

Retraction

Retracted: The Transformation of College Students' Ideological and Political Education and Learning Analysis of Education System by Streaming Media Technology

Mathematical Problems in Engineering

Received 1 August 2023; Accepted 1 August 2023; Published 2 August 2023

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their

agreement or disagreement to this retraction. We have kept a record of any response received.

References

- [1] L. Xu and S. Tsai, "The Transformation of College Students' Ideological and Political Education and Learning Analysis of Education System by Streaming Media Technology," *Mathematical Problems in Engineering*, vol. 2021, Article ID 3285830, 11 pages, 2021.

Research Article

The Transformation of College Students' Ideological and Political Education and Learning Analysis of Education System by Streaming Media Technology

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Received 10 July 2021; Revised 29 July 2021; Accepted 6 August 2021; Published 14 August 2021

Academic Editor: Zaoli Yang

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The development of social economy and the continuous advancement of science and technology have opened the historical prelude of the information age. Streaming media technology, with its wide audience, diverse forms, and strong guiding technology, has infinitely narrowed the time and space distances of people in different regions of the world. The difficulty of political work has very important practical significance. Therefore, this paper focuses on the theme of the reform of the teaching method system of the ideological and political theory course in colleges and universities and the analysis of the education system. From the perspective of streaming media technology, we learn the opportunities and challenges faced by college students in the transformation of ideological education and the reform of education system and explain the strategies and measures for the transformation of ideological education and the reform of education system in college students. We hope that this study can provide some theoretical support for the ideological education and teaching of college students. The problem of data scheduling for ideological and political education in the P2P system is analyzed, the data scheduling problem is formalized, and the form of optimal data scheduling is analyzed. Through theoretical analysis, the optimal scheduling problem is transformed into an equivalent minimum cost flow problem that can be calculated in binomial time. It is proved by reasoning that the consistency of the optimal data scheduling problem and the minimum cost flow problem is verified, and the correctness and feasibility of the viewpoint are verified.

1. Introduction

The rapid development and tremendous changes in society have produced a series of changes in people's ideological and moral values [1, 2]. This includes the negative effects of globalization on the moral values of people. College students are in the critical period of gradual improvement of their ideological and moral concepts and thus are the most affected. College students are high-knowledge groups and the mainstay of human resources [3–5]. Their ideological and moral standards directly determine the success or failure [6, 7]. This has a certain exemplary and positive significance for further improving the overall quality of the people and building a harmonious socialist society.

The 21st century will be an era of rapid network development [8]. The application of the network has also penetrated from high, new, and sophisticated science and technology fields to all walks of life in society and has entered thousands of households [9, 10]. The network has also become a representative of the “fourth generation media” with its advantages of convenience, speed, inclusiveness, interaction, and massive information. But this does not mean that media technology has reached its end and no new media will be born [11–13]. On the contrary, the emergence and widespread use of online media has provided new impetus to the development of media technology [14, 15]. The emergence and development of the most unique and dynamic media in the “fourth generation of media,” namely,

the emergence and development of streaming media, proves this.

With the popularization of the Internet and the advancement of multimedia teaching, network multimedia teaching has become a new and important educational model in the field of education. It is a combination of network and multimedia teaching and a way for multimedia teaching to make full use of the network to spread. Using campus network or Internet network to develop multimedia teaching is one of the important goals of campus network construction. The network multimedia teaching will make the school's teaching styles richer, the education model more advanced, and the campus wider. At present, many universities and companies are carrying out the research and development of remote network teaching platform and have developed many related products. Most of these distance education network platforms are in the form of "network virtual classrooms." Using streaming media technology, the teaching content can be visually displayed in various forms such as video, audio, and electronic version of lecture notes. Students can use multimedia computers remotely. You can also perform on-demand learning after class, such as Starscream Multimedia Network Classroom, Seth Multimedia Network Classroom, and iClass Multimedia Network Classroom. Teachers can make multimedia courseware related to the course and upload it to the "network virtual classroom." Students can browse online at any time to learn; for content that they do not understand, they can use non-real-time BBS in text or voicemail to leave a message. Online virtual classrooms can also conduct online tests, teachers can leave corresponding exercises online, and students can practice and record scores during online learning, so as to more easily detect the results of teaching and learning. It can also manage specific user roles and permissions. This kind of integrated "network virtual classroom" is also being adopted by more and more colleges and universities.

Therefore, this paper focuses on the theme of the reform of the teaching method system of the ideological and political theory course in colleges and universities and the analysis of the education system.

This paper attempts to construct a logical framework for the transformation of college students' ideological education and the analysis of educational system from the point of view of the close integration of college students' ideological education and streaming media technology. From the perspective of streaming media technology, it analyzes the opportunities and challenges faced by college students in the transformation of ideological education and the reform of education system and explains the strategies and measures for the transformation of ideological education and the reform of education system in college students.

