



# On the Teaching and Learning in the Information Age of “Big Data + Internet?” — Some Thoughts on the Application of ChatGPT in Teaching

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**Abstract.** The interactive integration of Big Data and Internet technology promotes the accelerated evolution of human society from the industrial age to the information age, which makes ChatGPT and other artificial intelligence technologies available and applied in teaching, and begins to enter the vision of teaching reform. ChatGPT Application in teaching represents the progress of educational technology and the update of teaching means, indicating that the new era of artificial intelligence to assist the development of human intelligence and its teaching growth, and promote the in-depth development of educational reform has arrived. This is a new dynamic for a long time in the future, and also an important direction of deepening teaching reform. For the application of ChatGPT in teaching, it is not a proper attitude to simply resist, brutally prohibit or blindly ignore it. After all, the growth and progress of human beings is not based on the wisdom, but the bold attempt, enterprising spirit and open and inclusive, embracing all rivers. It is of great theoretical and practical significance to discuss the teaching and learning problems of the “Big Data + Internet” information age, and to clarify the application of ChatGPT in teaching and its many cognitive misunderstandings or unnecessary misunderstandings, both for deepening the teaching reform and accelerating the independent cultivation of innovative talents.

**Keywords:** ChatGPT · teaching application · Big Data · Internet · teaching and learning

## 1 Introduction

Recently, the hot speculation of ChatGPT and its teaching application problem, really attracted a lot of attention. As an artificial intelligence technology based on machine learning, ChatGPT has brought about a subversive teaching revolution, which has aroused wide attention and heated debate. The launch and application of ChatGPT are

naturally inseparable from the technical support of big data and the Internet. It is the interaction and integration of big data and Internet technology that promotes the accelerated evolution of human society from the industrial age to the information age, and enables ChatGPT and other artificial intelligence technologies to enter the vision of teaching reform in the information age. Combined with the fierce debate about ChatGPT and its application in teaching, especially the resistance and prohibition of some universities and even famous universities to the application of ChatGPT in students' learning, people can not help but think about a series of educational changes brought about by artificial intelligence technologies such as ChatGPT. For example, what kind of teaching and learning is needed in the "big data + Internet" information age? Is artificial intelligence-assisted teaching a great power of education and teaching reform, or is it an accomplice to challenge the development of human intelligence, restrain or replace human's own thinking ability and independent innovation? Obviously, it is of great theoretical and practical significance to discuss the teaching and learning issues of the "big data + Internet" in the information age and clarify the application of ChatGPT and many cognitive misunderstandings or unnecessary misunderstandings in teaching for deepening the teaching reform and accelerating the independent cultivation of innovative talents.

## **2 The Basic Cognition About the Application of ChatGPT in Teaching**

First of all, ChatGPT as a set of information dissemination, intelligent knowledge search and editing, text generation and other functions in the integration of artificial intelligence technology, once applied in teaching, the represents is not only is an unprecedented challenge, and more is a kind of intelligent education technology innovation and teaching means of update, in the end is a kind of technological progress, with disruptive influence of education change. In other words, ChatGPT is a new teaching method that can actively adapt to the new situation and new requirements of teaching reform in the information age, creatively introduce artificial intelligence into the teaching field, and then assist the development of human intelligence and its teaching growth. Obviously, the application of ChatGPT in teaching will change not only the existing teaching form and its realization form, but also cause the profound change of education and teaching ideas as well as the revolutionary change in the application of knowledge dissemination and the way of spiritual production.

Secondly, the application of ChatGPT in teaching is not a monster, but a huge engine leading the educational reform and innovation of teaching forms in the information age. That is to say, the application of ARTIFICIAL intelligence represented by ChatGPT in teaching is not only the general trend of education reform and development, but the inevitable trend of education reform in the age of big data and Internet information, but also an unavoidable important direction of deepening teaching reform and innovating talent training mode. Therefore, it is not proper to simply resist, brutally prohibit or blindly ignore the application of ChatGPT in teaching. After all, the growth and progress of human beings depends not on the wisdom of hiding one's ears, but by the enterprising spirit of bold attempt, and being open, inclusive and open to all rivers.

