Research on evaluation system of ideological and political education of college students based on decision system

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Abstract
Nowadays, the ideological and political (IAP) training of the college and university students is of a great interest for everyone due to the rapid change in the political issues and the race of super power. By analyzing the present states and research on the system of evaluating the IAP training of college students, it is obvious that the current evaluation systems are not satisfactory and have different deficiencies such as openness, transparency, and lack of supervision. The existing systems are pretty straightforward, and the assessment process is not open enough. The evaluation systems are not solid, and there are still many challenges for the evaluation system of IAP training of college students. Students can only accomplish a comparably fair and scientific assessment result by building an efficient and innovative decision-making system with the help of analyzing the evaluation system of the IAP education of the students. This allows the students to get to know each other more closely and better promote their overall growth. In this research work, we examined the present assessment systems of IAP education and presented a paper in order to emphasize its shortcomings and flaws such as openness, transparency, the lack of a distinct evaluation system, and supervision. Further, we examined the values of big data analytics in assessing college students’ IAP education and present a new evaluation method based on big data analytics. The new approach assures the results transparency and openness, and hence, the evaluation system is assessed more accurately. Based on the experimental and evaluation results, it is recommended that the college teachers should understand the value of big data, and a separate platform needs to be developed through which different institutions may exchange data about the assessment system.

Keywords Decision-making system · System for evaluating the IAP training of secondary school pupils · Innovative research

1 Introduction
College and university students are considered as the most important asset of a nation, as they play an essential part in the growth and advancement of the nation and represent the country’s hope for the future. Therefore, they need to be competent successors not just in terms of scientific literacy, but also in terms of an IAP perspectives (Lu 2017). At this time, it is critical to deepen college students’ intellectual and political education in order to cultivate qualified builders and heirs of the socialist cause. As a result, in light of the changing situation and mission in terms of college students’ IAP education, it is critical to investigate innovative and appropriate methods for increasing the real impact of IAP education.

The information age has a significant impact on people’s lives, providing them with a choice of means to access information as well as a large range of interactive communication channels (McMurry et al. 2017). The lifestyle of college and university students is greatly influenced by the various elements of data communication such as sharing, integration, virtual reality (VR), and openness. In the information era, this not only creates opportunities for political, psychological, and ideological education in universities and colleges but also causes different problems (Williamson 2018). In order to sustain vibrancy and
innovation, colleges and universities should have a thorough awareness of the problems faced by the political, psychological, and ideological education. It is necessary for universities and colleges to adapt to the information environment variability and to use the IT in a flexible manner. In the modern era, this is the only way for colleges and universities to create political, ideological, and psychological education techniques for the fulfillment of higher education goals and realize the transformation and scientific growth of psychological, political, and ideological education (Kumlien et al. 2017).

The reform of IAP education of students continues to deepen, and the reform of IAP education in universities and colleges has become the central theme and mission of social development, educational and contemporary culture (Xiangrui 2018; Dan 2018; Liang Yi 2018). At present, all kind of IAP educational teaching techniques aims to achieve the best educational outcomes. But unfortunately, a comprehensive evaluation standard and educational system of IAP education have not been established yet (Lianghong 2017; Qihui 2018; Linying and Liping 2015). Therefore, the development of an educational evaluation system for the college students in IAP education, and promoting its quality improvement has become a serious problem that needs to be investigated and resolved (Zhuanghai 2016; Zhang 2016; Jiying, 2012; Fan, 2008).

The use of Internet for IAP education is an unavoidable decision for both universities and colleges, which is consistent with the Internet’s growth and the intrinsic necessities of IAP education. In this regard, Qinying et al. (Yuan, 2019) conducted a research study which proposes various remedies to strengthen the college students’ IAP education in the network environment, based on the explanation of the benefits, opportunities, and negative consequences of networks on college students’ IAP education.

A proper growth of education aids in the cultivation of a set of abilities that are necessary for society and is a demand of the modern society. In order to strengthen the country’s IAP education system, the importance of IAP education for college students needs to be recognized as the main element of education, and students’ ideological levels should be constantly improved. Through the development of a computer-based evaluation system, Xiao et al. (Xiao, 1744) conducted another research study with the goal of effectively discovering the current deficiencies in ideological education, formulating related solutions based on particular issue, and encouraging the development of China’s IAP education in the new media environment. In another study, Zhang et al. (Zhang et al. 2017) have proposed some important principles for the enhancement of college students’ IAP education by considering different techniques and methodologies for further work of IAP education using big data analytics.

The basic contribution of this paper is given as follows;

- This paper examined the current state of the college students’ evaluation system and highlights its deficiencies including the lack of understanding of the power of big data for college student’s psychological and political evaluation system, openness, transparency, etc.
- This study proposes a big data analytics-based evaluation system that overcomes the problems of the existing systems and enhances the overall system performance in terms of openness, better assessments, and fairness.
- This paper recommends that the college teachers must be aware of the power of cutting-edge technologies and big data in order to utilize these for the welfare of college students’ IAP education evaluation system.
- It is also recommended by this study that a separate platform is needed for sharing the data among different colleges to cooperatively enhance the existing system and compare the evaluation results.