2. Streaming Media Technology

Streaming media technology refers to the continuous image and sound that is compressed and placed on the network server. The mobile terminal user does not need to wait until

the entire multimedia file is downloaded and can download and watch the instant viewing technology while listening. The biggest advantage of this technology is that you do not need users to wait until the files are all downloaded (see Figure 1).

2.1. Characteristics of the Use of Streaming Media Technology.

In fact, mobile streaming technology is the product of the development of network audio and video technology and mobile communication technology to a certain stage. It is a technology that is generated after the integration of many network technologies [16, 17]. It involves the collection, compression, storage, wireless network communication, and mobile terminals of streaming media data. Streaming media has a large compression ratio. Therefore, it can consume less bandwidth and storage space and has a large compression range, from a few kbps to a few Mbps, so it can adapt to any network bandwidth from narrowband to broadband. Streaming media uses a streaming approach to the transmission of information data. This streaming mode decomposes the entire multimedia file into a compressed package in a special compression mode, and then the video server continuously transmits real-time information to the client, thereby ensuring the real-time performance of Internet users [18].

The structure of the streaming media system is shown in Figure 1. In just a few years, it has been widely used in Internet multimedia news release, online live broadcast, online advertising, e-commerce, video on demand, telemedicine, Internet radio, real-time video conferencing and distance education, and other aspects of Internet information and services. The application of streaming media technology will bring revolutionary changes to information exchange and will have a profound impact on people's learning and life (see Figure 1).

2.2. Analysis of the Application of Streaming Media Technology in College Students' Ideological Education.

The application of streaming media technology in other university disciplines has been extensive. The traditional ideological education of college students is based on the cable network foundation. This kind of learning method has its own unique advantages, but this learning mode is difficult to solve the requirements of students to study anywhere, anytime. Streaming media technology, as a platform for the transformation of new college ideological and educational methods, has brought momentum to students' independent learning [19, 20]. They can quickly learn the rich resources on the network. They can only be used to open a single media content such as text and images. Now, using the mobile platform to stream media files is also smooth and free. Students can break through the single passive learning model in the past, so that learners and teachers, learners and learners, and learners and learning content have a good interaction [21, 22]. Actively constructing their own knowledge and skills in the contextualized teaching environment of mobile