Third, based on the teaching application scenario of ChatGPT, discussing the teaching and learning problems in the information age of “big data + Internet” is an important theoretical premise to accurately grasp the direction of future education reform, promote the teaching reform and the innovation of talent training mode. Exploring and grasping the unknown is the fundamental task of scientific research or theoretical innovation, as well as an important theoretical premise for promoting practical innovation and institutional innovation. As a new thing, ChatGPT and its teaching application scenarios are worth paying attention to and in-depth discussion. The reason why people pay wide attention to and heated debate is closely related to the profound changes in educational concepts, teaching concepts and teaching methods caused by ChatGPT teaching application, and closely related to many cognitive misunderstandings or unnecessary misunderstandings in teaching reform under ChatGPT application scenarios. Therefore, it is necessary to further analyze what changes have taken place in the teaching and learning of the “big data + Internet” information age, as well as the future teaching forms and their realization forms, so as to point out the direction for the more conscious and rational teaching reform and provide the necessary theoretical basis for promoting the educational reform in the information age.

### **3 The Disruptive Impact of ChatGPT on Educational Reform**

It is most appropriate to investigate the teaching application of ChatGPT and explore the impact on educational reform, and to describe it as “subversive”. ChatGPT The reason why the controversy is inseparable from this “subversive” influence, including the teaching application and many cognitive misunderstandings or unnecessary misunderstandings caused by it, which are inevitably related to this “subversive” influence, especially the adjustment of interest structure and behavior pattern change. As a collection of information dissemination, intelligent knowledge search and editing, text automation generation and other functions in the integration of artificial intelligence technology, ChatGPT exactly what brought the profound changes in the field of teaching, will cause what changes in teaching and learning, is the premise of interpretation, is also a comprehensive understanding of the relationship between teaching and learning, accurately grasp the ChatGPT for the information age education change “disruptive” key.

First of all, the “subversive” influence of ChatGPT on educational reform is concentrated in the innovation of educational concepts. The so-called innovation of educational concept refers to the fundamental update of educational cognition such as educational organization form, curriculum form and classroom structure form based on new education and training modes such as intelligent education, online education and human-machine combination. ChatGPT The technical addition has greatly promoted the innovation of educational concepts. The form of educational organization presents the new characteristics of flattening, network and personalized, and the curriculum form is also constantly expanding towards new courses or teaching carriers such as online courses, network teaching resources and MOOCs. Specifically, ChatGPT will have a subversive impact on the form of educational organization and teaching cognition from six aspects: first, provide creative ideas for teachers’ curriculum design, assist in searching and sorting out literature, and generate complete curriculum materials, such as teaching

syllabus, curriculum plan and reading materials. The second is to help teachers to sort out the general knowledge and normal content, teachers can use the time saved to carry out innovative work. The third is to provide an interactive platform for teachers and students, answer questions in real time, provide ideas for classroom activities, increase the interest of classroom interaction and teaching, help students understand more complex content and concepts, and become teachers 'classroom teaching assistants, students' after-class mentors or debate training partners. Fourth, participate in student evaluation, generate homework tests and exams, help teachers to evaluate students, observe students 'learning progress, and timely give feedback on teachers' teaching effect and students' learning effect. Five is to help teachers to deal with work summary, weekly, monthly report and other normal affairs, from some simple mechanical work, so that teachers have more time and energy to carry out creative work. Sixth, respond to teachers' questions and requests, provide teachers with relevant course teaching resources and technical support, so that teachers can more easily and efficiently obtain and learn information and resources from countries around the world, broaden their international vision and improve their professional level [1].

Secondly, the "subversive" influence of ChatGPT on educational reform is embodied in the innovation of talent training mode. Here, the talent training mode can be generally divided into three levels: concept, system and operation, and is respectively composed of four dimensions: concept, goal, process and effect. Among them, the organic combination of "three levels" reflects the static structure of talent training mode; the "four dimensions" connect and transform reflect the dynamic process of talent training mode [2]. Say ChatGPT promoted the innovation of talent training mode, is its not only on the education concept changed the people for the education organization form and the integrity of curriculum form, pay more attention to the cultivation of personalized, creative target orientation, and on the teaching content and method of strategy selection pay more attention to curriculum design and teaching implementation link, makes the talent training process implementation and effect evaluation feedback has a more challenging and subversive significance of a series of new changes. Among them, the status of curriculum system construction and teaching content selection is further enhanced, becoming the top priority of promoting education reform and innovating talent training mode; the key role of teaching method reform is increasingly eminent, becoming the decisive factor of promoting education reform and innovating talent training mode; curriculum design and classroom reform deeply become the core element of promoting education reform and innovating talent training mode. That is to say, ChatGPT not only brings the education organization form and curriculum form fundamental update, and through the auxiliary curriculum design and teaching implementation, become the teacher's right-hand man, let teachers can have more time and energy to carry out personalized teaching and creative work, this is the ChatGPT education change and the meaning of teaching revolution. This change fully embodies the basic principle of technology determining tactics, and provides the direction guidance for the application of teaching technology means and the innovation and development of teaching academia.

