

The Dilemma and Transformation of Teacher Roles in the Context of ChatGPT

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Abstract. Artificial intelligence such as ChatGPT has had a huge impact on the development of education. With the development and application of ChatGPT in the field of education, the issue of teacher roles being challenged has received widespread attention. This article discusses the development issues and transformation paths in the context of ChatGPT. This article believes that the role of teachers faces some challenges under the impact of artificial intelligence and urgently needs to adapt and transform. These issues include the weakening of teacher authority, alienation of teacher-student relationships, insufficient self-awareness of teacher roles, and a gap between knowledge and practice in teacher teaching practice. Based on this, this article analyzes that teachers need to transform from the original single teaching mode to guides, learning partners, "pilots" collaborative educators, integrators of teaching resources, and cultivators of knowledge construction for student learning. Therefore, to help teachers achieve better identity conversion, this article proposes the following suggestions. Teachers should fully understand their educational attributes, actively explore scientific educational methods, enhance their educational technology capabilities, integrate new-era educational resources, and help students become the leaders of learning.

Keywords: ChatGPT, teacher role, convert path.

1. Introduction

With the development of artificial intelligence technology and its widespread application in various fields, the education sector is facing unprecedented development opportunities and profound changes. The integration of artificial intelligence in education has sparked heated discussions about the potential of intelligent education, focusing on the transformation of education modernization, digitization, and intelligence. At the same time, the rise of intelligent technology not only reshapes the face of education but also promotes fundamental changes in the pattern of the education field. The original single "person person" education model is gradually expanding into a "person machine person" collaborative model, marking the formal entry of education and teaching into a new era of human-machine collaborative education. The introduction of ChatGPT has brought revolutionary changes to the field of education, greatly promoting innovation and the development of educational models. It has successfully broken through the constraints of traditional education, making the educational process more flexible and varied, and achieving a transformation from simply imparting knowledge to cultivating all-round abilities. For students, ChatGPT not only provides personalized and customized learning experiences but also stimulates their learning enthusiasm and autonomy. For teachers, ChatGPT has become a precise and efficient teaching assistant, promoting the construction of the new education model of "teacher-student technology", greatly improving the quality and efficiency of education and teaching. More importantly, ChatGPT utilizes advanced intelligent technology to conduct in-depth analysis, integration, and generation of educational resources, achieving a balanced distribution of educational resources. This means that regardless of geographical location, students can have access to high-quality educational resources, effectively promoting the realization of educational equity. In addition, the introduction of ChatGPT has also promoted the

transformation of the education evaluation system, making evaluation more diversified and accurate. Not only is the evaluation subject more diverse and diverse, including students, parents, and various sectors of society, but the evaluation content also covers multiple aspects such as knowledge, abilities, emotions, etc. The evaluation methods are also becoming increasingly diversified, thus more comprehensively and deeply reflecting the learning situation and growth trajectory of students. Finally, the application of ChatGPT technology further promotes the collaborative development of the education ecosystem. It strengthens the deep integration and interaction between education and other fields, injects new vitality into the future development of education, and promotes the continuous progress of the education industry.

It is an undeniable fact that the connotation of the teacher's role will change in the collaborative coexistence with artificial intelligence [1]. Given this, this article starts from the self-dilemma of teacher roles under the impact of ChatGPT, explores the repositioning of teacher roles under ChatGPT technology, and proposes corresponding strategies, to provide certain value references for the reshaping of teacher roles and promote the professional development of teachers themselves.

2. The Value Connotation and Dilemma of the Teacher's Role

2.1. The Value Connotation of the Teacher's Role

The concept of "role" was initially introduced by G.H. Mead, the founder of social semiotic interaction theory, who borrowed concepts from drama and defined it as a specialized term for the portrayal of specific characters. At a deeper level, roles essentially describe an individual's identity positioning, social status, scope of responsibilities, and corresponding behavioral patterns within a certain system [2].