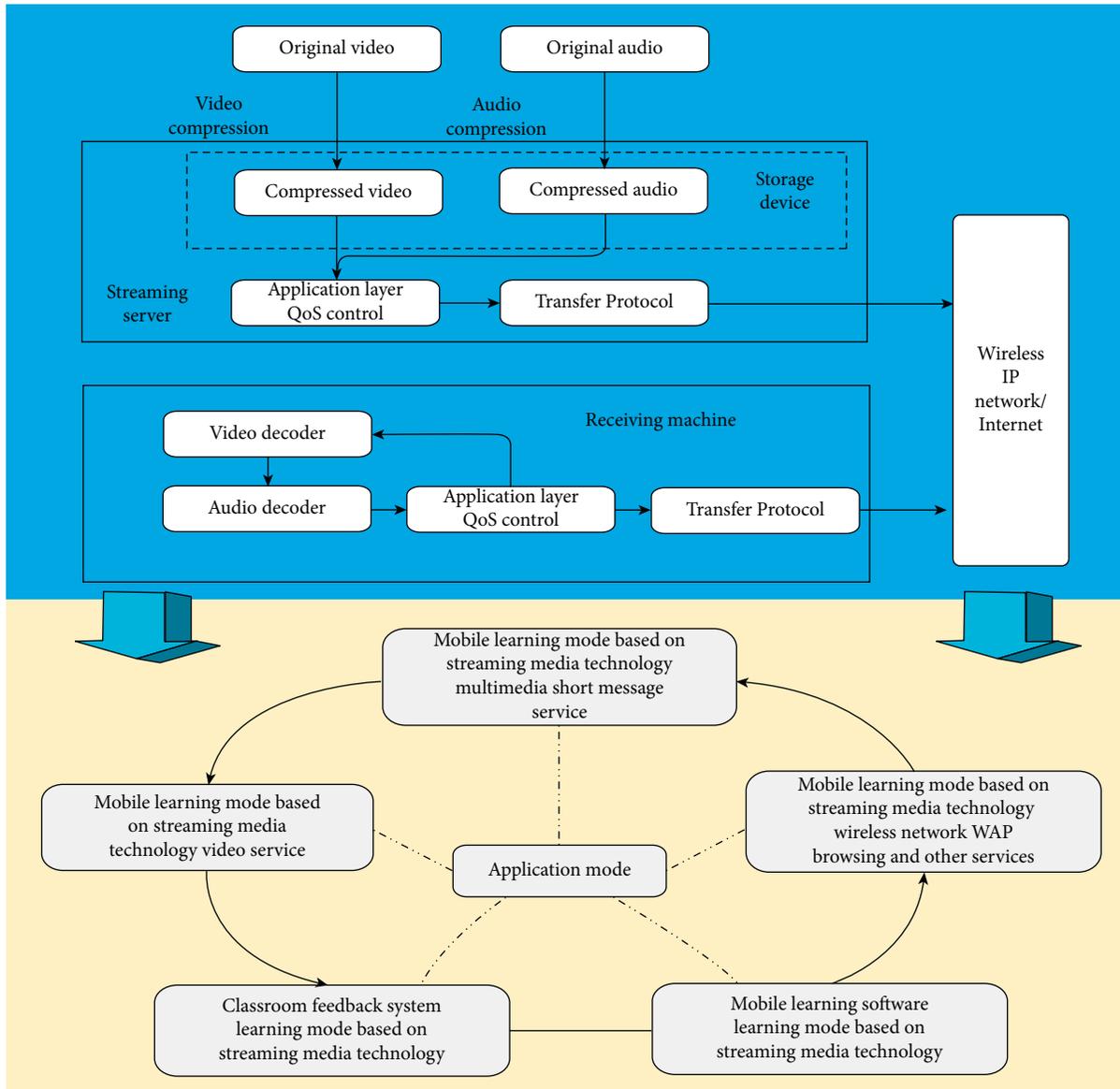


FIGURE 1: System structure of streaming media.

streaming media has truly played the role of personalized learning. The following is the application analysis of streaming media technology as the cutting-edge mobile technology in college ideological education learning [23, 24].

3. Application Research of Streaming Media Technology in the Transformation of College Students' Ideological and Political Education

3.1. *The Influence of Streaming Media Technology on College Students' Ideological and Political Education.* The wide application of streaming media technology provides rich material conditions for ideological and political education, greatly broadens the ways and means of ideological and

political education in the new era, enriches the content of ideological and political education, improves educational efficiency, and enables ideological and political education. Work is more time-saving and labor-saving. At the same time, due to the openness of streaming media technology, the ideological and political education in the new era has to face the negative impact from it [25–27]. In short, ideological and political education has been affected both positively and negatively by streaming media technology. Therefore, the influence of streaming media technology on college students' ideological and political education mainly involves two aspects: positive influence and negative influence. Influence of streaming media technology on college students' ideological and political education is shown in Figure 2.

