The Theory and Path of Ideological and Political Course Construction in the Era of Artificial Intelligence

Wang Jianzhan[1],*, Xie Chennuo[2]

[1]*School of Marxism, China Pharmaceutical University, Nanjing, China*
[2]*School of Marxism, China Pharmaceutical University, Nanjing, China*
*Corresponding author

Abstract: *The embedding of artificial intelligence (AI) makes the education and teaching of ideological and political courses not only face new development opportunities, but also encounter unprecedented challenges. Technology such as "digital portrait" based on big data, strong computing power and deep learning has made the education and teaching of ideological and political courses more accurate and intelligent. But at the same time, how to deal with the relationship between artificial intelligence technology and ideological and political course, and how to face the "digital portrait" technology in ideological and political course education and teaching problems, we need to be careful. On this basis, we should try our best to give full play to the role of artificial intelligence reform, innovation, demonstration and leadership, put forward new ideas and new measures, build a high-quality and professional team of ideological and political teachers, and focus on developing the utility of artificial intelligence in the practice of "accurate ideological and political".*

Keywords: *artificial intelligence; ideological and political course; digital portrait; accurate ideological instruction*

1. Introduction

In 2019, the General Office of the Central Committee of the CPC (Communist Party of China)and the General Office of the State Council issued *Several Opinions on Deepening the Reform and Innovation of Ideological and Political Theory Course in Schools in the New Era*, proposing that "government should vigorously put forward the reform of ideological and political courses, and promote modern information technologies such as artificial intelligence and other modern information technologies application in the teaching of ideology and politics". This has made new requirements for the optimization and upgrading of the ideological and political courses in the new era, thereby achieving informatization and modernization. This also innovates a new model of reform and development of these courses in universities. The fundamental problem to solve the development of ideological and political education and teaching is to effectively improve the targeted, accuracy and effectiveness of these courses. The embedding of artificial intelligence technology has brought new historical opportunities to the education and teaching process and brought huge challenges. This process should use artificial intelligence to carry out smart teaching and precise teaching research. It builds an open-minded political education and teaching innovation system that adapts to the new era. Creatively giving play to the advantages of artificial intelligence, creating a personalized intelligent learning method of ideological and political lessons, and improving the personalized learning experience of students is an inevitable requirement for the modernization of ideological and political education.

2. Artificial Intelligence Embedded in Ideological and Political Courses

In the process of education and teaching in traditional ideological and political courses, information transmission between teachers and students often experiences difficulties and problems. The education supply of teachers in ideological and political curriculum and the education needs of university students are often asymmetric. The information transportation between them is often not matched. Generally, the teacher's effort to teach is not what university students are really willing to accept. We don't know why the problem appeared and teachers don't know why this happens. To solve this problem, the effective way is to go through the deep coupling between AI and ideological and political courses. Modern

information technologies such as big data, great computility, and deep learning can improve the targetedness, effectiveness and timeliness of ideological and political education and teaching, thereby further building a new ecology and new paradigm. In short, it is necessary to make the ideological education and teaching accurately.

The embedding of AI brings a new weather for the reform of education and teaching in ideology and politics. The teaching concept is updated, the teaching content is accurately pushed, the teaching methods are diverse, and the teaching facilities are upgraded. These have promoted the innovative development of education and teaching in ideological and political courses. So, what is "artificial intelligence"? "Artificial intelligence is a new technical science that studies and develops intelligent theories, methods, technology and application systems used to simulate, extend and expanders. In terms of definition, artificial intelligence refers to intelligent-related functions. Its core idea is to study the laws, methods and technologies of human intelligent behavior and the simulation of human intelligence behavior."[1] In other words, AI takes big data, great computility, and deep learning as its technical foundation and operating logic. It allows intelligent machines to replace or even surpass humans in certain aspects by simulating human intelligence, such as "the core of big data is prediction. …… It applies mathematical algorithms to a large amount of data to predict the possibility of things."[2] Deep learning is to explore the inherent laws of things through simulating human brains and analyzing sample data. It is widely used in the fields of computer vision, speech recognition, and natural language processing. With the help of big data resources available to analyze, it can predict its development trend and push for teaching content through in-depth learning and in-depth digging into the laws of ideological and political education and teaching, as well as other effective information. At this point, the education and teaching activities of ideological and political courses have accurate direction. It should be noted that in this process, we must pay attention to the screening of data, and focus on the authenticity, reliability, usefulness, and application limit of data sources.

