Research Article

The Process and Model Innovation of Ideological Education Network Communication in Colleges and Universities Based on Cloud Computing

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The purpose is to improve the power and innovate the communication mode of mainstream I&P (Ideological and Political) education in C&U (Colleges and Universities). The opportunities and challenges that I&P education is facing or will face in media times are analyzed from three factors: the subjective, the mediator, and the environment, which affect the power of mainstream I&P in C&U. Educational means, carriers, resources, places and times, and the interactions between educators and the educated can bring opportunities for the improvement of the educational power of C&U. However, there are great challenges in all aspects of the mainstream ideology, such as education methods, education ideas, education content, education leadership and discourse power, and network public opinion control. Finally, a series of measures are proposed to improve the power of mainstream I&P education in C&U in media times, and they are updating the concept of media education, strengthening the ideological guidance, ensuring the direction of mainstream I&P education, and optimizing the media environment so that a more perfect innovative mode of I&P education is constructed. The research enriches and develops the theory of mainstream I&P education in C&U, innovates the methods of mainstream I&P education in C&U, and enhances the power of mainstream I&P education.

1. Introduction

In media times [1], improving mainstream I&P (Ideological and Political) education power in C&U (Colleges and Universities) [2] has great significance. First, the research on mainstream I&P education power in C&U is a response to the relevant policy and deployment of the party and the state [3]. The research can help communicate China's mainstream ideology to teachers, students, and even the whole society. Second, the research on the power of mainstream I&P education in C&U is a real demand for strengthening mainstream I&P education and responding to the challenges of mainstream I&P education in media times [4]. Third, it helps college students and staff to strengthen the mainstream ideology [5]. Fourth, it improves mainstream I&P education power of university staff [6].

At present, the academic circles make some achievements in the research of new media and ideology [7]. In

terms of the above research, western scholars undertake earlier and make many theoretical achievements [8]. However, there are few concerning the ideas that college and university students hold in media times from the perspective of power education. Although the academic research involves the basic theoretical issues of idea construction in C&U in China [9], most of them are scattered in some papers and lack targeted research works. The main problems existing in the current research are: it is not thorough and comprehensive; most of the research suggestions are based on theory and do not combine with the actual needs of individuals and subjects; it is not from power effect, and specific measures are not proposed.

The purpose of ideological and political education network communication is very clear, in order to promote the overall development of college students. In a sense, on said, college students' ideological and political education is a

communication process. It is to solve the spiritual and practical problems of college students, so that college students establish a correct world outlook, positive outlook on life, scientific values, and noble moral outlook, and promote their all-round development. In this educational process, communication is everywhere.

The methods adopted are the literature research method, interdisciplinary method, and induction method [10–12], and the corresponding solutions are summarized by sorting out the literature, referring to the related disciplines, and analyzing and inducting the problems so that the network communication process and innovation mode of mainstream I&P education for the new media era are established.

2. Influencing Factors of Idea Education and Network Communication in C&U

2.1. Subjective Factors. There are several views on the educational subject, such as single-subject theory, double-subject theory, and intersubjectivity theory [13], and the third is selected here. The main factors affecting idea communication in C&U are divided into two aspects: educators and the educated.

The ancients say, “a teacher is a model of a person.” Teachers play an exemplary role in every aspect of life, including C&U. Teachers’ words and deeds have a wide range of invisible mainstream I&P education power for students, and they influence students’ thoughts, values, or political statement according to the teaching objectives, plans, and organizations, showing teachers’ leading roles [14]. In the media age, resource sharing and equal communication have become the norm of education. However, compared with teachers, students lack the ability to dialectically absorb knowledge in mixed information. In this case, the main role of teachers as educators begins to play. According to the existing theories, teachers can use their cognitive and analytical ability in information management to make information choices and guide students to establish a healthy and positive ideology in the new era.

The educated are important participants in idea communication in C&U [15], and the purpose of mainstream I&P education and communication is to cultivate college students to form correct ideological concepts. Under the new media age, college students are receiving mainstream I&P education all the time. Meanwhile, they also restrict the publicity of mainstream I&P education. Their ideology and morals determine the goal setting, content selection, and educational links of idea education. The development of new media will undoubtedly show the collision between various ideologies. In such a complex new media environment, whether college students can adhere to the mainstream ideology appropriately is very important, and their ideological state can directly reflect the strength of college ideology.