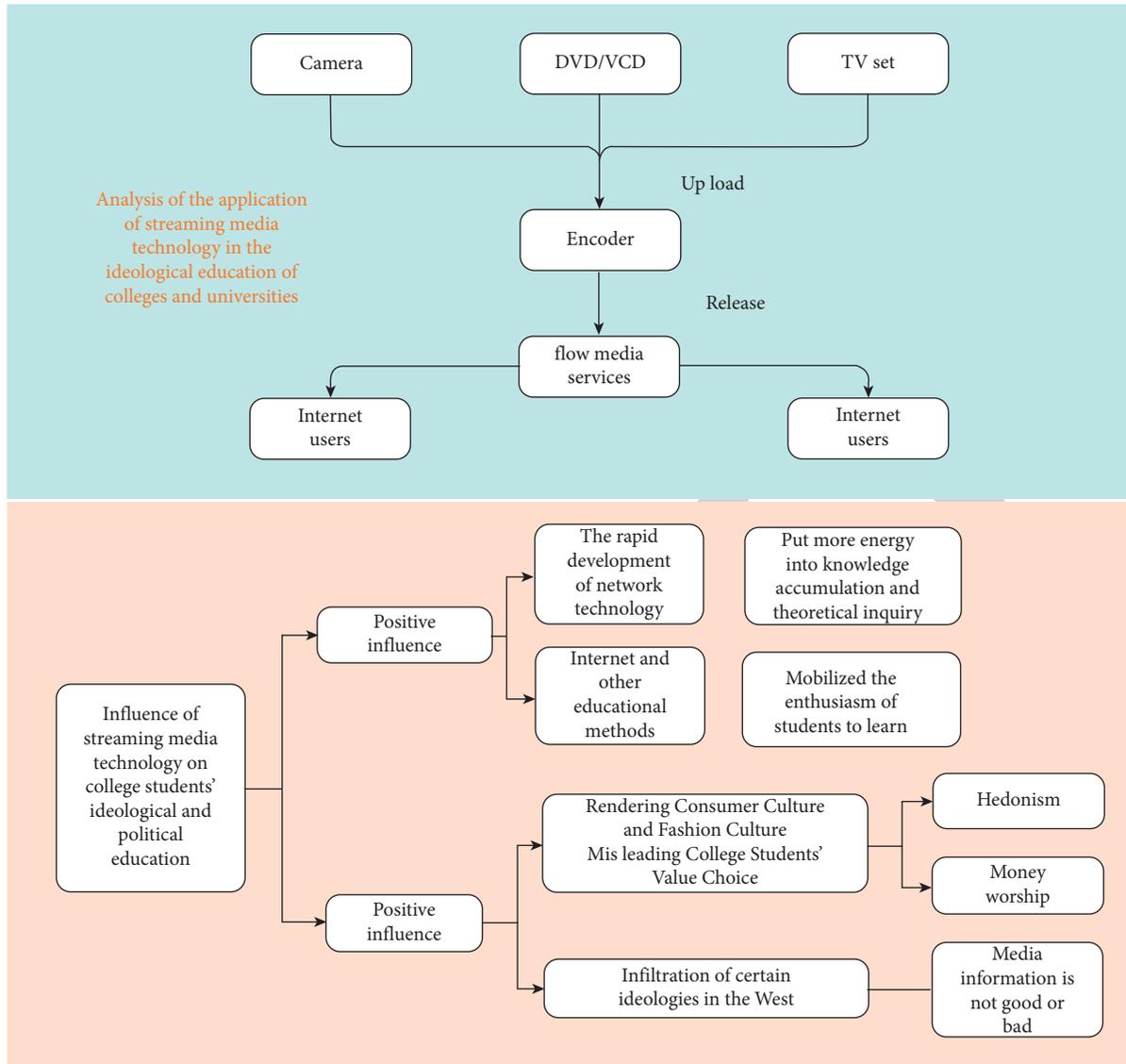


FIGURE 2: Influence of streaming media technology on college students' ideological and political education.

3.2. *Analysis of the Advantages and Challenges of Applying Streaming Media Technology in College Students' Ideological Education Teaching.* In the ideological education of college students, the use of streaming media technology can help to highlight the student's dominant position and improve students' interest in learning. Appropriate use of streaming media technology in ideological and political theory courses can meet the characteristics and learning needs of contemporary college students. The main role of students in the classroom is fully reflected and played. The role of teachers as guides uses streaming media to help college students form correct ideas and values, thus effectively improving the teaching effect of ideological and political theory courses. In addition, the use of streaming media technology for teaching can enhance effective interaction and communication between teachers and students, guide students to actively explore problems and learn knowledge, and fundamentally improve students'

comprehensive quality. In the ideological education of college students, the use of streaming media technology helps to enrich the teaching content. Streaming media technology is developed based on computer Internet. Therefore, streaming media can provide users with rich resources and knowledge. This feature of streaming media is of great significance to improve the quality of college teaching. In the application of streaming media in the teaching of ideological and political theory courses in colleges and universities, teachers can provide students with rich extracurricular learning resources by means of streaming media. Students can also explore extracurricular-related knowledge according to their own learning needs, thereby increasing the reading volume, broadening the students' horizons, and helping students to effectively improve their learning efficiency and consolidate classroom teaching effects. In the ideological education of college students, the use of streaming media technology

also contributes to innovative teaching methods. Proper adoption of streaming media technology during the teaching process is a good solution to this problem. In addition to basic classroom teaching, teachers can also use streaming media technology to enhance communication with students through mobile client applications and web platforms. A network platform for ideological and political education can be built to allow teachers to understand students' ideological conditions through streaming media, guide students' thinking, and achieve two-way interaction between teachers and students, thereby improving teaching efficiency. It can be seen that the application of streaming media technology in teaching not only enriches the teaching method of ideological and political theory courses but also attracts students' interest in learning.

Of course, the use of streaming media technology to educate college students' ideological education also puts higher demands on the comprehensive quality and teaching level of ideological and political teachers. The advent of the streaming media era has put forward higher requirements for the comprehensive quality and teaching level of ideological and political teachers. Only by fully recognizing the characteristics of streaming media and using streaming media technology to teach ideological and political theory courses can teachers effectively close the distance with students, improve students' enthusiasm for participating in learning, and then improve the teaching effect of ideological and political theory courses. The use of streaming media may also make it difficult to effectively use the value of ideological and political theory courses. Because some characteristics of streaming media meet the personality characteristics of modern college students, it provides convenience for young college students to publicize their personality and develop themselves. Students can use streaming media to freely transmit information and express ideas, which leads to the development of college students' thoughts and ways of thinking, which may be affected by the streaming media environment and may adversely affect the teaching effect of ideological and political theory courses. The value of political theory teaching should be worthwhile. Therefore, in the process of using streaming media technology to carry out ideological and political education for college students, it is necessary to weigh the advantages and disadvantages of streaming media technology to ideological and political education.

3.3. Application Strategy of Streaming Media Technology in College Ideological and Political Theory Courses. As mentioned above, the use of streaming media technology in the process of ideological and political education for college students may bring various advantages, disadvantages, and challenges to ideological and political education. Therefore, this study believes that the application strategy of streaming media technology in college ideological and political theory courses can be as follows, as shown in Table 1.

3.4. Transformation Measures of Streaming Media Technology in College Ideological and Political Theory Courses

3.4.1. Improving the Content of Ideological and Political Learning Resources and Innovating Classroom Teaching Mode. In the development environment of streaming media, college ideological and political teachers should establish advanced teaching concepts, dare to break the shortcomings of traditional teaching methods, combine the actual learning situation and needs of students, and rationally use multimedia technology to optimize the design of classroom teaching content and innovate classroom teaching mode. For example, ideological and political teachers can search and download relevant learning resource content on the network platform according to the characteristics of the ideological and political theory course, effectively enriching the classroom teaching content. The ideological and political theory knowledge is embodied from abstraction, and the information is shared by video and pictures. This will help create a harmonious and pleasant learning atmosphere in the classroom and stimulate students' interest and enthusiasm for the content of ideological and political education. Teachers should strengthen communication with students' activities and guide students to participate in various interesting teaching tasks. The teacher proposes a hot topic in the society, then divides the students into groups to discuss and analyze, and selects the opinions and ideas of the group members. The teacher can highlight the student's dominant position in the classroom and can better observe and analyze the shortcomings of the students' current ideological and political learning, so as to rationally improve the teaching content and methods.