Third, the "subversive" influence of ChatGPT on educational reform is also embodied in the updating of teaching ideas, teaching and learning behaviors, teaching methods and technical means. The so-called renewal of teaching ideas refers to the traditional

one-way knowledge dissemination and transmission mode of teachers ‘teaching and students’ learning into a more democratic and equal knowledge sharing and guidance mode. The biggest change is the absolute realization of the relatively solidified teaching role of teachers and students and the learning of teaching. It is the change of the teaching role of teachers and students and the realization of teaching and learning that makes teaching and learning behaviors and teaching methods present more democratic and equal new characteristics. Not only that, ChatGPT teaching application has also changed the application scenarios and implementation forms of teaching technology, so that with powerful information editing and processing ability, intelligent knowledge search and intelligent ability, and automatic text generation means, so as to strengthen students’ learning ability. In this case, teaching and learning have been realized to the maximum technology. Teachers are not necessarily better than students everywhere, and students may not be inferior to teachers in any knowledge acquisition or application at any time. The technology addition of ChatGPT is profoundly changing the solidified state of teaching role in the teacher-student relationship. This greatly strengthened the students in the teaching relationship, and the teacher leading role in the teaching relationship put forward new and higher requirements, namely, the teachers’ leading role is no longer knowledge dissemination, presentation and one-way teaching, but the knowledge application scenarios and the knowledge, technical problems, is more emotion, innovation, and ideas, attitude of non-intellectual factors such as spirit and value guidance. To put it simply, what teachers need to do is to strengthen the spiritual shaping and value guidance of non-intellectual factors with the assistance of ChatGPT and other artificial intelligence, so as to do the non-intellectual bonus or “filling up” work that ChatGPT cannot do. This is the subversive educational change and teaching revolution caused by the update of teaching technology and means in ChatGPT application scenarios.

#### **4 The Limitations of ChatGPT Application in Teaching**

In addition to discussing what ChatGPT brings and what teaching has changed, it is more interesting to find out what it can’t do. This is the innovative development of teaching application, that is, the ultimate significance of educational reform caused and promoted by the application of new technologies based on artificial intelligence and the update of teaching methods. The discussion about what ChatGPT cannot do, described by Xu Daojun, chief editor of China Creative Writing Research and a professor of Chinese literature at Shanghai University, is instructive. He believes that how useful an ChatGPT is depends on how much users can use it. For creative writing teaching, ChatGPT is a natural quality workshop partner. He can quickly participate in the design and discussion of works, and can help and quickly open the writer’s ideas, which is equivalent to “brainstorming” anytime and anywhere. That is to say, ChatGPT is better at solving knowledge and technical problems in the creative process, while the “grab” of excellent human works is that—even if they are not the “optimization” of “algorithm”, but its writing and human life, values, emotion, ideal picture integration is flesh and blood and difficult to replace [1]. That is to say, what ChatGPT cannot do and what it can not do? In fact, it needs to be clear what limitations exist in the teaching application of ChatGPT as an AI-assisted teaching method.

First of all, as the most advanced human-machine dialogue system, ChatGPT still cannot get rid of its own technical limitations behind the powerful natural language understanding and generation capabilities in teaching application scenarios. From the perspective of technology source, ChatGPT is based on natural language understanding and processing technology, integrates big data and Internet technology, and develops artificial intelligence technology means with great value in application and promotion. As the recent rise of a new type of artificial intelligence technology, ChatGPT has big data, strong computing, advanced algorithm, and can quickly beyond the technical field, in education, culture, and other areas such as social governance transformation application and fu, expanding application scenarios, more and more combined with the scene drive, user demand, played a huge technology for application traction and driving role. Although the application of ChatGPT in teaching has great potential, there are also risks and challenges such as questioned academic integrity, over-reliance on teachers and students, inaccurate information transmission, and difficult to deal with ethical risks [3]. At the same time, it should also be noted that ChatGPT friendly interaction and strong learning ability are not omnipotent, and its application in teaching cannot solve the fatal problems in four aspects. One is the risk of inaccurate information. ChatGPT The generated text content may have errors or inaccuracy, such as factual errors, knowledge blind spots, concept misuse and fabricated information, especially the text information involving frontier fields and advanced knowledge has a high error rate, which will seriously mislead teachers and students. Second, the cultivation of interpersonal interaction and emotional consciousness. ChatGPT Widespread application in teaching may limit the interpersonal interaction between teachers and students. Once students are used to using ChatGPT, they will lack the motivation to communicate deeply with teachers and students, which may lead to the lack of socialization of students, which is not conducive to the emotional development of students and the formation of sound personality. The third is the formation of creativity and critical thinking. Excessive reliance on ChatGPT and other new technical means to seek answers is not only easy to ignore the cultivation of students 'critical thinking and problem-solving ability, but also will greatly limit the development of teachers' creativity and teaching students in accordance with their aptitude. Fourth, the impact of the existing examination and evaluation system. At present, many college students in the United States use ChatGPT to write homework and papers, which leads to serious problems of intellectual property and academic integrity. As a result, the syllabus of some courses has clearly treated the use of AI as cheating, and the University of Hong Kong has banned AI tools such as ChatGPT in teaching.

