On the Countermeasures of Ideological and Political Education for College Students Based on the Internet of Things

Mingzhong Zhang, Xiaoqing Zhu*, Lijie Zhang

Xi'an University of Science and Technology, Xi'an, Shaanxi, 710000, China
zxq89152109@163.com
*Corresponding author

Abstract: With the growth of social economy, a series of new problems have emerged in the field of education under the tide of the information age. Students, as one of the most important resources and main parts in the future construction of the country, have attracted much attention. In particular, in recent years, the ideological and political (IP) work in colleges and universities(CAU) is faced with many challenges and opportunities. It is more necessary for IP workers to change their teaching concepts, innovate their thinking methods and enhance their own abilities to cope with the current complex and changing situation. From the perspective of Internet of Things(IOT) technology, this paper explores the relationship between IOT and school mental health problems and the solutions, hoping to provide theoretical support for the majority of educators, and help CAU better understand and apply Internet information technology(IT) to the effective implementation of ideological and political education(IPE). Through the way of actual investigation, this paper finds out that there are three main ways to deal with IPE in CAU. One is to integrate the socialist core value system into the IPE in CAU.

1. Introduction

With the growth of social economy, China's education is also constantly improving, and the state and government pay more and more attention to the level of students' IP quality. However, as CAU are important places for training talents, they are also a relatively closed, unfamiliar and sensitive topic in the stage of college students' receiving higher education [1-2] . Therefore, how to strengthen the construction of college students' talent team has become one of the major issues facing the current era[3-4].

Many scholars have conducted relevant research on the IPE of college students. In China, scholars' research on IPE in CAU mainly focuses on the following aspects: First, in-depth analysis and discussion on the current mental health problems of college students in China. The second is to propose corresponding solutions to the characteristics and impacts of some negative emotions and factors existing in the current student group [5-6]. The third is to combine the IOT technology to build a research that is suitable for the construction of a socialist harmonious society and meets the

needs of social growth at this stage, has strong feasibility and high operability, and can be effectively carried out in the process of IPE in CAU. Therefore, based on the IOT, this paper studies the coping path of contemporary college students' IPE.

With the rapid growth of economy, social transformation and innovation have become the theme of the times, which requires scientific and effective guidance for college students' IPE. Under the new media environment, the reform of China's higher education is deepening. In the face of the current difficult employment of college students, poor style of study has become increasingly prominent. Based on the IOT technology, this paper analyzes how IP guidance personnel in CAU can better cope with this challenge through the IOT, and make corresponding countermeasures to solve the current dilemma, so as to achieve their own growth and social progress, which has practical significance and theoretical value for promoting the effective growth of students' IPE.

2. Discussion on the Coping Path of IPE for College Students Based on the IOT

2.1 IPE for College Students

The IPE of college students refers to that, with a certain school life as the carrier, the school guides them to establish a correct, positive and healthy outlook on life, values and cultivate excellent character through the planned and systematic implementation of college students' psychology, behavior and values. Through carrying out various forms, channels and ways to guide and cultivate college students purposefully and systematically, so that they can form behavior habits that meet the needs of social growth and have noble moral sentiments [7-8]. The establishment of a good, harmonious and orderly school life environment that is full of vitality and can reflect the socialist core values and the characteristics of the spiritual civilization of the times. College students are successors to the socialist cause, and they are future growth builders of the motherland. They have a high level of cultural quality and moral cultivation in their study and life. Therefore, in the new era, strengthening the cultivation of contemporary college students' personality, values and other contents has become the most urgent and important link in the current school moral education work. The IOT technology provides a new model for the IPE of college students. "People oriented" is the requirement of the talent growth concept in modern society, and it is also one of the directions of talent growth. As an excellent teacher, we should fully respect the individual differences and personality growth characteristics of each student. We should strengthen the research on the content of IPE of college students, so that it has a certain theoretical foundation knowledge accumulation, and conduct in-depth analysis and discussion in combination with the current social hot spots and focus issues [9-10].