In the field of education, the role of teachers is particularly prominent. It is not only a preset image displayed by teachers in educational practice, but also an expectation of society towards teacher responsibilities, and a reflection of the value of teachers' self-identity [3]. Since ancient times, the role of teachers has been centered around imparting knowledge, closely related to the internal logic of knowledge and the external expectations of society, becoming defenders and disseminators of knowledge. This role requires teachers not only to promote students' academic development through knowledge teaching but also to promote the process of student socialization to ensure the stable continuation of specific social forms.

In traditional society, the knowledge scope of Confucian culture is relatively limited. Teachers use the "Four Books and Five Classics" as legal textbooks and the "Imperial Examination" as teaching objectives, further strengthening the image of teachers as legal authorities of knowledge [3]. However, with the establishment of the modern school education system, subject-based teaching has gradually deepened, and knowledge has been divided into independent and scattered fields. The responsibility of teachers has gradually been simplified to mechanically impart exam knowledge such as concepts and laws to students, leading to the dominance of "textbooks" in knowledge teaching and weakening the main role of teachers as knowledge transmitters.

Under the empowerment of ChatGPT technology, the positioning of the teacher's role demonstrates its unique value implications. This technology has not only brought unprecedented changes to the field of education but also facilitates the re-examination and positioning of the role of teachers in the teaching process.

2.2. Teacher's Role Dilemma

2.2.1. Weakened teacher authority

ChatGPT can provide a large amount of information and knowledge to help students with personalized learning and self-directed learning, and the status of teachers as knowledge authorities is challenged. Students can acquire knowledge through various channels, which puts the traditional role of teachers under attack.

First, technologies such as ChatGPT revolutionize the production and dissemination of knowledge. These technologies can not only answer various questions, and provide information and suggestions, but also simulate human knowledge expression and reasoning processes to a certain extent. This change makes the access to knowledge more diversified, so that students no longer rely entirely on teachers to impart knowledge, but can obtain the required information through independent learning and online inquiry. In this case, the knowledge authority of teachers is challenged to some extent, because students can obtain similar or even broader information than the content provided by teachers through technology platforms. Secondly, the widespread application of artificial intelligence technologies such as ChatGPT has also changed the learning styles and habits of students. Students are more inclined to learn independently through search engines or intelligent assistants, rather than passively accept the teacher's infusing teaching. In some cases, these techniques can provide more accurate and comprehensive knowledge answers. This situation calls into question the knowledge authority of teachers, as students may believe that knowledge acquired through technology platforms is more reliable and comprehensive. In addition, the intelligence and interactivity of technologies such as ChatGPT also provide students with more learning options and possibilities. Through dialogue and communication with intelligent assistants, students can obtain more personalized and accurate learning advice and guidance. This way of learning enables students to get rid of their dependence on teachers to a certain extent, thus weakening the authority of teachers. Finally, it's worth noting that while technologies such as ChatGPT have reduced the teacher's position of authority to some extent, that doesn't mean the teacher's role has become less important. On the contrary, the development of these technologies provides teachers with more teaching resources and means, making teaching more efficient and personalized.

2.2.2. Distant teacher-student relationships

In the context of large-scale language models such as ChatGPT and the rapid development of artificial intelligence technology, the teacher-student relationship is indeed facing the challenge of alienation. This alienation is not only reflected in the emotional communication between teachers and students but also involves many aspects such as teaching mode, interaction mode, and role positioning. ChatGPT provides more in-depth and professional answers. This convenient access to information reduces students' dependence on teachers, which makes students no longer completely dependent on teachers' knowledge because students can obtain similar or even more extensive information with the content provided by teachers through technology platforms. However, this way of learning may also make students overly dependent on technology and neglect the emotional exchange and humanistic care with teachers. While pursuing efficiency and convenience, students may overlook the importance of establishing a deep emotional connection with teachers, and the fast-paced life of modern society also has an impact on teacher-student relationships. Teachers are faced with heavy teaching tasks and research pressure, and it is difficult to spare enough time for in-depth communication and interaction with students. Students, on the other hand, may neglect their contact with teachers because they are busy with extracurricular activities and social networking on the Internet. This two-way neglect and lack of communication further exacerbates the alienation of teacher-student relations.