With the support of modern information technologies such as AI, various social activities like people's thoughts and behaviors will leave data marks and "data printing". In the education and teaching of ideological and political courses, we can play the role of AI to "digital portraits" on the entire teaching process. By establishing a database that is a database portrayal of university students' scholarships and ideological and political courses, we can remove resources barriers, and establish the organizational data of university students' academic and the teaching situation of teachers.

At present, the education and teaching of ideological and political courses particularly emphasize process assessment. AI can digitize the entire learning process of university students through "digital portrait" technology. For example, the performance of university students in the classroom is actively participating or negative slackness; the number of answers to the question and the difficulty of the problem in the classroom of university students; the duration of browsing of related resources on the online teaching platform etc. That is say, there are certain differences in the learning situation of different university students. AI can make "digital portraits" by grasping university students' learning attitude, ideological status, behavior selection, academic performance and other academic data. It obtains a complex ideological route of university students. This will enable teachers of ideological and political courses to better grasp the personality characteristics and ideological context of university students, as well as to achieve accurate design and arrangement of how the teaching content can be truly realized. This can also realize precise education of teachers and personalized learning of university students, to improve the "accuracy" of education and teaching.

AI embedded in the education and teaching of the ideology and political science class can not only "digital portrait" of the classroom performance and after-school learning of university students, but also "digital portrait" of the teaching behavior of the teachers. With the help of AI, teaching portraits can be used to capture the personal teaching characteristics, teaching style and other teaching behaviors, and establish the teaching information database. This is conducive to the self-reflection and self-improvement of the education and teaching behavior of teachers in ideology and politics. Specifically, through data capture and algorithm analysis, we can accurately see the advantages and disadvantages of each teacher teaching, including whether the analysis of teaching content is thorough, whether the explanation of teaching cases is accurate. We can also see whether the body movement and language expressions during the teaching process are suitable and the effects of interacting with university students in the classroom. Teachers can adjust their teaching status in a timely and precise manner based on the "digital portrait", to achieve the purpose of optimizing and improving these lessons. Furthermore, we can break the barrier of data resources, establish an organizational relationship between university students' learning data and ideological and political teacher teaching data. For example, "combine the monitoring data of teaching performance over the years, analyze the correlation between teacher teaching behavior data, find the

connection between teaching behavior and teaching effects, dig the rules of teachers' growth, and continuously improving teachers' education and teaching ability." [3] Through the analysis of academic data and teaching data, it will more effectively establish the self-supervision mechanism of ideological and political teachers, which will be more conducive to the self-growth of teachers.

3. The Challenge Brought by AI into Ideological and Political Lessons

With the rapid development of education modernization and informatization, AI embedding in ideological and political education and teaching is an inevitable trend of the times. However, the use of AI technology is convenient, and related issues follow. This process is full of complexity and various uncertain factors. We must dialectically treat the new challenges brought by AI.

1) In the process of AI embedded in the education and teaching operation system of ideological and political courses, how to deal with the relationship between AI technology and courses is important. With AI restructuring the courses and forming a new model, we need to adhere to the basic principles of innovation. It is necessary to seize the opportunities of change, but also to deal with the relationship between value rationality and tool rationality, as well as the subject and the carrier. The main purpose of the course is values transmission and ideological education, but AI is only responsible for providing material foundation and technical prerequisites, and it is also only the carrier of assistance values and ideological shaping. Technology cannot be rational for value pursuit. Therefore, we must always adhere to the dominant role of value rationality. At the same time, it is necessary to make good use of technical tools. Adhering to technology is the purpose of serving people.

