

4.5. Remote Schools Improve Their Own Education Level

Remote schools can learn some of the teaching strategies and methods that front-end schools can implement locally. School leaders strengthen the care and training of young teachers, and invite outstanding teachers from front-end schools to give them professional technical training;At the same time, increase the help for old teachers, provide them with the necessary hardware facilities, and help them solve some problems in technology.

5. Summary

In summary, the cooperation between online school live classes and schools in poor areas is a new teaching model with rapid development and strong vitality. We try our best to solve the problems existing in its teaching process and give full play to the maximum role of high-quality teaching resources. This article investigates the remote live classrooms of physics and English subjects at Chengdu No. 7 Middle School. Through the three methods of literature research, online interviews and live lectures, the problems of physics and English disciplines in online schools were studied, and corresponding solutions were proposed on this basis. The author hopes that the relevant research results can be put into practice and improvement by the front-line teachers of live teaching.

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