The remaining paper is structured in the order; Sect. 2 illustrates the current deficiencies in the evaluation of IAP education of college students. Section 3 represents the establishment of a relatively complete evaluation index system for college students’ IAP education. Section 4 demonstrates the establishment of a relative scientific digital model for the evaluation of college students’ IAP education. Finally, we conclude our work in Sect. 5.

### 2 Current deficiencies in the evaluation of IAP education of college students

Judging from the current state of research on the IAP education assessment system of college students, there are still many areas for improvement. Solving these problems in a targeted manner will enable us to bitterly promote the establishment of the IAP education evaluation system of college students. It also ensures that the education evaluation system of IAP college students is scientific, fair, open, and contemporary (Zhuoming and Dequan, 2009; Shouke, 2011; Guojiang, 2012).

In today’s era, due to the complex nature and multi-variability of data, a huge volume of data is generating on daily basis, the huge volume of generated data can only be handled with big data analytics. Big data technology can be used in different fields of life for data analysis as it achieves better results for scientific analysis and future insight. But, the current ideological education evaluation system and student politics did not utilize the power of big data for self-improvement. Along with this, the development of IAP education has caused many problems in the evaluation system of IAP education of middle school
students. Political education is also not conducive to a fair and scientific assessment of the IAP education of students. Figure 1 shows the big data architecture for the assessment of the IAP education system in terms of the data service layer.

2.1 Lesser knowledge about the importance of big data in the evaluation of college students’ IAP education

In the era of big data, the work of evaluating the IAP education of students is needed to perform scientific numerical analysis based on data and then provide more scientific evaluation data for the results of student assessment. However, in the current work of assessing student IAP education, few teachers in China are using the power of big data to assess student IAP education. This is because teachers at many colleges and universities are lacking deep knowledge of big data and do not pay enough attention to it. In particular, some senior teachers are relatively weak in accepting new things; hence, they are conducting IAP education for college students in the traditional way. It is an unreasonable assessment system to assess the IAP education of students solely by the aid of the assessment of theoretic understanding in the class. The power of big data is completely ignored in the process of evaluating the IAP studies of college students, and it leads to the lack of comprehensive understanding of student thinking dynamics. Scientific digital analysis as well as an open and transparent evaluation procedure is more vital in the age of big data.

The Internet has a great influence on college students’ IAP studies in the modern era. Figure 2 illustrates the ratio of college students (both male and female) that uses the internet (He et al. 2021). According to a survey conducted by He et al. (He et al. 2021), the usage of the internet is not only common in college students, but they also trust its contents as shown in Fig. 3. But the traditional evaluation systems for the IAP education of students do not meet the characteristics of openness, scientificity, digitization, and expediency. Therefore, it is very crucial to give more focus on data, in order to show the significance of big data in the evaluation of the IAP education of college students, to provide more scientific and effective digital analysis results for the evaluation work, and to certify the fairness and scientificity of the evaluation outcomes. The system architecture is shown in Fig. 4.

2.2 The evaluation system of college students’ IAP education is not found

A good evaluation system for the IAP education is the key to ensure the smooth running of evaluation work for the IAP studies of college students. But still, some gaps are there in the system for evaluating the IAP training of college students, as the existing system is not strong enough. For instance, in the process of evaluating the IAP training of college students, the school did not set up a special evaluation system and a team of students. Apart from this, there is no professional supervision in order to assess the state of IAP training of college students. The establishment implements strict supervision for the assessment process. The whole work of evaluating the IAP training of middle school students lacks openness and transparency, which makes the results of the evaluation unconvincing. Many students have disputes about the results of the evaluation of IAP education, which is not conducive to the work of evaluating IAP education in schools. Success is also not conducive to the formation of a good campus atmosphere, leading to tension between the students and the school.

The purpose of the evaluation of the IAP education of the students is to improve the IAP level of students and assist them to establish accurate worldview, and view of life and values. In a real sense, it helps the students to grow and cultivate more and more high-quality talent. The current state of IAP education evaluation of college students implies that in many universities and colleges, the evaluation system is followed just as a formality because it is not solid and satisfactory in terms of assessment.

3 Establish a relatively complete evaluation index system for college students’ IAP education

The establishment of a relatively complete evaluation index system for the IAP education of college students is of a great interest for the researchers and educational stakeholders. The following subsections discuss this process in more detail.
3.1 Further enhancement in the awareness of big data

We live in the era of big data, which has infiltrated every part of our lives. In order to further enhance the evaluation system for the IAP studies of university and college students, it is of great interest to harness the power of big data. College professors must establish and deepen their understanding of big data, as well as comprehend the fundamentals of big data. Nowadays, with the advancement of information technology (IT), the application of big data has also become a standard. Therefore, combining it with the IAP education evaluation system of college students resulting in an assessment model that is more robust and up to date. With the help of big data, the universities and colleges can enhance the quality and proficiency of evaluation of IAP education and further ensure fairness and scientificity of evaluation results.
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Fig. 5 Proposed model of evaluation based on big data

Fig. 6 Network architecture
3.2 Ensure the openness and transparency of the evaluation work of college students’ IAP education