2.2.3. Different self-role cognition

The self-perception theory was developed by the American psychologist Gordon Allport in the 1950s. According to this theory, individual self-cognition is a gradual and constantly changing process, which is gradually formed through self-observation, self-evaluation, self-reflection, and feedback from others. Self-cognition involves the depth, breadth, and accuracy of an individual's self-cognition [4].

The difference in teachers' self-role cognition is not only affected by technical factors but also by personal experience, educational background, teaching philosophy, and other factors. Under the background of ChatGPT, teachers need to constantly reflect and adjust their role positioning to adapt to the new educational environment and teaching needs. Some teachers may position themselves as partners and facilitators of learning. They recognize that in the ChatGPT era, students can access

information and knowledge through dialogue with these language models, and teachers are no longer the only source of knowledge. As a result, they prefer to work with tools such as ChatGPT to provide guidance, support, and feedback to students. Some teachers may find their roles challenging and confusing. ChatGPT and other artificial intelligence technologies have, to some extent, dispelled the authority of teachers as "spokesmen" of knowledge and truth, and broken the absolute right of teachers to speak knowledge. This may lead some teachers to have a sense of uncertainty about their role positioning, and even a sense of professional crisis. They may need to rethink their roles and responsibilities in terms of knowledge delivery, student guidance, and educational ethics.

2.2.4. The gap between knowledge and practice

Although the individual has mastered the knowledge or theory related to teacher transformation, it is difficult to translate it into effective action or practice in the actual situation. This is a practical action that needs to be internalized in mind and externalized in action for a long time.

Some teachers may have extensive subject knowledge and teaching experience, but feel unfamiliar or uncertain about how to apply advanced technologies such as ChatGPT to assist teaching. This can lead to them not being able to use the full potential of these technologies in their actual teaching, creating a gap between knowledge and practice. How to effectively integrate these technologies into teaching practice and maximize their utility is a question that needs to be explored in depth. Teachers need to constantly learn and adapt to these new technologies to keep up with The Times. Teachers' acceptance of new technologies and their willingness to apply them may also affect the connection between knowledge and practice. Some teachers may be conservative about new technologies or believe that traditional ways of teaching still work and are therefore reluctant to try or embrace new technologies. This mindset can lead them to miss opportunities to use advanced technologies such as ChatGPT to improve their teaching, thereby exacerbating the gap between knowledge and practice.

3. Transformation of the Teacher's Role

In response to the weakening of teacher authority, alienation of teacher-student relationships, differences in self-role cognition, and the gap between knowledge and practice, teachers should actively transform their roles from traditional knowledge transmitters to guides, collaborators, and lifelong learners of students, committed to building equal and harmonious teacher-student relationships, enhancing self-awareness and professional competence, and emphasizing the combination of theory and practice to narrow the gap. Through the application of technologies such as ChatGPT, innovation and development in education and teaching can be achieved.

3.1. Transformation from Traditional Knowledge Imparters to Explorers of Professional Growth

The purpose of teachers is to cultivate virtue and cultivate talents. Teachers should base themselves on the goal of comprehensive education, which is to cultivate advanced talents for society scientifically and reasonably and promote the comprehensive development of students. At the same time, teachers should deeply reflect on the essence of their roles and stimulate their subjectivity to engage in inner dialogue. In the era of weak artificial intelligence, the goal of teachers is to cultivate talents different from machines, which means that learning and mastering knowledge need to be solved by students themselves, including all professional problems. Therefore, the role of teachers at this time is to guide students to face and solve problems, but all methods have not promoted the development of students' innovative consciousness, leading to the stagnation of their abilities. Nowadays, with the rapid development of artificial intelligence technology, the role of teachers has been repositioned. As cultivators of innovative and critical thinking, teachers should encourage students to actively use their brains, transcend textbooks, break free from traditional thinking patterns, and thus achieve self-transcendence. Schools should also regularly organize teachers to watch the teaching modes of excellent teachers, including education and training for new and old teachers. The onboarding training for new teachers and the technical updates for old teachers enable them to learn