2.2 The Role of IPE for College Students

In the IPE of college students, the school is the main body, and it plays a key role in the growth and growth of college students. With the continuous progress and popularization of social economy and network technology and the advent of the Internet era, the social competitive pressure is increasing [11-12]. In the face of such a fierce market environment, all kinds of unhealthy trends of thought, such as money worship and hedonism, spread negative values, and eroded some people, even the whole country, especially young students, to form wrong values, affecting their correct outlook on life and world outlook, resulting in serious consequences. The IPE in CAU is facing difficulties and challenges. At present, the growth of higher education in China is in a transitional period. With the change of social and economic situation and the transformation of talent training mode, many new problems have emerged. In this case, we need to strengthen the correct guidance and management of college students. The ideological educators of college students should actively

exert their subjective initiative and creativity to carry out relevant activities, so that they can actively participate in the cause of socialist construction. The IPE of college students is a process in which the school, through certain methods and means, purposefully and systematically affects the psychological growth, cognitive level and emotional state of the students. It plays a leading role in the whole teaching.

With the great change of social, economic and cultural environment, the values of college students have also changed. At the same time, due to the continuous progress and popularization of Internet technology, the network has become one of the most important ways for people to obtain knowledge and information, and the IPE of college students is an important link that has a direct impact and guidance on the national future talent training plan, campus life and learning methods and behavior habits. In the information age, network technology and IT have rapidly spread to all areas of life. College students, as one of the important forces of the future builders, successors and talents of the country, are more likely to be affected by it and have a negative impact or even lead to psychological problems. On the other hand, due to the openness and interactivity of the Internet, students have less access to society and do not have the ability to actively accept the knowledge of IPE, which will have a negative impact on their values and world outlook.

2.3 Auxiliary Technology of IOT for Ideological Rducation

The IOT is an application system based on the Internet. By applying modern IT such as sensors, radio frequency identification technology and information processing to intelligent terminal equipment, it collects, transmits and processes all kinds of information, realizes intelligent identification and positioning of objects through network technology, and realizes the connection with the human brain in the same or earlier different environments. On this basis, we can develop a set of complete, perfect, practical, efficient and convenient service platform with multiple functions such as perception function, communication interface, etc. The campus network is mainly composed of the school management department and various units, including the student apartment department, the electronic reading room on campus, the student dormitory building and the dormitory area. The so-called IOT is to connect all objects to form a huge network chain structure system, which can automatically identify various products, It also has real-time tracking and processing functions and can analyze user needs through cloud computing platform and other information collection methods, so as to provide more high-quality personalized services and resource support for the society. The IP educators of college students can make full use of advanced means to monitor college students in real time. For example, when setting up a fraud prevention system on the campus network, you can use the wireless network or wired network to publicize, use the campus broadcasting system, the dormitory bulletin board and the campus website to send information notifications to teachers and students through microblog and WeChat, and use the IOT technology to effectively solve the problems in school management. The principle is as follows: set the initial energy as, the residual energy of each node as, and the calculation formula of local average residual energy of nodes as:

$$R_r = \overline{R_r} + \sum_{k=2} R^k / (n+1) \tag{1}$$

The average residual energy of the whole network is:

$$R_{\text{ave}} = \sum_{k=2}^{i} \overline{R^k} / i \tag{2}$$

At the same time, the protocol sets the minimum energy alert value k. When the energy of a node

on the routing path is lower than the value of k, the path will be interrupted. The source node will restart the new route discovery process; If a node in the routing path fails, it will automatically judge how to maintain it based on the hop values from the previous node of the failed node to the source node and destination node.

3. The experimental process of Coping Path of IPE for College Students Based on the IOT

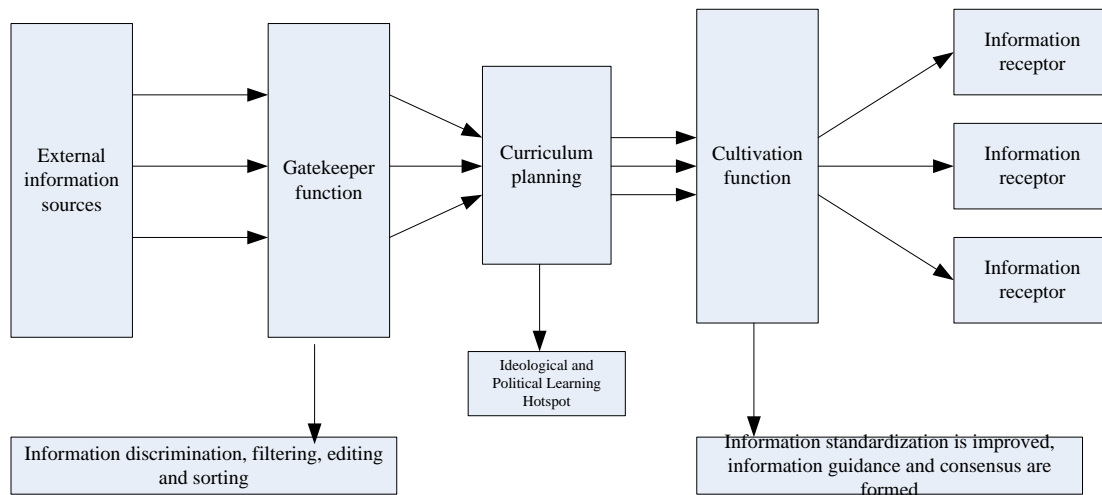### 3.1 Basic Framework of IPE for College Students Based on the IOT