Secondly, as a phased achievement of the development of artificial intelligence technology, ChatGPT has certain and unsurmountable historical limitations in both the technology itself and the practical application in teaching. From the perspective of the development process of artificial intelligence, ChatGPT is undoubtedly a result of the qualitative change caused by the development of artificial intelligence from quantitative change, and its success is not accidental. The development of artificial intelligence, which originates from machine thinking, has generally gone through three stages. The first stage was in the 1950s and 1960s, with the invention of Eliza by Joseph Weizenbaum of MIT in 1966 as the main symbol, opening a new era of human-machine dialogue and psychological therapy to help patients complete psychological recovery. The second stage is the

80s and 90s, in 1997 IBM company research and development of artificial intelligence program “deep blue” over the world chess king card parov as the main symbol, method based on statistical reasoning of machine learning and its application in various fields of expert system began to appear, but because far from real life, the application value is not big. The third stage is since 2006, in 2013 AlphaGo 4:1 against go master lee, Boston dynamic humanoid robot Atlas, Microsoft ice, Google Siri chat robot and 2022 artificial intelligence painting “space opera”, ChatGPT artificial intelligence technology research and development as the main symbol, based on deep neural network machine learning shows superb learning ability and information understanding and processing ability. In particular, with the advent of ChatGPT, which gained 100 million monthly active users in just two months, it became the fastest growing consumer-facing app in history, [4] which has attracted wide attention and hot discussion from all walks of life. Compared to previous AI chatbots, ChatGPT is more realistic and accurate, and its ability to understand natural language and generate effective answers “improves”. From the original chat bot Eliza, to Microsoft small ice, Google Siri, small speakers, to ChatGPT, this kind of chatbot based on AIGC technology is a spiral development of technological innovation process, the emergence of ChatGPT is a kind of artificial intelligence development from quantitative change to qualitative inevitable phenomenon, but ChatGPT does not mean that the end of technology development and the actual effect of the application scenario, it still has a lot of technological progress space and application scenario mining potential. This is an extremely important aspect of understanding the limitations of ChatGPT application in teaching. With the vision of history and the vision of development, we can understand and grasp the essence of teaching application more comprehensively and accurately, and provide ideological enlightenment for teaching and learning in the innovative information age [5].

Third, as an auxiliary means of artificial intelligence, ChatGPT is always the existence of things, which cannot transcend the social limitations of being artificially used and endangering human development and other public interests. In fact, the biggest loophole or weakness of ChatGPT application in teaching is the defects of value selection and science and technology ethics. That is to say, ChatGPT although it can be infinitely close to the human thinking, can have a strong natural language understanding and generating ability, but it will never completely replace the human thinking and behavior motivation spiritual pursuit, more cannot get rid of the human of usefulness and moral value and pursuit of science and technology ethics, so there must be artificial use, inappropriate use of ethical risks and social harmfulness. In view of the value selection of advantages and moral science and technology ethics in teaching application, ChatGPT is powerless, is also the urgent need to standardize and strengthen the application scenario management of the key, it is more difficult. There are 89% of American college students with ChatGPT homework, and even a lot of people use ChatGPT paper, cause university teachers, have announced banned students to use the ChatGPT homework, lead to many journals announced is not allowed to use ChatGPT papers, because not solved good application scenario management of science and technology ethical and academic moral problems. As for the difficult problem of the application of science and technology ethics, it mainly involves the deep teaching application problems such as the adjustment of professional setting, the optimization of curriculum structure and