Through the study of the network education platform based on cloud computing, the activities of teachers and students in the network education platform are optimized, and the channels for obtaining network teaching resources

and network learning tools are broadened, so as to meet the needs of learners with various personalities.

2.2. Mediator Factors. Educational objectives, contents, methods, and carriers are important mediators that contribute to the interaction between educators and the educated [16], which is called educational mediators, and their importance is self-evident in mainstream I&P education and communication in C&U.

Having a specific educational goal is the premise of mainstream I&P education and communication because the goal shows the essence and direction, stipulates the content, and has a great influence on the methods and carriers. To deal with the more complicated problems in the new media times, the educational objective shows a trend toward mainstream I&P education for students, which includes the socialist ideological education, strengthening the scientific belief of Marxism, adhering to the leadership of the CPC (Communist Party of China), and reinforcing the political belief of socialism with Chinese characteristics. Also, other educational activities must focus on this goal, for it provides strong power for mainstream I&P education and communication. The key to mainstream I&P education and communication is whether this goal is achieved or not. Therefore, the educational goal is also an important reference to evaluate the results of mainstream I&P education and communication.

A comprehensive and systematic communication content of mainstream I&P education in C&U carries a good educational ability. A specific educational content, based on the objectives of I&P education, students’ actual needs, and physical and mental development, is a major component of ideological education and communication, an important factor to achieve the goal of mainstream I&P education and communication, and also a reference for teachers and students to implement the mainstream ideology. In media times, there exists mixed ideology, and only more comprehensive and systematic ideological education content can help teachers to spread mainstream consciousness to students accurately and effectively, accordingly enhancing the attraction and affinity of mainstream consciousness.

Finally, the important conditions for the improvement of I&P education ability are methods and carriers. Methods are indispensable in mainstream I&P education and communication. The common educational methods that higher education employs are the practice method, the edification method, and the indoctrination method. In media times, the mainstream I&P education and communication in C&U must be innovative and developmental, and only in this way can the education and communication ability of the higher education improve. Besides, the realization of educational objectives, the construction of teaching content, and the application of the method are dependent on carriers, which includes classroom, activity, conference, and new media. The carrier can make other educational mediators play their roles.

2.3. Environmental Factors. The educational environment of ideology is a major factor affecting its communication [17],

which is known as the environmental factors. The most important factor is the social environment, which is the macroenvironment for the formation of mainstream I&P education power, covering politics, culture, and social economy. The socialist economic system lays an economic foundation for the formation of ideology. A good economic environment is conducive for college students to better identifying with the mainstream ideology. Therefore, the development of the economic environment is essential for exchanging ideas. The political environment includes the current political system and the actual state of political development, which has a restrictive effect on mainstream I&P education. The continuous improvement of the education system, which possesses Chinese characteristics, is beneficial to the development of China's socialist ideology. In media times, only by strengthening the construction of socialist democracy and legal system, can its greatest superiority give full play and provide a good political environment for the education and communication of ideology. The cultural environment also plays an important role in the spread of mainstream I&P education. Without a good cultural atmosphere, people are easily lost in the complicated ideological flow in the new times.

The environment in C&U is the microenvironment. C&U are the main places for mainstream I&P education and communication [18]. The environment directly affects the formation of students' mainstream consciousness, and it includes the material environment, cultural environment, school system, and interpersonal communication. A harmonious campus environment can help students form a good sense of campus culture. Good infrastructure helps students learn effectively, campus culture leaves a deep impression for every student, and a harmonious interpersonal environment can form a good campus atmosphere. A warm and harmonious campus environment certainly contributes to the communication of mainstream I&P education in C&U in the new media times.

The virtual environment cannot be neglected. The new media era comes, and it changes people's lives [19] and the living space of students. The education and communication of ideology are deeply affected by it, forming a new environment for the education and communication of mainstream ideology. Its free and open characteristics greatly enhance the dominant position of students, meet the development requirements for students' free personality, and affect every aspect of their life and learning. Therefore, the new media has become an important environmental factor in the spread of mainstream I&P education.