Figure 1: Basic framework of IPE for college students based on the IOT

The application of IOT technology in the IPE of college students has greatly changed the traditional teaching mode, provided important means and methods to promote China's socialist modernization, made the IPE work of college students more efficient and convenient, and also provided teachers and students with a platform for IPE under the new situation. With the help of cloud computing, big data and other advanced IT, information is collected and integrated; Then, through mobile terminals, various notices, policy documents and relevant teaching materials issued by the school are uploaded to the campus network for teachers and students to learn and use, and other ways to achieve the application of IOT technology in college students' IPE, making it a sustainable growth platform. The healthy growth community of college students' ideology and politics under the background of the IOT is a systematic project (as shown in Figure 1). First of all, it needs to be clear that we need to start with big data technology to mine massive information resources. Second, we need to screen and integrate the relevant content published on the network. Third, we need to analyze the problems and difficulties encountered in students' lives from a macro perspective and propose corresponding countermeasures. Therefore, we need to integrate the basic content into the syllabus. For example, how to learn about the core socialist values, the Chinese Dream and other topics, how to achieve the goal of the great rejuvenation of the Chinese nation's traditional culture, Chinese characteristics, etc., can be included and a complete and systematic curriculum system can be formed to guide students to establish a correct value concept, introduce IOT technology in IPE, and organically combine it with classroom teaching.

3.2 Investigation on the Ways of IPE for College Students Based on the IOT

3.2.1 Investigation Purpose

The purpose of this investigation is to understand the basic situation of students' IPE, grasp the

problems and contradictions in the IP work of CAU under the background of the IOT, put forward corresponding countermeasures, and analyze and sort out the existing teaching facilities of the school. According to the survey results, the current school's educational reform projects are lacking in the process of growth, the style of study is uneven, and some teachers are young and have low quality. Therefore, we should fundamentally solve the current problems and propose corresponding countermeasures.

3.2.2 Investigation content

Based on the IOT technology, this paper analyzes and studies the current situation of college students' IPE by means of questionnaires and interviews. First of all, according to the survey results, it summarizes the factors that affect the growth of college students' IP work, which are respectively the social environment, the internal environment of the school, and the family environment. On this basis, it summarizes the response path. Then through communication with students, it is found that most teachers and parents believe that IPE can, to a certain extent, strengthen the school management system and improve the construction of campus infrastructure.

4. Experimental Analysis on the Coping Path of IPE for College Students Based on the IOT

4.1 Investigation and Analysis of the Ways of IPE for College Students Based on the IOT

Table 1 shows the survey results.

Table 1: Approays of IPE for College Students

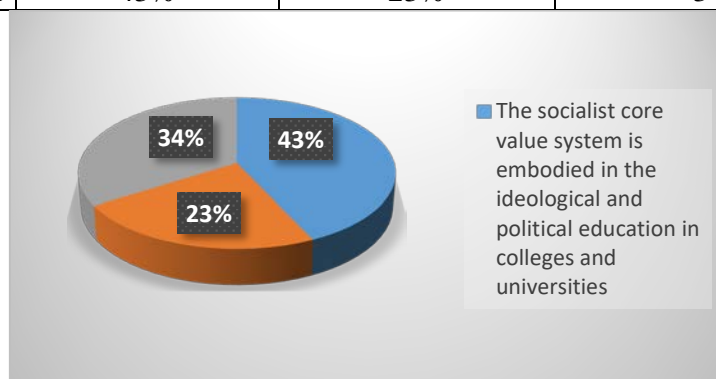| Political education	The socialist core value system is embodied in the IPE in CAU	Combine the reality, highlight the focus of education content	Close to college teachers and students, effective use of education carrier
Proportion	43%	23%	34%

Figure 2: Investigation on the Way of IPE in CAU

First of all, in the classroom, on the one hand, it is publicized through the network platform, and on the other hand, it uses campus radio stations or class groups to carry out targeted activities. Secondly, according to the actual needs of the school itself, relevant measures and rules and regulations are formulated to standardize the work process, methods and contents of students' IPE. It can be seen from Figure 2 that there are three main ways to deal with IPE in CAU: first, to integrate the socialist core value system into IPE in CAU; second, to combine reality and highlight the focus of education content; third, to be close to teachers and students in CAU and effectively use education carriers.