the innovation of teaching mode. For example, the development of artificial intelligence fatal effect on talent demand, qinlan may lead to some industries or departments jobs replaced by robots, for the job training target of vocational colleges especially it is necessary to evaluate the new technology of talent demand change, adjust related professional Settings and course content. Again, for example, ChatGPT in teaching application of auxiliary teaching design, classroom teaching and teaching research, nature will receive the performance of twice the result with half the effort, but also can change the teaching mode, increase the teachers and students learning burden of new technology, affect the teaching comparison expectations of cost and benefit, the interests of teachers change motivation and behavior patterns and its cost should be seriously considered. This is another big problem for the application of ChatGPT in teaching, and it is also the social limitation that the new technology means can not get rid of the fate of artificial use. It still needs to be driven by the realistic interest demands and internal motivation of teachers and students in the teaching application scenario.

## **5 On Teaching and Learning Forms Under ChatGPT Teaching Application Scenarios**

After explaining the cognitive attitude towards ChatGPT, what ChatGPT has brought to teaching, what it has changed and the limitations of teaching application, we need to return to the original question, that is, what kind of teaching and learning is needed in the information age of “big data + Internet”? This is the focus of the application of ChatGPT in teaching, more related to the in-depth development of educational reform, is the fundamental goal and direction of the teaching revolution in the information age.

First of all, the relative solidification of the roles of teachers and students in the application scenario of ChatGPT teaching gives teachers more new educational thought connotation and teaching function orientation of “teaching”. From a technical point of view, as senior publisher Jun Lu points out, there is a “ceiling” to ChatGPT capabilities, more as an auxiliary tool to help better organize and express ideas. As a teacher, the core teaching ability is not the coded wisdom of logical expression and knowledge dissemination and inheritance, but the implicit and uncoded wisdom that can not be said, which is the essence of innovation and creative ability. As a kind of teaching wisdom and a kind of teaching behavior, teachers’ “teaching” is not a simple presentation, dissemination and inheritance of knowledge, but the excavation of the significance and value of knowledge in real life, and the cultivation of the motivation and ability to pursue to change themselves and social life. The teaching function is to guide students’ growth and progress and improve their comprehensive quality. The “teaching” of teachers is the internal motivation to stimulate students’ innovative consciousness, creative impulse and learning knowledge and skills driven by the guidance of educational thought and teaching function. In essence, it is a transmission mechanism based on knowledge transmission, ability cultivation and quality cultivation. Different from the traditional sense of “teaching” of existing common sense knowledge or inherent cultural inheritance, information age “teaching” is from the known to the unknown exploration and discovery, is with the existing knowledge to derive the unknown, solve the practical problems in real life creativity and innovation ability cultivation, emphasizes the teaching knowledge and



guide the combination of learning. That is to say, “teaching” in the traditional sense is an institutionalized arrangement of teaching culture, which emphasizes one-way teaching for students. Teachers play the role of “teachers” with knowledge authority, committed to teaching students to learn, and absolute right to speak and dominant position. Information age of the “teaching” is a kind of guide culture institutionalized arrangement, emphasizes the students to guide and guide the “double meaning” guide, teachers should play is “common learning participants” to “explore the unknown partners” “inherent culture heritage” “existing knowledge imparting” “quality development demonstrator” five one “guide” role. Visible, “teaching” of the information age is a kind of learning mode, teachers as guides teaching role is not absolute curing, but relatively curing, namely: the teacher in the process of learning according to the actual situation and students learning interaction atmosphere for their role in participants, partners, inheritance, teach, demonstrator make dynamic adjustment and constantly adjust, focus is on the research method guidance and direction guide in the dual sense of “guide”. In a word, no matter participation or cooperation, they only create an environment and enhance trust for “guidance”, and promote “cultural inheritance, knowledge transmission, quality development” is the true meaning of guidance.

