CURRENT SITUATION AND PROBLEMS OF EFFECTIVE ONLINE LEARNING AMONG PRIMARY AND SECONDARY SCHOOL STUDENTS IN THE CONTEXT OF EPIDEMIC

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Abstract

The purpose of this study was to analyze the current situation and problems of effective online learning for primary and secondary school students in the context of the epidemic. In the wake of the 2020 global Newcastle Pneumonia outbreak, China has pioneered an unprecedented practice of online education on a scale never seen before as an emergency measure to stop the spread of the epidemic to schools. The rapid shift of traditional school education from face-to-face to online education in a short period presented a whole new challenge for China's Ministry of Education, online platforms, schools, teachers, students, and even their parents. To achieve the effect of "stopping classes without stopping school", online education has become an effective measure to ensure students have access to the school during the epidemic. Online education is not only a current "emergency measure", but will also fully penetrate China's basic education, promote school organization and education model innovation, and build a new form of intelligent education in China. In the long run, online education is not just an emergency response to the epidemic; it is expected to drive the development of a new educational landscape in China. Based on studying and learning from existing research results, this study uses a questionnaire to investigate and analyze the current situation and problems of effective online learning among students in primary and secondary schools in three districts of Beijing in the context of the epidemic.

Keywords: new crown epidemic, online education, online learning, effective learning for primary and secondary school students

Introduction

Statement of Research Problem

1. The development of online education technology promotes the innovation of education and learning forms

As China's science and technology level and innovation ability continue to increase, modern network information technology has become an important tool to enhance the level of education in China. In contrast to the once-traditional forms of education, online education is a product of modernization and reform. The development of multimedia and modern network information technology has brought many conveniences to education and has prompted great changes in the teaching mode, giving students the right to choose from a variety of learning styles.

2. The sudden outbreak of the new crown pneumonia epidemic has forced a rapid transformation of online teaching and learning methods

At 3:30 a.m. on January 31, 2020, the WHO designated the New Coronary Pneumonia

outbreak as a public health emergency of international concern. A public health emergency of international concern is one in which the spread of disease poses a serious risk to the world and requires a high level of response.

3. Effective online teaching and online learning become important guarantees for the quality of middle school education during public health emergencies.

The importance of effective online learning for junior high school students is mainly reflected in the fact that it can promote the overall development of junior high school students, accelerate the integration of traditional education and online education in the basic education stage, and promote the extension of online education to the basic education stage.

Research Objectives

1. To investigate the basic information of participants, such as grade level, gender, whether they knew about online learning before the epidemic, and whether they had done online learning before the epidemic.

2. To investigate junior high school students' independent learning and self-management in the process of online learning in five dimensions, including preparation before class, getting to and from class on time, engagement during class, review, and consolidation after class, and planning learning and self-perception of online learning.

3. To investigate the current situation and problems of effective online learning of junior high school students in this school in the context of the epidemic.

Conceptual Framework

IV is the background variables of junior high school students including grade level, gender, whether they knew about online learning before the epidemic, and whether they had done online learning before the epidemic, etc. DV is the independent learning and self-management of junior high school students in the process of online learning, which was investigated in five dimensions, including preparation before class, getting to and from class on time, commitment during class, review, and consolidation after class, and planning learning and self-perception of online learning.

Background variables for junior high school students
- Gender
- Grade
- Before the epidemic was the level of knowledge about online learning
-Have you conducted online learning before the pandemic.