The influencing factors of mainstream I&P education and network communication in C&U are shown in Figure 1.

2.4. Social Environmental Factors. The operation of cultural environment of ideological and political education outside the system is carried out under the contradiction between it and social environment and ideological and political education, thus entering two basic fields. First, it enters into the social environment system and exchanges information and energy with the economic and political environment.

FIGURE 1: Influencing factors of mainstream I&P education and network communication in C&U.

Second, it enters into the ideological and political education activities and forms a two-way construction with ideological and political education. Of course, the premise of ideological and political education is based on people in social reality, and “realistic people” become the logical starting point of ideological and political education.

3. Opportunities and Challenges of Mainstream I&P Education and Network Communication in C&U

3.1. Opportunities of I&P Education in C&U in Media Times. First, the new media enriches the means of education and expands the carrier of education. In the traditional education environment, mainstream I&P education in C&U mainly relies on teachers' unilateral knowledge transfer [20]. There is not much time for communication and interaction between educators and the educated, which leads to the education of mainstream ideology becoming a boring form of preaching. The after-class communication between educators and students is even little, and the problems encountered in students' life and learning are difficult to be understood by teachers. In the process of teaching, the carrier of education is single, and the enthusiasm of students is low. In media times, teachers can contact students anytime and anywhere, and the educational means change from offline mode to online and offline mode, strengthening the exchange between teachers and students. The application of multimedia, social tools, platforms, and various mobile terminals enriches the path of ideological education communication and enhances the effect of education communication.

Second, the educational resources should be rich and the educational content should be three-dimensional. In traditional I&P education and communication, the content is often prescribed in advance, most of which come from the national strategies [21]. Therefore, mainstream I&P

education is very conventional in the traditional education classroom. With the help of the carrier in the new times, I&P education classroom is not only lively, interesting, and humorous but also full of affinity and appeal. The network content is omnipresent, which greatly enriches the educational resources. Meantime, the resources are collected by online and offline parallel access so that teachers and students can have real-time, three-dimensional, and vivid ideological education and communication, having an all-round impact on students' behavior, habits, and ideas and making them feel the spread of mainstream ideology.

Third, it breaks space-time restrictions and strengthens the exchange between teachers and students. In the traditional way of education, I&P education is mostly limited to a fixed time and place [22], while the arrival of the new media times breaks this situation. First, under the advantage of network timeliness, mainstream I&P education can spread and interact in real time, to improve the timeliness of mainstream I&P education and expand the exchanging channels and influence of mainstream ideology. Besides, it also expands the space for education. Under the power of media, the exchange between educators and the educated is enhanced, and I&P education and communication are more affinities.

The opportunities of mainstream I&P education in C&U in modern times are shown in Figure 2.

3.2. Challenges of the Communication of Mainstream I&P Education in C&U in Media Times. Everything has two sides, and opportunities come along with challenges. The old will be replaced by the new. If the traditional concept of education and teaching is not changed, it will take more risks. In media times, the unified education mode in C&U must comply with the development of the times; otherwise, the teaching effect is deeply affected. With the opening of information resources, the relationship between teachers and students is no longer a simple teacher-student, and it tends to equal communication. In this case, C&U should update their traditional education ideas. The new media environment helps to access a huge amount of information that cannot reach in traditional education, like the influx of western thoughts, which has a significant impact on the political beliefs of some college students. Besides, the virtual characteristics of the network environment weaken their sense of national identity and belonging, and consumerism brings impulsion and challenge to their correct values. What's more, the discourse power and leadership of the mainstream ideological education communication are also deeply challenged in modern times [23]. Based on all kinds of challenges, the difficulty of college network public opinion management and emergency response is increasing. Due to the influence of modern times, public opinions break the limitation of time and space. Anonymous participation makes it difficult for ideological educators to analyze public opinions. Also, it poses new challenges to the emergency handling of public opinions. Despite the difficulties, college

FIGURE 2: Opportunities of mainstream I&P education and communication in C&U in media times.

and university management should be brave enough to actively meet the challenges, create a new mainstream I&P education and communication mode, figure out new countermeasures to keep pace with the times, and pave a way for the educational communication of mainstream ideology.