3.4.2. Establishing a Streaming Media Platform for Ideological and Political Education and Strengthening Information Management and Control of Streaming Media Platforms. In the construction of ideological and political education streaming media platform, colleges and universities should appropriately increase investment in campus network construction according to their own development conditions and ensure that the campus ideological and political education website can meet the self-learning needs of teachers and students. In the early stage of the construction of the ideological and political education website, university leaders should actively listen to the opinions provided by the ideological and political education workers and students. To ensure the long-term effectiveness of the website's ideological and informational content, rationally design the official website homepage to ensure that the educational website can be attractive enough for students so that students can be motivated to learn. The design manager of the ideological and political education website should pay attention to improving the comprehensive functions of the website's various functions and website contents, ensuring that teachers and students can obtain the information content of their own interest through simple operations. The ideological and political education combines the

TABLE 1: Application strategy of streaming media technology in college ideological and political theory courses.

Strategy	Strategic analysis
Using streaming media to build a network of teachers and students	Using streaming media technology to play the role of students as the main body in ideological and political theory Teachers give full play to their guiding role
Using streaming media to innovate the teaching mode of ideological and political theory courses	Teachers make full use of streaming media technology Occupy the position of college students' network communication and strengthen publicity and education Strengthen the supervision of the internal streaming media operation team on campus and guide the development of campus public opinion
Strengthening the construction of teachers' team of ideological and political theory courses	In the teaching process, teachers should adhere to the student-oriented teaching philosophy and improve the sense of service Teachers should understand the current development of streaming media

theoretical knowledge of disciplines such as education, political science, psychology, and sociology. The website technicians must design the contents of different window subjects in combination with the content of the ideological and political education curriculum.

3.4.3. Using Online Real-Time Tools to Carry out Education Work Quickly and Effectively. Make full use of online instant tools (QQ, WeChat, SMS, etc.) to effectively carry out ideological and political education guidance. Using instant tools such as QQ, WeChat, and SMS, you can keep an eye on student dynamics, close the distance between teachers and students, eliminate the psychological barriers of students, and carry out "one-to-many" education, breaking through the traditional "one-on-one" education mode.

3.5. Data Scheduling Model of Streaming Media Ideological and Political Education Live Broadcast System in Pursuit of Global Optimization. In the P2P streaming media system, there is no clear distinction between client and server. A node can be used as a client to request services from other nodes, and it also needs to be a server to provide services to other nodes. In streaming media applications, media files are generally relatively large, and transmission of these data requires high bandwidth resources. At the same time, streaming media files have very high requirements for the real-time performance of data blocks. In addition, nodes in the streaming media system may dynamically join and leave, and the processing capabilities of the nodes are different. These factors cause the complexity of the P2P streaming media system. A problem to be solved by the media system is to use a reasonable scheduling strategy to reduce the delay of nodes obtaining data, reduce network jitter, and improve system throughput.

To maximize the throughput of the system, our method is to maximize the number of successfully requested data blocks in each cycle of bandwidth limitation. In the data scheduling process, different data blocks have different importance. For example, rare data blocks should be requested first in order to spread quickly in the network. Therefore, it is very important to define different priorities for different data blocks. Priority

needs to consider two factors. On the one hand, as mentioned earlier, rarity is a very important attribute of data blocks, but for streaming media, the continuity of playback is very important. Therefore, excessive emphasis on the rarity of data blocks may affect the continuity of playback. A data block that is about to reach the playback point should have a higher priority than the data block that has just entered the playback buffer window. Therefore, we define P_{ji} . For the priority of data block j , P_{ji} is defined as follows:

$$P_{ji} = \alpha PE(C_i - D_{ji}) - \beta PRh_{jk}. \quad (1)$$

We define q_{kji} to indicate whether node i requests data block j from its neighbor node k :

$$q_{kji} = \begin{cases} 0, & \text{Node } i \text{ requests data block } j \text{ from neighbor node } k, \\ 1, & \text{Others.} \end{cases} \quad (2)$$

Our goal is to maximize the priority of the data block owned by each node, and we define the following constraints:

$$q_{kji} < 1 \quad \forall i \rightarrow N, j \rightarrow D_i, \quad (3)$$

$$q_{kji} < \tau \bullet O_k, \quad \forall k \rightarrow N, \quad (4)$$

$$q_{kji} > \tau \bullet |O_k|, \quad \forall k \rightarrow N, \quad (5)$$

$$q_{kji} < \tau \bullet E_{kj}, \quad \forall i \rightarrow N, k \rightarrow NBR_i, \quad (6)$$

$$q_{kji} \rightarrow [0, 1], \quad \forall i \rightarrow N, j \rightarrow D_i, k \rightarrow NBR_i, \quad (7)$$

where NBR_i represents the set of neighbor nodes of node i ; τ represents the request cycle; C_i represents the current clock of node i ; D_{ji} represents the time between data block j on node i and the playback point; P_{ji} represents the priority of data block j to node i ; and O_i represents the uplink bandwidth of node i .