In the process of evaluating IAP education in many universities and colleges, the transparency of the evaluation processes and results is not satisfactory. Consequently, the students become dissatisfied with the results, which is not conducive to the formation of a proper environment for the IAP education. Further, the learning of ideas by students is also not conducive to the successful completion of the evaluation of the IAP education of college students. In order to solve this problem, universities and colleges need to establish and improve the IAP education assessment system of the students. Firstly, use the information technology (IT) to collect, sort, and analyze data, then use big data analysis results as the basis of the assessment to conduct in-depth research into the status quo of IAP education. Secondly, establish a special oversight service to supervise and report in real-time on the entire evaluation process, ensure the fairness of the evaluation work, provide timely feedback, and correct problems in the evaluation of political education students. It is also the sole responsibility of the oversight service to further improve the evaluation of the IAP education system of college students. Finally, the results of the assessment must be made public to guarantee the right to know of the students and reasonable explanations must be given to the objections raised by the students. In order to avoid similar incidents, the schools should form a dedicated assessment team to ensure the accuracy and fairness of assessment results. The detailed diagram of the proposed model based on big data analytics is shown in Fig. 5 along with network architecture (Fig. 6).

3.3 Content enrichment of the evaluation system of college students IAP education

The contents of assessment in the IAP education evaluation system of college students need to be more comprehensive (Fig. 7). It should not only examine the students’ academic performance, class activities, and politics but also the extra-curriculum activities that motivate the students toward the study. IT is a double-edged sword with both advantages and disadvantages, but as an advantage, its arrival has brought a great comfort to human society. Many foreign cultures have been transmitted to China via the Internet, and it also transformed the thoughts of students (Table 1). This requires an IAP education of college students in order to cultivate positive thoughts in the minds of students.

Table 1 Indexing the evaluation system of college students’ IAP education

| Level                      | Sub-Evaluation                              |
|----------------------------|---------------------------------------------|
| Happy life level           | Hardware facilities evaluation              |
|                            | Cost of living evaluation                   |
| Happy learning level       | Teacher teaching evaluation                 |
|                            | Evaluation of learning effect               |
| Cultural aspects of happiness | Campus cultural life                        |
|                            | Student Management Evaluation               |
|                            | Employment Guidance Evaluation             |
also ensures the correctness of orientation of the IAP education of college students, in the assessment process.

3.4 Establish a relatively scientific digital model for the evaluation of college students’ IAP education

The establishment of a digital model for the evaluation of the IAP training of college students must be based on big data to understand the current state of the IAP training of college students. Thanks to the Internet technology that enables us to understand the dynamics of IAP educational development of college students, tracking and counting the navigation footprints of students on time. The new development of the IAP education of students establishes a relatively comprehensive and scientific digital model of evaluation. It also encourages the enhancement of quality and efficiency of evaluations of college students’ IAP education, as well as the scientific and fairness of the assessment method and result. Firstly, the universities and colleges should establish a special department of IAP education practice. Then contact relevant data research institutions and media departments to strengthen the link between big data and evaluation of the IAP education of contemporary students. New media institutions and departments should actively provide science-based data support to colleges and universities, help them to make correct assessment decisions, and ensure fairness in the assessment results of the IAP education of students. With the help of big data analytics usability, it is possible to significantly improve the timeliness of the evaluation of IAP education in schools and promote the effective development of the evaluation of IAP education of students.

Secondly, to further enhance the value of the IAP education evaluation, a multi-school alliance should be established to strengthen the contact between universities and colleges. It is also important to establish a platform for communication about the evaluation of IAP education and to learn evaluation methods from the other schools and colleges through data sharing. Moreover, in the process of sharing the data of the evaluation results, it is also possible to find out the problems in the evaluation system of the IAP education of the students. The sharing of evaluation result among different colleges and universities enable us to compare the level of evaluation work with other colleges.

4 Conclusion

College and university students are considered as a great asset of a country, as they contribute considerably in the growth and development of a country. Nowadays, it is very crucial to improve the college students’ intellectual and political education, in order to generate qualified builders and successors of the country. In order to sustain the dynamicity and originality, colleges and universities must be fully aware of those issues that political, ideological, and psychological education are facing. The reform of IAP education at universities has become a fundamental concern and goal of social growth, education, and modern culture. But unfortunately, no comprehensive assessment standard or educational system for IAP education has been developed in colleges and universities. Therefore, in this study, the existing evaluation system of IAP education is studied and revised in order to highlight its drawbacks and deficiencies such as openness, transparency, lack of a separate evaluation system, and supervision. The importance of big data analytics for the assessment of IAP education of college students is analyzed, and a new evaluation system is proposed which is based on the concept of big data analytics. The new system ensures the transparency of the result, openness, and better assessments of the evaluation system. Moreover, it is also suggested that the college teachers must be aware about the significance of big data, and there is a need of a separate platform through which different colleges will share data about the evaluation system with each other that leads to its enrichments.

Funding The author didn’t receive any funding.

Data Availability The data used to support the findings of this study are available from the corresponding author upon request.

Declarations

Conflict of interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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