The opportunities and challenges of mainstream I&P education and network communication in C&U are shown in Figure 3.

3.3. Network Communication Subjects Initiate and Implement Communication. Finding the right time to initiate and implement network communication is the premise of good communication results. The network dissemination of ideological and political education for college students is a good opportunity for freshmen to enter the university. Many problems college students encounter in life, such as the development of intelligence, emotional vulnerability, and emotional instability, make them easy to accept communication from the main body of network communication.

The construction of network communication atmosphere should be combined with the specific goals of communication and the actual situation of college students. The main body of network communication should strive to create a democratic, equal, free, and lively communication atmosphere so that college students can actively realize the internalization and externalization of communication content in a good atmosphere.

Network communication is a two-way interactive process, due to the constant change of subjective and objective conditions, inevitably producing some deviations. Therefore, it is quite normal to adjust the progress, content, and methods of communication or even completely change the original communication process according to the actual effect of network communication. The subject of network communication flexibly adjusts the communication process on the premise of adhering to the overall goal so that it can maximize the realization of the communication goal and better adapt to the requirements of the network communication environment.

FIGURE 3: Opportunities and challenges of mainstream I&P education network communication in C&U.

4. Innovation of Network Communication Mode of Mainstream I&P Education

4.1. Cultivating Innovative Education Concept. Innovative ideas can maintain the advanced nature of education. The first step of innovating ideas is to build up the concept of joint education, which links the whole society through the new media of the Internet. I&P education and communication of college students are closely concerned with the whole society. Therefore, the educational concept of family, school, and society should be established, and their joint force of the three in education should be made full use. The joint role of traditional and new media communication as well as the joint efforts of traditional education methods and new media technology is also needed in mainstream I&P education and communication. Only by combining the old with the new, and the individual with the society, can higher education maximize the strength of all parties, promoting the communication of mainstream ideological education. The second step is to establish the educational concept of integrating education with entertainment. This concept aims to make use of new media technology, carrier, method, and environment to naturally store I&P education in digital images, entertainment games, and characters to increase the creativity, appeal, and influence of mainstream I&P education, carrying forward the spirit of the times and spreading the mainstream ideology. The third step is to establish the education concept, with students as the main body. As one of the main groups in the media environment, students enjoy full liberation and freedom. In the process of mainstream I&P education and communication, educators should

respect students' subjectivity, change their roles, give enough guidance, provide help for students, and stimulate their study enthusiasm. C&U need to be in line with the law of students' growth, the law of mainstream I&P education, and the law of new media development and communication, and design appropriate teaching objectives and teaching plans.

The strategies of network communication mode of mainstream I&P education in C&U are shown in Figure 4.

I&P education direction under the new media is ensured by strengthening the ideological guidance, consolidating the ideological foundation and improving the mainstream I&P education power of C&U [24]. One of the ways to strengthen ideological guidance is to adhere to the guidance of Marxism and improve the ability of I&P education in C&U in media times. Marxism is the most basic theoretical guidance, and also the first theoretical thought of China's mainstream ideology [25], which diversifies the theoretical knowledge of college students' mainstream ideology and enables them to establish correct values and political beliefs, enrich the minds of college students, and ultimately make them unswervingly take the socialist road. The second is to adhere to the leadership of ideological work in C&U in modern times. The leadership of ideological work in the network field cannot be underestimated. Strengthening the leadership of ideological work can guide the I&P education in C&U, ensure its development direction, find out problems in time and solve them effectively, and deal with problems that violate the mainstream ideology. The third is to ensure the discourse power of the mainstream ideology in media times, which requires promoting the network of discourse mode and content, and actively occupying the network position of

FIGURE 4: Strategies of network communication mode of mainstream I&P education in C&U.

the mainstream ideology in C&U, so that the mainstream ideology can be integrated into students' daily life and study.