These conditions ensure that each data block will only be obtained from one neighbor node, thereby ensuring that no duplicate data blocks will be obtained. In addition, it is

guaranteed that the scheduling will meet the bandwidth limit, and the end-to-end maximum available bandwidth limit is guaranteed. We call the constraints the global data scheduling problem.

4. Analysis and Research on the Ideological and Political Education System of College Students by Streaming Media Technology

4.1. New Problems Facing Ideological and Political Education under Streaming Media Technology. Some ideological and political educators in colleges and universities have not been able to fully adapt to the development of the “Internet +” era for various reasons. The resulting contradiction between educators and educational objects has become a new problem faced by college students’ ideological and political education under streaming media technology.

4.2. Strategies for Streaming Media Technology to College Students’ Ideological and Political Education System. As the main object of ideological and political education, college students have a great influence on the overall work of ideological and political education. Under the background of streaming media technology, college students’ ideological and political education has both opportunities and challenges. How to use streaming media technology to do a good job in the ideological and political education of college students is also in line with the requirements of the “Internet” era.

4.2.1. Transforming Educational Concepts and Improving the Quality of Educators. Due to the birth of streaming media, the information and experience advantages of ideological and political educators no longer exist. In order to change this situation, college ideological and political educators must first understand the current status quo, cannot stick to the rules, and should learn with humility. In the process of learning, the relationship between teachers and students is gradually improved, and the respect of students is also obtained. And college ideological and political educators should know how to filter information and choose topics of current interest as a discussion object. Specific practices can involve exploring effective ways, fostering streaming media thinking, and breaking through traditional thinking to improve streaming media literacy.

4.2.2. Improving the Media Cognition Ability of Educated People. Streaming media provides a favorable platform for college students to understand the world. However, the complex environment of the network poses challenges for college students to use streaming media correctly. In order to solve this problem, only the university students should establish correct values and thus improve their media literacy. To a certain extent, the cognitive ability of college students can be improved, and the degree of influence of the objective environment can be greatly improved. Regarding the issue of strengthening the media literacy of educatees, it is necessary

to guide college students to correctly identify streaming media information and selectively participate in streaming media activities during the education process. This requires college students not only to strengthen the critical spirit and improve the ability to identify information but also to internalize educational information and improve self-management capabilities. At the same time, it is necessary to cultivate opinion leaders and play an exemplary role.

4.2.3. Enriching the Content of Ideological and Political Education. In order to live up in the ideological and political work of colleges and universities, we should first have fresh content. To this end, the ideological and political education work of colleges and universities and the network ideological and political education of college students should dig deep into the fresh content of the times and help students to promote positive energy and establish correct values in the world of streaming media. First of all, we need to strengthen theoretical education and establish theoretical confidence. Practice is the foundation of theory. The second is to tell the story around and enhance the fun. The diversity and richness of online information poses a challenge for educators to guide educatees to accept specific ideological and political education content. This puts higher demands on the network ideological and political workers in colleges and universities: not only to tell stories but also to talk about the most common and simple real people around us and to constantly enhance the authenticity and attractiveness of educational content. To this end, it is necessary to make the advanced characters more detailed but also to make the typical events more vivid. Because the good propaganda content is attractive and has specific details, it can give full play to the typical demonstration role, thus guiding teachers and students to be the firm believers, active communicators, and model practitioners of the fine moral traditions.

4.2.4. Setting Up Relevant Courses and Carrying Out Media Literacy Education. First of all, to improve the media literacy education of college students, we must use the theory to enter the classroom to consolidate the foundation. The most fundamental and effective way to solve the problem of improving the media literacy of college students is to move the theory into the classroom and carry out systematic theoretical study so that college students can pay attention to it and correct it; secondly, to improve the media literacy education of college students, it is necessary to carry out relevant practical activities. As a quality education, media literacy is the fundamental purpose. In addition to theoretical study, make full use of on-campus and off-campus resources to provide students with the opportunity to contact the media and break their mystery and embarrassment among students.

4.2.5. Strengthening Platform Construction and Expanding Space. Innovative educational content, the carrier of fresh education, is the soul that gives life to ideological and political education in colleges and universities. Educational

content and carrier are a kind of mutual and complementary relationship. Innovating educational content from the source and discovering new carriers in the process can make the educational propaganda work of colleges and universities show lasting vitality.