excellent teaching methods. By regularly organizing education and training, teachers can adapt more quickly to changes in their roles, thereby achieving a steady improvement in teaching quality. Teachers should voluntarily accept and apply artificial intelligence technology. Because most teachers are accustomed to passively applying new technologies during the practical process. Therefore, for teachers to become active users of artificial intelligence technology, they should be more inclined to apply artificial intelligence in terms of educational purposes, teaching needs, subject-teaching characteristics, and personal teaching habits [5].

3.2. Transformation from Knowledge Transmitters to Learning Guides

The application of technologies such as ChatGPT allows teachers to free themselves from tedious knowledge transmission, pay more attention to students' learning needs and interests, and guide them to learn and explore independently.

Teachers are no longer just transmitters of knowledge, but creators and designers of content. They can design courses, integrate learning resources provided by ChatGPT, and provide students with richer and higher-quality learning materials. ChatGPT can also be used to provide personalized learning experiences based on students' learning needs and habits, under the supervision and guidance of teachers, to help students learn according to their own pace and interests. In this learning process, teachers change the previous mode of blindly imparting knowledge, stimulate students' curiosity and exploratory desire, and guide them to engage in critical thinking and creative thinking [6]. Finally, ChatGPT can be used to assess students' learning progress and understanding level, and then provide timely and personalized feedback to help students improve and progress.

3.3. Transformation from Classroom Leader to Learning Partner

In the new teaching environment, the boundary between teachers and students is gradually blurred, and teachers are becoming more of students' learning partners and collaborators, jointly exploring and solving problems, and enhancing emotional connections between teachers and students.

Traditionally, teachers, as the authority of knowledge and the leader of the classroom, are responsible for imparting information and guiding learning. However, with the popularity of tools such as ChatGPT, students can now easily access a large amount of information, which requires teachers to reposition their roles. Teachers are no longer the only source of knowledge but have become learning partners. Their role has shifted more towards guiding students to critically think, analyze, and apply this information. Firstly, teachers themselves should actively learn new era concepts and technologies, strive to adapt to their new roles, learn to fully utilize artificial intelligence to plan reasonable teaching topics, and help students acquire classroom knowledge in a novel way. Secondly, because teachers need to face different student groups, they need to play different roles in such environments. Therefore, teachers should follow the concept of lifelong learning, constantly learn new technologies and knowledge, accumulate enough experience, and clarify their responsibilities and obligations in the era of weak artificial intelligence. Teachers now need to focus on cultivating students' creativity, problem-solving skills, and lifelong learning skills, while utilizing AI tools to enhance teaching effectiveness, promote personalized learning, and provide students with deeper levels of interaction and participation opportunities [7]. Through this approach, the relationship between teachers and students becomes more equal and collaborative, jointly building a supportive and dynamic learning environment.

3.4. Transformation from a Single Educator to a "Pilot" Collaborative Educator

Teachers not only need to have solid subject knowledge and master modern educational technology, but also need to improve their digital literacy, use ChatGPT to carry out their teaching, carry out human-machine cooperation, and achieve "pilot" collaborative education.