- Effective online learning for middle school students in the context of the epidemic
- Prepare for class
- Get to and from class on time
- Get involved in class
- Review and consolidate after class and plan learning
- Learn self-perception online
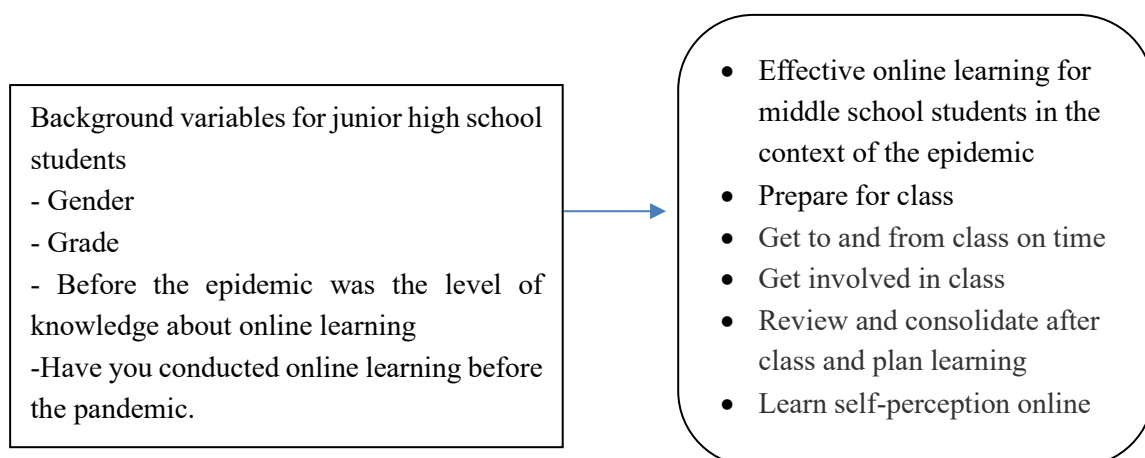
Figure 1.1 Research Conceptual Framework

The Research Hypotheses

Based on the above analysis of the motivation and purpose of the study, the following research hypotheses were proposed as a basis for the statistical test to explore the questions to be answered.

H1: There is a significant difference between middle school students' background variables on effective learning online for middle school students in the context of the epidemic.

H1.1: There is a significant difference in effective online learning among middle school students of different genders.

H1.2: There is a significant difference in effective online learning among junior high school students with different grade levels.

The Scope and Limitation of the Research

The current situation and problems of effective online learning of elementary and middle school students in the context of the epidemic have received a great deal of attention from schools, teachers and students, parents, and all walks of life. Through this study, we can also find that middle school students encounter a variety of difficulties and problems in the process of online learning, which leads to ineffective or even inefficient online learning.

The Benefits of the Research

The study is based on the core ideas of "student-led learning", "building learning communities" and "engaging in learning practices in different contexts" proposed by metacognitive theory, social constructivist learning theory, and contextual cognitive learning theory respectively.

To provide strategies for optimizing effective online learning of junior high school students to clarify effective online learning, to propose the causes of problems affecting effective online learning of junior high school students in the context of the epidemic, and strategies for promoting effective online learning of junior high school students, to make junior high school students reflect on their learning process with the dimension of effective learning, to effectively improve the online classroom learning behavior of junior high school students, to improve learning efficiency, and to finally achieve the goal of effective online learning of junior high school students.

Theory and Literature Reviews

Research on the value of online learning

Douglas and Van Der Vyver (2004) argue that in the past few years, the rapid development of the Web has made online learning popular and can replace traditional classroom learning and that the Web has become an important platform for online teaching and learning. It seems that online learning has been highly valued and is gradually replacing traditional face-to-face or teacher-led classroom learning. Online learning can provide students with richer learning resources and a good learning environment.

Pituch and Lee (2006) argue that online learning can be independent of time and space and that learners can learn independently with online technology, access learning resources from multiple sources, and receive teaching assistance from different teachers during the learning process.

Rabe-Hemp and Humiston (2009) suggest some advantages of online learning: the ability to study at any venue allows learners to organize their studies independently, taking into account their profession and other factors, without hindering their work; learners can plan their studies themselves and choose when to study according to their needs; secondly, learners can, In addition, learners can become part of a group with similar needs, and after the course is over, these groups will still exist and be able to communicate and discuss after the course, thus eliminating the space barrier and making better use of the advantages of the Internet.