4.2. Optimizing the New Media Environment. The new media era brings a new living space for human beings, namely virtual space [26], which has a tremendous impact on the global human society. During the process of innovating the mode of I&P education network communication in the new media era, much concern is given to virtual space. The first thing is to enhance the guidance of public thoughts in the media times. New media reflect the struggle of various ideological forces, follow the pace of the times, seize the high ground of network public opinion, strengthen the guidance of public opinion, and ensure the correct direction of network public opinion. Second, it is necessary to strengthen the supervision and regulation of the public thoughts of new media in C&U. Improving the supervision and management system of new media lays a foundation for strengthening management, and it helps to improve the organization and leadership system of new media. Also, the technical means

FIGURE 5: Innovation of the network communication mode of mainstream I&P education in C&U.

should be strengthened and a professional network monitoring system should be established. Finally, the emergency response mechanism of new media public opinion should be constructed in C&U because emergencies are inevitable. C&U should accurately analyze public opinions, master the golden rule of 24-hour handling emergencies, establish a rapid response mechanism, improve the relevant work programs and responsibilities of relevant departments, and ensure that they can respond quickly in the first time when emergencies occur, solving the problem properly and guiding the public opinion correctly.

The innovation of the network communication mode of I&P education in C&U is shown in Figure 5.

A series of measures are taken to improve the power of mainstream information processing education in the media era, update the concept of media education, strengthen ideological guidance, ensure the direction of mainstream information processing education, optimize the media environment, and build a more perfect innovation mode of information processing education.

5. Conclusions

According to the background of mainstream I&P education and network communication in media times, its influencing factors are analyzed in detail, and they include the main factor, mediator factor, and environmental factor. Taking the factors as the starting point, the opportunities and challenges experienced by mainstream I&P education and network communication are discussed. Challenges and opportunities often coexist. Therefore, challenges cannot be separated from opportunities and vice versa. Finally, in terms of the existing problems, the innovation mode is proposed, and it covers innovating educational ideas, strengthening thought guidance and other innovative ideas, and optimizing the environment of the media. The content can provide a theoretical basis and guidance for network communication and the mode of mainstream I&P education in C&U in the new times of media, helping C&U build a more perfect mainstream I&P education system, cultivate excellent talents, form a healthy mainstream consciousness, and finally contribute to the development of China under the socialist system.

Data Availability

No data were used to support this study.

Conflicts of Interest

The author declare that there are no conflicts of interest.