4.3. Analysis of Experimental Results after Optimization of Streaming Media Scheduling Algorithm. In order to verify the performance of the optimized algorithm, a simulation experiment is carried out in this paper. In the simulation experiment, we made the following settings for the system environment.

(1) The streaming media server has 100 streaming media files with a duration of about 60 minutes. The files are mainly in wmv format, which are assumed to be popular files in the system. (2) The system can support 1000 channels, and the upper limit is 2000 channels. (3) The buffer capacity of the client accessing the server is random. (4) The system's shared multicast stream generation time interval is set to 60 seconds. The grouping time period in the optimized periodic patch algorithm period is set to 6 seconds. (5) The network bandwidth is fixed at 1000 channels. (6) The server receives requests sent by users, and the frequency varies from 0.1 request/sec to 1.0 request/sec.

We conduct a comparative experiment on the number of patch streams generated in each multicast stream interval period when the frequency of user requests received by the server is the same for the two algorithms. The experimental results are shown in Figure 3.

From the analysis of the experimental results in Figure 3, it can be concluded that when the server receives the same frequency of user requests, the difference between the periodic patch algorithm before and after optimization is very obvious, and the number of patches generated by the optimized algorithm is obviously much less. The performance consumption is relatively small. It can also be seen that as the server receives more requests from users, the number of patch streams generated by the two algorithms in each time interval is different. The number of patch streams generated by the periodic patch algorithm before optimization has been significantly increased, and the optimized algorithm remains basically unchanged.

When the two algorithms receive the same request frequency for a streaming media file from the server, we test the data transmission volume of the system during the multicast stream interval period. The experimental results are shown in Figure 4.

From the analysis of the experimental results in Figure 4, it can be concluded that when the server receives the same request frequency for a certain streaming media file, the optimized periodic patch algorithm is compared with the data transmission volume of the optimized algorithm in each multicast stream interval period. It can also be seen that as the frequency of requests for a streaming media file received by the server increases, the difference in the amount of data transmitted between the two algorithms is also very obvious. The amount of data transmitted per cycle of the cycle patch algorithm before

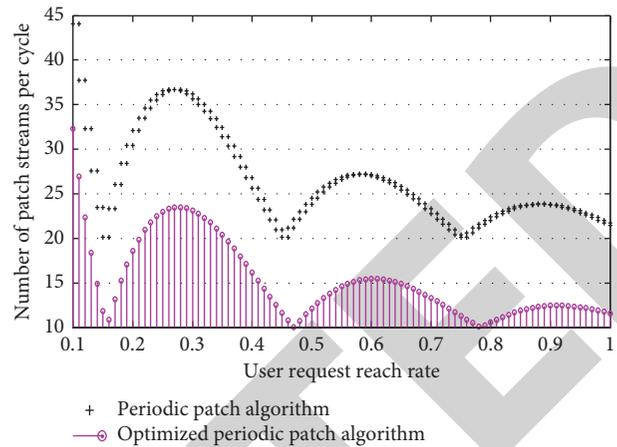


FIGURE 3: The impact of request arrival rate on the algorithm.

optimization is very significant, while the optimized algorithm remains basically unchanged.

When the two algorithms have the same available network bandwidth and the same frequency with which users send requests, we compare the average waiting time of users. Here you need to reset some parameters of the system. We set the time interval for multicast stream generation to 600 seconds, the frequency of users sending requests to the server is 1 request/sec, and the available network bandwidth varies from 100 streams to 500 streams. The experimental results are shown in Figure 5.

From the analysis of the experimental results in Figure 5, it can be concluded that when the available network bandwidth is small, the average waiting time of users in the optimized periodic patch algorithm is obviously less than that in the preoptimized algorithm. With the increase of bandwidth, the average waiting time of users shows a trend of dynamic change in the periodic patch algorithm before optimization.

It can be concluded that when a large-scale user access occurs to the streaming media server or the user access frequency is high during a certain period of time, the optimized periodic patch algorithm occupies the server performance significantly better than the algorithm before the optimization, and when the bandwidth is relatively tight, the optimized algorithm also performs well. The modern distance education system can guarantee that thousands of people or even tens of thousands of people are online at the same time, and the user's service can be guaranteed. The optimized periodic patching algorithm for multiuser access processing capabilities is very consistent with the requirements of modern distance education systems and is completely applicable.

4.4. Streaming Media Performance Test of Ideological and Political Education of College Students. System performance testing plays an important role in improving user perception. It mainly tests the corresponding duration of the system to ensure that the system outputs calculation results

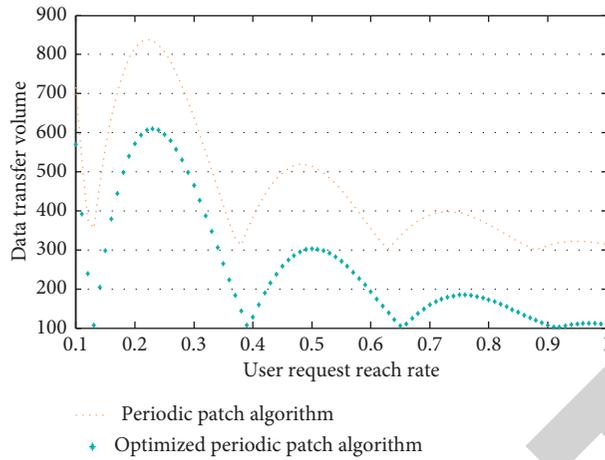


FIGURE 4: The impact of request arrival rate on data transmission volume.