Research on the design of online learning activities

Christine Greenhow and Brad Belbas (2007) propose an activity theory-based AODMO approach, an activity-based design approach that allows the team creating the course and the learners to fully understand the process and method of constructing this type of knowledge by working together to complete the task.

Status of domestic research on online learning

Analysis of the connotation of online learning

In the four articles on online learning published by domestic scholars Zhong Zhixian et al. (2002), the following three conclusions were put forward: firstly, the definition, important influence, and far-reaching significance of online learning were clarified in the article; secondly, the characteristics of online learning resources, types of online learning activities, types of online interaction and interaction methods, and four parts of online learning communities were deeply analyzed; finally, the Finally, four key factors of teachers, students, courses and techniques are proposed to influence or restrict the achievement of online teaching and learning.

Research on the design and development of online learning

Among the research on the design and development of online learning, the main thing is to update the system related to online learning in time. Since online teaching is different from traditional teaching in terms of time and space, the construction of an online learning platform and the supervision of teaching quality are inevitable requirements and necessary prerequisites for the development of online learning.

Research on evaluation and quality of online learning

The research on the evaluation and quality standards of online learning in China is relatively small, and by reviewing the relevant literature, we can find that the standard mainly focuses on the evaluation system and quality standards. In addition, scholars in China are gradually conducting research on the evaluation methods, systems, and quality standards for evaluating online education platform technology, learning resources, and students' online learning behavior.

Status of foreign research on effective learning

Foreign research on effective learning starts from teaching-related content through some specific models and pays more attention to the influence of teachers' effective teaching on students' effective learning. They believe that if the teaching results are good and can be maintained for a long time, it can enhance students' self-confidence and ability to use knowledge in life, and only when such teaching is carried out is it effective and can promote students' effective learning. Foreign research on effective learning is mainly reflected in the following aspects: 1.

Theoretical research on effective learning

The research results of domestic research scholars on the theoretical basis of effective learning mainly include the theoretical model of constructing effective learning in the network, the research on the theoretical basis of effective learning, the self-regulation theory of social cognitive theory, and the research on effective learning.

Research Review

In summary, the current research on the meaning, value, activity design, and effective learning of online learning at home and abroad is more systematic and comprehensive in terms of theory, model, and guidance strategies, but the research on the current situation, problems, and guidance strategies of effective online learning for junior high school students at home and abroad is not comprehensive enough, not deep enough and not targeted enough, mainly because most of the previous research on online learning was investigated by universities at home and abroad. Most of the previous studies on online learning were mainly conducted on university students at home and abroad, or on primary and secondary school students using after-school fragment time for online learning.

Research Methodology
Population/Sampling Methods/Variables

This survey was conducted to understand the current situation and problems of effective online learning of junior high school students in the context of the epidemic in a comprehensive manner. The target population of this survey was 876 students in the first, second, and third grades of a middle school in three districts of Beijing who participated in online learning during the New Crown Pneumonia epidemic.

Instruments/Research Design
1. Expert consultation before questionnaire design

Initially, the contents of the questionnaire were constructed, which mainly included four dimensions: network problems of online learning and the status of equipment, mastery of online learning resources and teacher-student interaction, and students' evaluation.
2. Questionnaire design framework and dimensions

Based on the combination of relevant literature and the suggestions of experts, the author finally formed her questionnaire.

Statistics and Data Analysis

After obtaining the empirical data from the subjects through the questionnaire, the researcher used Excel software to summarize and organize the data, and imported SPSS software to analyze and process all the questionnaire data.

Questionnaire survey method

In this study, a questionnaire survey was conducted on a sample of junior high school students in Beijing. The questionnaire mainly included the performance of junior high school students' online learning behaviors, their participation in online learning, and the current situation of effective learning.