Thus, AI is embedded in ideological and political education and teaching. It is necessary to avoid excessive dependence of teachers in courses. The deep learning ability of AI, especially strong AI or ultra-AI is constantly getting stronger. Will it eventually lead to excessive dependence on AI teachers in ideological and political lessons, thereby losing the ability of self-judgment and causing "alienation" of education subjects? In the use of AI, we must always emphasize the leading role of teachers, to ensure the ideological security. AI technology embedded in ideological and political courses mainly relied on the technical team to operate. If the design of technology is not in line with the laws of courses, it is not conducive to the realization of the education and teaching goals. Therefore, AI embedded in ideological and political courses must pay attention to the technical design rules and student cognitive laws, emphasizing that machines serve people rather than artificial machine services. In other words, in the process of AI empowering the education and teaching of ideological and political course, the program design of big data captured, screened and analyzing the scratch data, and the research and judgment of future ideological and political education and teaching activities based on data analysis. All need to be set according to the educational goals of the ideological and political lessons. Because "in a different ideological society, the design of AI technology will carry the designer's value concept, and the social ideology of the designer is affected ... In the control of the convergence of the two, the realistic application and the value of the times must be paid attention to the relationship between the people, as well as people and society. This is the prerequisite for AI as the resources and political education resources."[4] Although the data capture process is relatively objective, it still reflects the designer's own ideological intentions and goals. Therefore, teachers should give play to their leadership, pay attention to ways, methods, and strategies, and carry out positive value leadership. In the process of integrating AI and ideological and political education, as well as promoting the intelligent and precise development of the courses, teachers need to strictly control the direction, maintain Marxist theory as the fundamental guide and adhere to nurture the root and soul of the nation.

In particular, it is important to avoid the over-reliance of teachers on technology when evaluating college students. During the assessment of traditional ideological and political courses, teachers and university students are directly contacted and there is no intermediary. Teachers in ideological and political courses mainly rely on their own judgment to evaluate university students. In the era of AI, the education and teaching carried out ecological reconstruction. The technical intermediary of AI between the teachers and university students, which formed a new type of "ideological and political teacher-AI-university students" education ecosystem. Among these three, whether AI has played the role of media integration or a technical barrier, it is related to the future development of ideological and political courses. Therefore, we must pay attention to the role of AI and avoid the evaluation of university students because of the intervention of AI affecting the teachers, and thus encounter new ethical risks. For example, many teachers' evaluation of university students is carried out by the calculation of AI. Based on this situation, avoiding the "information cocoon house" effect is particularly significant. Therefore, when dealing with university students' information and evaluating university students, teachers should avoid

such incidents, hence they can make objective and fair evaluations of university students.

2) In the education and teaching of ideological and political courses, there are some problems with "digital portraits". Among them, the first question about big data grasping needs to be solved, that is, the definition of privacy. What needs to be explained is that the education and teaching of ideological and political courses are public activities. Teachers will inform the general rules of the procedure assessment of university students in accordance with the requirements, including the capture of the learning behavior data on the online teaching platform after school. University students know about this. Therefore, the "digital portrait" in the courses did not infringe the privacy of university students. Teachers can collect university students' learning data with AI and draw "digital portraits" based on the data. This observation of university students through data can also touch the depths of their thoughts and go deep. But at the same time, if AI's grasp of data involves the privacy of individual university students and transcends the scope of ideological and political lessons, it will infringe the interests of university students. Teachers should pay attention to the boundaries of teaching behaviors. They cannot touch the personal life privacy of university students. In addition, the argument that capturing data about a teacher's classroom lectures is also a violation of the right to privacy. It should be noted that the teaching behavior is a kind of public behavior for university students, rather than a purely private action, so this kind of data capture and "digital portrait" of teachers does not have the infringement of the right to privacy.

The second problem is that human thoughts and emotions are instantaneous, multi-faceted and complex, can the big data "accurate portrait" of AI truly grasp the real situation of university students' thoughts and emotions? What if some university students know that they can be informed of individual thoughts and emotional expressions through big data "accurate portrait", and deliberately pretend to be what teachers want them to be? How to recognize the authenticity? These expose the shortcomings of the current AI. As a technical means and information intermediary, although AI has powerful data analysis capabilities and algorithms, it is difficult to fully capture the dynamics of a person's thoughts by relying solely on digital information. It is also hard to accurately grasp the current AI technology's understanding of human emotions, behaviors, and natural language, especially for the diverse expressions of some languages in specific contexts. In its current state, it is impossible for AI to truly portray all the states of a person's mind in a comprehensive and precise manner. Hence it is impossible to rely too much on the data summarization and analytical judgment of AI, and it is vital to keep the initiative of education firmly in the hands of these teachers.