This change means that teachers are no longer just one-way transmitters of knowledge, but have become guides, facilitators, and collaborators in the learning process. As pilots, teachers are responsible for driving and integrating various educational technologies, including ChatGPT, to

create an interactive, personalized, and effective learning environment. They utilize the advanced technology of ChatGPT to assist teaching, providing students with personalized and exclusive learning paths, and improving teaching effectiveness and efficiency. At the same time, teachers can also guide and inspire students to think, and cultivate their innovative and critical thinking abilities, as well as problem-solving abilities and patience, thereby improving the quality and value of education. In this process, teachers collaborate with students, technical tools, and other educators to form a multidimensional educational network, jointly promoting the comprehensive development and lifelong learning of students.

3.5. Transformation from a User of Teaching Resources to an Integrator of Teaching Resources

Traditionally, teachers mainly serve as users of teaching resources, responsible for delivering textbooks, course content, and teaching methods to students. However, with the emergence of tools such as ChatGPT, teachers now have the opportunity to transform into integrators of teaching resources, utilizing these advanced technologies to enhance teaching experience and improve learning efficiency.

Teachers can now use ChatGPT to create personalized learning paths and customize teaching content based on the specific needs and interests of each student. Students are people who are constantly developing. Therefore, when teaching, teachers should create more interesting problem scenarios to stimulate students' interest in learning, create a good learning atmosphere, and enable students to enter the learning mode through curiosity, thereby stimulating their potential and creativity. In the era of artificial intelligence, students' innovative thinking ability and critical thinking ability are very important. That is to say, in the process of learning, students should have the initiative to argue and develop sharp abilities and literacy. In addition, ChatGPT can help teachers quickly obtain information, answer students' questions, and even provide additional learning materials and resources [8]. By integrating these resources, teachers can design courses more effectively and promote the development of students' critical thinking and innovation abilities. Teachers need to have the ability to integrate and evaluate various teaching resources to ensure that these resources can effectively support students' learning goals. This transformation requires teachers to constantly learn and adapt to new technologies, while also providing them with new opportunities to teach in more innovative and interactive ways.

3.6. Transformation from a Trainer of Knowledge Teaching to a Cultivator of Knowledge Construction

Under the influence of artificial intelligence technologies such as ChatGPT, the role of teachers is shifting from being traditional knowledge trainers to being cultivators of knowledge construction. This transformation means that teachers are no longer just objects of imparting knowledge, but have become partners guiding students on how to acquire, analyze, critique, and create knowledge.

In this new role, teachers utilize tools such as ChatGPT to promote active learning and exploration among students. They design open-ended questions and projects, encouraging students to use artificial intelligence as an auxiliary tool for research and learning, thereby stimulating their curiosity and curiosity. Teachers guide students on how to effectively utilize ChatGPT to obtain information, evaluate the reliability of information, and integrate this information into their knowledge system. Through this approach, teachers become a part of the learning community, exploring the unknown and growing together with students. To help students correctly understand and use artificial intelligence science and technology. Encourage students to use science and technology when they have problems, but not rely entirely on machines. Their roles have become more dynamic and interactive, focusing on cultivating students' lifelong learning ability and ability to adapt to future society, promoting their comprehensive development.

4. Conclusion

The application of artificial intelligence technology such as ChatGPT has brought revolutionary changes to the field of education and has also profoundly affected the role positioning and transformation of teachers. Although ChatGPT poses great challenges to education and currently faces many difficulties, the use of artificial intelligence technology like ChatGPT will bring breakthrough development opportunities for basic education, and basic education will usher in the intelligent teaching of teachers enabled by ChatGPT. The introduction of ChatGPT breaks the limitation of traditional education and promotes the transformation of education mode from single knowledge imparting to diversified ability cultivation. ChatGPT shows that it can understand and respond, to content creation, interactive situation dialogue, sequential task execution, etc. These abilities will deeply cultivate the teaching mode, learning mode, evaluation mode, governance mode, and other fields of basic education. In the new teaching environment, teachers need to renew their educational concepts and improve their quality and ability to adapt to the new teaching needs. In the future, as technology continues to evolve and be applied, the role of the teacher will continue to undergo profound changes, so the impact of these changes on educational practice needs to be continuously monitored and explored.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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