5. Conclusion

With the continuous growth of education informatization, the IP situation of students has been highly concerned by people from all walks of life and university administrators. It is one of the most important and urgent problems to analyze, research and guide current college students based on IOT technology and modern IP theoretical knowledge and methods. This paper discusses the difficulties it encounters in life from the perspective of the IOT and proposes solutions to deal with new situations that may or will occur in the future. Finally, it illustrates how to effectively implement measures and how to achieve better growth of students' IPE through examples.

References

[1] Muhammad Tahir Abbas, Karl-Johan Grinnemo, Johan Eklund, Stefan Alfredsson, Mohammad Rajiullah, Anna Brunström, Giuseppe Caso, Konstantinos Kousias, Özgü Alay:Energy-Saving Solutions for Cellular Internet of Things-A Survey. IEEE Access 10: 62073-62096 (2022).

[2] Maman Abdurohman, Aji Gautama Putrada, Mustafa Mat Deris: A Robust Internet of Things-Based Aquarium Control System Using Decision Tree Regression Algorithm. IEEE Access 10: 56937-56951 (2022).

[3] Pramod Abichandani, Vidhusheidhaa Sivakumar, Deepan Lobo, Craig Iaboni, Prateek Shekhar: Internet-of-Things Curriculum, Pedagogy, and Assessment for STEM Education: A Review of Literature. IEEE Access 10: 38351-38369 (2022).

[4] Veeramuthu Venkatesh, Pethuru Raj, R. Anushiadevi: Chapter Ten - A smart framework through the Internet of Things and machine learning for precision agriculture. Adv. Comput. 127: 279-306 (2022).

[5] Michael Opoku Agyeman, Andres Felipe Guerrero, Quoc-Tuan Vien: Classification Techniques for Arrhythmia Patterns Using Convolutional Neural Networks and Internet of Things (IoT) Devices. IEEE Access 10: 87387-87403 (2022).

[6] Montdher Alabadi, Adib Habbal, Xian Wei: Industrial Internet of Things: Requirements, Architecture, Challenges, and Future Research Directions. IEEE Access 10: 66374-66400 (2022).

[7] Ihsan Ali, Ismail Ahmedy, Abdullah Gani, Muhammad Umair Munir, Mohammad Hossein Anisi: Data Collection in Studies on Internet of Things (IoT), Wireless Sensor Networks (WSNs), and Sensor Cloud (SC): Similarities and Differences. IEEE Access 10: 33909-33931 (2022).

[8] Salem Aljanah, Ning Zhang, Siok Wah Tay: A Multifactor Multilevel and Interaction Based (M2I) Authentication Framework for Internet of Things (IoT) Applications. IEEE Access 10: 47965-47996 (2022).

[9] Abdullah M. Almasoud, Ahmad Alsharoa, Daji Qiao, Ahmed E. Kamal: An Energy-Efficient Internet of Things Relaying System for Delay-Constrained Applications. IEEE Access 10: 82259-82271 (2022).

[10] Mays Alshaikhli, Tarek Elfouly, Omar Elharrouss, Amr Mohamed, Najmath Ottakath: Evolution of Internet of Things From Blockchain to IOTA: A Survey. IEEE Access 10: 844-866 (2022).

[11] Robin Singh Bhadoria, Hatim Ghazi Zaini, Md Manzar Nezami, Md. Danish Equbal, Elfatih Elmubarak Mustafa, Sherif S. M. Ghoneim:Cone Model in Resource Provisioning for Service-Oriented Architecture System: An Effective Network Management to the Internet of Things. IEEE Access 10: 61385-61397 (2022).

[12] Gioele Bigini, Emanuele Lattanzi: Toward the InterPlanetary Health Layer for the Internet of Medical Things with Distributed Ledgers and Storages. IEEE Access 10: 82883-82895 (2022).