Data Analysis Result
Demographic Analysis of The Respondents

According to the basic information of the middle school students who participated in the survey, the statistics showed that the overall level of understanding of online learning before the epidemic was good, among which only 39 students (4.5% of the total) did not know anything about online learning. The number of students who did not learn online before the epidemic was 502, accounting for 57.2% of the total number of students, and the number of students who did learn online before the epidemic was 374, accounting for 42.7% of the total number of students; this indicates that although most students knew about online learning before the epidemic, many of them only knew about online learning and did not learn online. adaptation to the online learning format.

Hypothetical Test Results
The research hypotheses and test results of this study are organized as follows.
Table 4.3 Research hypothesis testing results

Assumptions	Test results
Hypothesis 1: Middle school students' background variables affect the difference in effective online learning of middle school students in the context of the epidemic.	Partial assumptions hold
H1.1: There are significant differences in effective online learning among middle school students by gender.	Partial assumptions hold
H1.2: There are significant differences in effective online learning among middle school students at different grade levels。	Assumptions are not valid

Conclusions and Discussion
Conclusions

To address the negative impact of the new pneumonia epidemic on education, the Ministry of Education (MOE) has proposed the measure of "suspending classes without stopping school" to ensure that primary and secondary school students across the country "have access to school". However, "the ideal is very rich, the reality is very skeletal", in the actual implementation of the online education process of a variety of complex problems and problems, a variety of conditions, students' online learning and teachers' online teaching efficiency is low, which led to a variety of questions and complaints about online education. How to achieve "effective learning" of students' online learning is a real problem that is widely concerned. To further improve the quality of online teaching and students' effective learning online, this chapter analyzes the causes of the problem of effective learning of middle school students online in the context of the epidemic from the aspects of current online education teaching technology, schools, parents, teachers, and students.

Imperfection of online education teaching technology

The "school closure" is one of the biggest online education reform activities in China, which is both an opportunity and a challenge for education informatization reform. The successful implementation of online education cannot be achieved without the support of information technology equipment, education platforms, and networks.

Lack of online education experience in junior high schools

Before this epidemic, China has made great achievements in the research and development of "online education", "education informatization" and "Internet+education", but the development of online education in However, the development of online education in the basic education stage is mainly reflected in the online tutoring by teachers after school using fragmented time, online courses by off-campus tutoring institutions and online courses by online education platforms.

Inappropriate parental supervision, management, and motivation

In the process of online learning for junior high school students, once there is no teacher management, attention is easily unable to focus and class participation is not active. In the long run, students' learning initiative, enthusiasm, and self-control will decline, their moods will be low, and the effectiveness of online learning will be reduced, which will eventually cause students to lose their sense of achievement and interest in learning, and will be detrimental to their positive development. Because of this current situation and problems, parents need to provide appropriate supervision, management, and motivation in the process of students' home learning.

Insufficient online teaching ability of middle school teachers

In traditional school education, firstly, it is easier for teachers to observe students' classroom performance for classroom management in traditional face-to-face classrooms, and the real-time nature of such classroom management is precisely the advantage of face-to-face teaching; secondly, in face-to-face teaching, teachers can see everything students say and do when they study; the interaction and communication between teachers and students are more obvious and direct, bringing students and teachers a richer emotional experience. In addition, teachers spend far more time than parents in effective contact with students every day, making it easier for them to set an example in organizing the teaching process, using their personal experiences, emotional will, and behavioral norms to influence students' physical and mental growth, learning attitudes, and the meaning of learning, thus helping them to establish a scientific worldview, a correct The students will use their own experiences, emotional will, and behavioral norms to influence their physical and mental growth, learning attitudes, and the meaning of learning, to help them establish a scientific worldview, correct outlook on life, and values, and to achieve perfect results in teaching and education.

Weak online independent learning and self-management skills of junior high school students Having good self-directed learning and self-management skills is an indispensable part of the process of developing lifelong learning skills for junior high school students. Such skills not only help junior high school students to keep their heart in good times, study hard and persevere but also help them to overcome difficulties and move forward in bad times.

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