4. The Utility of AI Embedded in Ideological and Political Causes

The use of any high-tech is a "double-edged sword". Along with the wave of informationization and modernization of education, the correct view and reasonable use of AI can make the education and teaching of ideological and political courses more accurate and efficient. Therefore, with AI embedded in the courses, we should follow the law of education and teaching of ideological and political courses, the law of students' cognition and the law of application of information technology. In the propaganda of mainstream ideology and values, we always adhere to the leading position of the teachers and let AI "innovatively" serve the education and teaching of ideological and political courses based on "upholding fundamental principles".

1) With the in-depth integration of education and teaching of ideological and political courses with AI, it is used to form a systematic and comprehensive database that effectively matches the curriculum system, to permeate the entire teaching process before, during and after the courses. Meanwhile, with the help of the intelligence and informatization of AI, it can realize the common construction and sharing of educational and teaching resources for ideological and political courses in universities across the country. While using AI technology to build an ideological and political education platform and realizing that the education and teaching of the courses has shifted from knowledge transmission to value leadership and faith shaping, the function of teachers has also undergone a certain degree of transformation. The duties of teachers have shifted from focusing on knowledge dissemination to value transmission, so that teachers are more focused on the dissemination of socialist core values and the shaping of mainstream ideology based on knowledge transmission. In addition, while adhering to the supremacy of content in the teaching process of the courses, it is also necessary to realize the three-dimensionalization and visualization of the courses. The use of network cloud lectures allows university students to communicate directly with the real advanced characters, heroes and models face to face. It deepens the ideological understanding of university students and causes the emotional resonance of them, so that the course is really "get moving and come alive", and really penetrate the hearts of the people.

2) Build a high-quality and specialized team of teachers that can adapt to the demands of the development of ideological and political education and teaching in the era of AI. Teachers should have advanced teaching concepts, improve their understanding of education informatization, strengthen their information technology literacy, and enhance their ability to apply new technology platforms. With the embedding of AI, the degree of intelligence of teaching software and hardware has increased dramatically, and the teaching means are more precise and efficient. This on the one hand provides more convenient technical conditions for the education and teaching of ideological and political courses, but on the other hand, the requirements for the teaching skills are rising. The information literacy and technical level of teachers vary, and some of them are intimidated and psychologically rejected by the application of AI technology to the education and teaching of ideological and political courses, and the use of new equipment may be a technical obstacle for them. For these teachers, the use of AI has increased the difficulty of teaching, but " ideological and political teachers should break through the 'comfort zone', be brave enough to try to present the teaching content that is already familiar to them with AI, and actively create demonstration courses of AI technology to promote the new model of "AI + ideological and political course". This requires focusing on the combination of AI and professional knowledge, constantly developing ideas in terms of teaching design, methods and techniques, combining the reform of teaching with AI to form new teaching methods, and creating a new environment for education that is more in line with students' learning habits and cognitive laws." [6] Therefore, we need to constantly popularize the concept while strengthening the training of teaching skills, so that they can keep pace with the development of AI technology. Thus, the coupling of AI and ideological and political courses can really improve the relevance, precision and effectiveness of education and teaching in practice.

3) The Specific Utility of AI in the Practice of "Accurate Ideology and Politics".On the basis of giving full play to the advantages of AI technology, following the laws of education and teaching of ideological and political courses and the laws of student cognition, "according to the logical sequence of 'precise identification→ precise customization→ precise drip irrigation', the information in the teaching activities of ideological and political education is managed in a fine manner, the educational and teaching objectives are precisely positioned, the tasks are precisely deconstructed, and the objects are precisely taught."[7] Thus, forming a dynamic and efficient "accurate ideology and politics" teaching mode. The whole process is carried out in precise implementation and precise controllability, and the matching degree of teaching is greatly improved, while all the precision behind is to solve the problem of relevance and effectiveness, to improve the teaching effect of ideology and politics.