Secondly, the relatively solidified role of teachers and students in the teaching application scenario of ChatGPT gives students more independent learning and personalized learning space for “learning”. Looking forward to the new form of learning in the future information age cannot be separated from the application of teaching technology basis and teaching means that cause the change of learning form. From the perspective of technical basis, the iterative update and innovative development of artificial intelligence make the adaptive teaching system based on machine learning constantly developed and mature. As a mature adaptive teaching system, ChatGPT provides safe and reliable technical support and application scenarios for students’ independent learning and personalized learning. In this way, students’ “learning” under the ChatGPT teaching application scenario will have different learning autonomy and personalized space. Specifically, the autonomy of learning is reflected in the independent choice of the time, place, content and diversified channels, methods and methods of learning. That is to say, when to learn, there, learn what knowledge or choose which specific information information, through which database or electronic, paper books for knowledge information, take online or offline learning, self learning, or teacher learning, listen to academic reports or access to information such as different learning methods, have greater choice, is no longer a passive, accept, cramming one-way knowledge infusion, objectively helps to build conducive to learning, students healthy growth and personality development environment atmosphere, really make “want me to learn” to “I want to learn” fundamental transformation is possible. As for personalized learning, concrete performance for the purpose of learning, pertinence and effectiveness of unprecedented enhancement, not only overcome the previous class teaching uniform, centralized and unified limitations, and maximize the meet the students in the process of individual situation, personality differences, individual development of diversified demand, objectively help to stimulate learning inner enthusiasm and strong interest, making learning to promote personality development and comprehensive growth progress, with highly conscious first need, and is no longer an external competition pressure and social stimulation.

Third, the ChatGPT teaching application scenario under the absolute realization of learning, gave rise to the project cooperation, participate in fusion, research discussion type new teaching form, gives the information age of “teaching” and “learning” behavior revolutionary changes, greatly promote the benign interaction of teaching and learning, deep integration and integration development. ChatGPT In the teaching application scenario, “teaching” and “learning”, the biggest breakthrough and innovation in the application of educational technology means, is the teaching intervention of learning machines. The emergence of intelligent learning machines not only provides technical conditions for the interaction between teachers and machines and the teaching thinking of man-machine combination, but also provides important power and technical addition for students’ personalized learning and independent learning, thus forming a tripartite relationship between teachers, machines and students in the application scenario of new technology. Especially teachers and technology research and development professionals for learning machine interactive training, greatly strengthen the intelligent level of learning machine and ability to cope with complex learning scene, make the machine by a single teaching aid to teaching engineering teachers, machines, students in the fundamental change of independent teaching role. Facing the new teaching role of machine, both teachers and students need to learn and adapt to the new role of machine. For the learning and adaptation of new technologies and new things, students often have more sensitive, understanding and natural advantages than teachers, so the phenomenon that students may not be as good as teachers gradually become normal. In this case, the traditional principle of teaching and learning is endowed with new educational connotation, which has more teaching democracy color of teacher-student interaction and complementary advantages. Learning from students and improving the cognitive level and application ability of intelligent learning machines and other artificial intelligence technologies have become a new requirement for teachers in the teaching revolution in the information age. Teachers need to think seriously about and actively explore a series of new problems brought about by the teaching revolution, such as how to teach in the information age, how to have their own core competitiveness, how to ensure the dominant position in the teaching process, and how to play the role of guiding learning for students. Only by solving these problems first, can we complete the fundamental transformation of teaching mode and classroom mode in the information age. As for the new teaching forms, such as project cooperation, participation and discussion, which are gradually explored in the teaching reform, they are actually important products of the above changes, which reflect the great role of teaching technology innovation and the application of information teaching means in promoting the teaching revolution. It can be seen that it is the teaching application of ChatGPT that makes the teaching and learning absolutely realized, strengthens the new equal relationship between teaching democracy and teachers and students, and promotes the benign interaction, deep integration and integrated development of teaching and learning.

## 6 Conclusions

To summarize, this paper thinks that the biggest change in teaching and learning in the information age of “Big Data + Internet” is the teaching application of ChatGPT and the huge power and technology bonus it brings. It is this huge help and technical addition

that makes the educational concept, talent training mode, teaching thought, teaching and learning behavior, teaching methods and technical means all fundamentally changed or significantly updated. Historically, ChatGPT and other artificial intelligence based on machine learning and assist teaching are not wild beasts, but a great help to promote the educational reform and deepen the teaching reform in the information age, which plays an irreplaceable role in promoting the development of human intelligence and improving human thinking ability and level. Looking into the future, the relationship between teaching and learning in the information age will be reshaped, and teachers will play more “participants of learning together”, “explore the unknown”, “inheritance of inherent culture”, “existing knowledge”, “quality development model” “guide” role, its leading role of innovation and irreplaceable substitution will be more prominent and obvious; students will have more independent learning and personalized learning space, truly become the master of learning, so as to realize the fundamental change of “I want to learn” to “I want to learn” under the modern quality education.

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