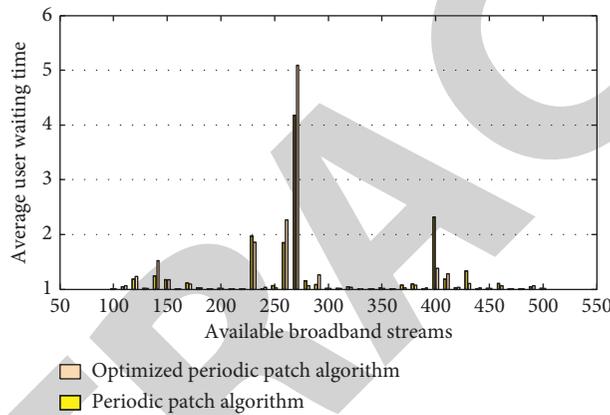


FIGURE 5: The impact of broadband on average user waiting time.

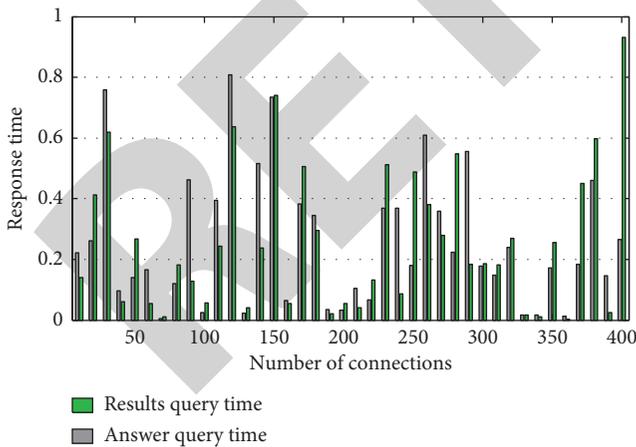


FIGURE 6: System performance test.

within a time acceptable to users. This article selects several key application scenarios for testing, including randomly selected test questions to generate test papers, score calculation time, query score time, test paper answer query, and question search time test. The efficiency test of the remote interactive teaching system is shown in Figure 6.

It can be seen from Figure 6 that when 400 students connect to the system for online ideological and political learning, the average response time of the test system is about 1 second, and the average response time of online question search is less than 1 second, which can meet the requirements of user applications.

5. Conclusion

The virtual nature of the streaming media environment, combined with the infiniteness of information capacity, interactivity, and freedom from time and space, constitutes an environment in which people’s survival, development, and communication have advantages and disadvantages, and opportunities and challenges coexist. In a complex streaming media environment, it is necessary to give full play to the autonomy, initiative, and creativity of the person as the main body, mobilize the initiative of the main body to adapt to the streaming media environment, actively build a healthy and up-to-date streaming media environment, and promote the benefits of the media. It is necessary to enhance the subjective initiative of the educated people in the streaming media environment, improve the ability of educators to identify and select information in the context of

streaming media under the guidance of the guiding ideology and basic principles of ideological and political education, and consciously resist the influence of adverse environmental factors. Educated people take the initiative to participate in the conscious awareness of the construction of the streaming media environment. The problem of data scheduling in P2P streaming media live broadcast system is studied, and the problem of optimal data scheduling is transformed into an equivalent minimum cost streaming problem that can be solved in binomial time. Solving the maximum flow of the virtual network solves the data scheduling problem in the P2P streaming media system and proves the correctness of the viewpoint through demonstration.

With the further development of computer networks, the continuous expansion of network bandwidth, and the increase of network speed, streaming media technology will certainly play a greater role in future network applications. The application of streaming media technology in online teaching has greatly enriched the content and presentation forms of teaching and brought powerful vitality to online education. With network and multimedia technology as the main means and open education as the main feature, distance education has increasingly shown its advantages. It has become a social need to produce more content-rich, interactive, and full-featured teaching courseware as network teaching resources. Streaming media technology is bound to play a broad role in various fields, bringing great convenience to study, life, and work. This will be conducive to the formation of a modern distance education network, the establishment of an open learning system, and the construction of a lifelong education system. Therefore, streaming media technology is bound to play an increasingly important role in the modern distance education teaching environment.

Data Availability

The data used to support the findings of this study are included within the article.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Acknowledgments

This study was supported by the Anhui Finance and Trade Vocational College "Innovation Reform and Development Action Plan" Professor Studio Project in 2019 (no. 2019 jbgzs12) and the Research Project of Major Educational Reform of Anhui Province in 2018 (no. 2018jyxm1442).

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