5. Conclusions

AI can make use of the massive database and powerful arithmetic power to carry out all-around data capture, as well as objective and accurate data analysis of the educational and teaching activities of the teachers. On this basis, it can monitor, diagnose, quantify and provide real-time feedback on the teaching process through deep learning, and grasp the internal law of students' ideological changes and the future trend of behavioral development. Meanwhile, it accurately grasps the ideological dynamics of individual students and accurately responds to the problems of university students. It also meets the personalized demands of students' development, and then push the teaching content precisely. In this process, both the analysis of big data through powerful arithmetic power and the research and judgment of future trends through deep learning can make up for the shortcomings of traditional teaching, forming a new pattern of precise and controllable ideological and political education and teaching, to realize the high-quality development. Specifically, teachers can analyze the data samples and research and judge the trajectory of the data to obtain the key information that needs to be paid attention to and adjusted, thus realize the precise customization of the teaching program, precise positioning of the teaching object, precise supply of teaching content, and precise feedback of the teaching results. Consequently, achieve the purpose of improving the quality of ideological and political education and teaching, as well as increasing the efficiency.

Teaching programs are precisely customized. AI is involved in analyzing the decisions, allowing the development of teaching programs towards precision. Data analysis of unique educational resources and diverse teaching situations, etc., provides a reliable basis for the development of teaching programs. Meanwhile, in accordance with the ideological and behavioral characteristics of university students of different majors, it also selects targeted teaching methods and tools, and formulates precise programs, making the whole teaching process more efficient and controllable.

Teaching audience is pinpointed. Through AI technology, the overall performance and learning status of each university student in the classroom can be monitored and recorded. This targeted analysis of

learning data and the establishment of a learning database can accurately focus, analyze and intervene in the deviations that exist in the thinking of each university student. In the meantime, personalized education methods are adopted to meet the individual needs of each student. Teaching according to one's student's ability, exploiting favorable situation to pursue the goal and taking targeted measures based on specific conditions are used to make the teaching work more creative and valuable.

Teaching content is supplied accurately. In terms of the supply of teaching content for the ideological and political course, something needs to be noticed. On the one hand, it is necessary to enrich and expand the educational and teaching resources for the course and realize the common construction and sharing of high-quality teaching resources; on the other hand, it is important to guard against the infiltration of Western ideology, the erosion of undesirable ideas in the society, and the destruction of the nihilistic ideology. Additionally, it is more significant to make a practical move in the accurate supply of teaching content. Only by giving targeted solutions and countermeasures to the ideological perplexities of university students, pushing precise educational content, and realizing the effective supply of educational and teaching resources for ideological and political course, can we achieve good teaching results.

Teaching results need accurate feedback. University students are the recipients of the content of the ideological and political course, and their feedback can be an important basis for judging the effectiveness of classroom teaching. Through the data reproduction and analysis of the whole teaching process by AI, we can objectively and efficiently feedback the real needs of university students and the teaching effect. Meanwhile, we can outline the trajectory of the development and change of university students' thoughts, and thus provide quantifiable indexes for teachers. In other words, there are many benefits of building a quality monitoring system that conforms to the laws of education and teaching of ideological and political course. This can help teachers accurately grasp the ideological dynamics of university students, and it can accurately assess the effectiveness of classroom teaching interactions. It is also conducive to quickly find specific problems and weaknesses in teaching activities and adjust the teaching strategies and methods in time. What's more, it is possible to customize the educational and teaching activities to meet the characteristics of the university students themselves. Ultimately, the quality and effect of teaching can be improved precisely and efficiently.

In the new era, President Xi emphasized, "We should use new media and new technologies to make our work come alive, promote a high degree of integration between the traditional advantages of ideological and political work and information technology, and thus enhance the sense of the times and attractiveness." [8] As a consequence, in the face of the rapid development of education informatization, we should foster strengths and circumvent weaknesses, give full play to the technological advantages of AI, and create a full-coverage and borderless learning across the physical time and space through AI. We should enhance the precision of ideological inculcation and value leadership of the course in an all-round way, help the innovation and development of the education and teaching reform of the course, and thus realize the qualitative leap.

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