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References

- [1] K. Li and C. Sparks, "Chinese newspapers and investigative reporting in the new media age," *Journalism Studies*, vol. 19, no. 3, pp. 415–431, 2018.
- [2] J. Xiao, "Digital transformation in higher education: critiquing the five-year development plans (2016–2020) of 75 Chinese universities," *Distance Education*, vol. 40, no. 4, pp. 515–533, 2019.
- [3] P. M. Dahlgren, "Selective exposure to public service news over thirty years: the role of ideological leaning, party support, and political interest," *The International Journal of Press/Politics*, vol. 24, no. 3, pp. 293–314, 2019.
- [4] D. B. Saunders and G. Blanco Ramírez, "Against 'teaching excellence': ideology, commodification, and enabling the neoliberalization of postsecondary education," *Teaching in Higher Education*, vol. 22, no. 4, pp. 396–407, 2017.
- [5] A. T. Musgrove, J. R. Powers, L. C. Rebar, and G. J. Musgrove, "Real or fake? resources for teaching college students how to identify fake news," *College & Undergraduate Libraries*, vol. 25, no. 3, pp. 243–260, 2018.
- [6] W. Leal Filho, S. Raath, B. Lazzarini et al., "The role of transformation in learning and education for sustainability," *Journal of Cleaner Production*, vol. 199, pp. 286–295, 2018.
- [7] A. Orben and P. Epidemiology, "Teenagers, screens and social media: a narrative review of reviews and key studies," *Social Psychiatry and Psychiatric Epidemiology*, vol. 55, no. 4, pp. 407–414, 2020.
- [8] S. A. Eldridge, K. Hess, E. C. Tandoc, and O. Westlund, "Navigating the scholarly terrain: introducing the digital journalism studies compass," *Digital Journalism*, vol. 7, no. 3, pp. 386–403, 2019.
- [9] M. George and M. Loosemore, "Site operatives' attitudes towards traditional masculinity ideology in the Australian construction industry," *Construction Management and Economics*, vol. 37, no. 8, pp. 419–432, 2019.
- [10] M. Djavari, "Ecocriticism of literature with comparative approach," *Comparative Literature Research*, vol. 6, no. 2, pp. 128–143, 2018.
- [11] C. Lo Nigro, N. Denaro, A. Merlotti, and M. Merlano, "Head and neck cancer: improving outcomes with a multidisciplinary approach," *Cancer Management and Research*, vol. 9, pp. 363–371, 2017.
- [12] D. L. Joseph, M. Y. Chan, S. J. Heintzelman, L. Tay, E. Diener, and V. S. Scotney, "The manipulation of affect: a meta-analysis of affect induction procedures," *Psychological Bulletin*, vol. 146, no. 4, pp. 355–375, 2020.
- [13] A. Casey and M. Quennerstedt, "Cooperative learning in physical education encountering Dewey's educational theory," *European Physical Education Review*, vol. 26, no. 4, pp. 1023–1037, 2020.
- [14] S. R. McKay, L. Millay, E. Allison et al., "Investing in teachers leadership capacity: a model from stem education," *Maine Policy Review*, vol. 27, no. 1, pp. 54–63, 2018.
- [15] L. Zisblatt, S. M. Hayes, P. Lazure, I. Hardesty, J. L. White, and D. P. Alford, "Safe and competent opioid prescribing education: increasing dissemination with a train-the-trainer program," *Substance Abuse*, vol. 38, no. 2, pp. 168–176, 2017.
- [16] X.-F. Lin, D. Tang, X. Lin, Z.-M. Liang, and C.-C. Tsai, "An exploration of primary school students' perceived learning practices and associated self-efficacies regarding mobile-assisted seamless science learning," *International Journal of Science Education*, vol. 41, no. 18, pp. 2675–2695, 2019.
- [17] D. J. Mallinson, "Who are your neighbors? the role of ideology and decline of geographic proximity in the diffusion of policy innovations," *Policy Studies Journal*, vol. 49, no. 1, pp. 67–88, 2021.
- [18] J. Traxler, "Distance learning-predictions and possibilities," *Education Sciences*, vol. 8, no. 1, p. 35, 2018.
- [19] M. Kafri, P. L. Weiss, G. Zeilig, M. Bondi, I. Baum-Cohen, and R. Kizony, "Performance in complex life situations: effects of age, cognition, and walking speed in virtual versus real life environments," *Journal of NeuroEngineering and Rehabilitation*, vol. 18, no. 1, pp. 30–39, 2021.
- [20] F. Leccese, G. Salvadori, M. Rocca, C. Buratti, and E. Belloni, "A method to assess lighting quality in educational rooms using analytic hierarchy process," *Building and Environment*, vol. 168, Article ID 106501, 2020.
- [21] M. Wihlborg and S. Robson, "Internationalisation of higher education: drivers, rationales, priorities, values and impacts," *European Journal of Higher Education*, vol. 8, no. 1, pp. 8–18, 2018.
- [22] A. Pais and M. Costa, "An ideology critique of global citizenship education," *Critical Studies in Education*, vol. 61, no. 1, pp. 1–16, 2020.
- [23] E. B. Rogers and J. Rose, "A critical exploration of women's gendered experiences in outdoor leadership," *Journal of Experiential Education*, vol. 42, no. 1, pp. 37–50, 2019.
- [24] F. Li, "Research method innovation of college students' ideological and political education based on cognitive neuroscience," *NeuroQuantology*, vol. 16, no. 5, pp. 10–19, 2018.
- [25] C. Vladoš and S. Thought, "Notes on the main analytical insufficiencies of the Marxist theoretical tradition for the comprehension of the contemporary global economy," *Journal of Economic and Social Thought*, vol. 6, no. 3, pp. 132–155, 2019.
- [26] K. Xu, W. Pedrycz, Z. Li, and W. Nie, "Constructing a virtual space for enhancing the classification performance of fuzzy clustering," *IEEE Transactions on Fuzzy Systems*, vol. 27, no. 9, pp. 1779–1792, 2018.