

# Teacher Identity in the Era of Intelligence

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**Abstract:** With the rapid development of artificial intelligence technology, the field of education is undergoing profound changes, posing new challenges and opportunities for teachers in terms of role, professional identity, and professional development. This paper first analyzes the connotation of teacher identity, encompassing role identity, professional identity, and aspects related to professional growth. Subsequently, the article elaborates on the challenges faced by teachers in the intelligent era, such as the weakening of role authority, the threat to professional status, and the pressure on professional skills. At the same time, the article also highlights the opportunities presented by the intelligent era, including the possibility of role transformation, the advantages of technology empowerment, and new avenues for professional development. On this basis, this paper proposes coping strategies for teachers to address identity challenges in the intelligent era, including re-examining role orientation, improving technology application skills, enhancing professional quality, actively participating in human-machine collaboration, and paying attention to ethics and safety. Finally, through case analysis, the article showcases the practical experiences of teachers who have successfully undergone identity transformation and looks forward to the development trend of teacher identity in the intelligent era, offering research prospects and suggestions for future exploration.

**Keywords:** Smart Age; Teacher Identity; Challenges; Opportunity; Coping Strategies

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## 1.Introduction

The current era is an era of rapid change led by artificial intelligence technology. This technological revolution not only reshapes the economic pattern and social structure, but also profoundly affects the development track of education. Artificial intelligence, with its powerful data processing capabilities, intelligent decision support, and continuously optimized learning algorithms, is gradually infiltrating and changing the face of education, making it more personalized, efficient, and intelligent<sup>[1]</sup>. Education, as the cornerstone of shaping future members of society, inheriting civilization and knowledge, and cultivating innovation ability<sup>[2]</sup>, its transformation and development undoubtedly have far-reaching significance for the overall progress of society.

Under the background of this intelligent era, the role and orientation of teachers are no longer limited to knowledge imparters in the traditional sense, but are facing unprecedented challenges and reshaping. Teachers' identity, a core concept related to their self-cognition, professional value and professional belonging<sup>[3]</sup>, is undergoing profound changes. Identity is not only related to teachers' personal career satisfaction and happiness, but also a key factor affecting the quality of teaching, educational innovation and the stability of teachers<sup>[4]</sup>. The wide application of intelligent technology, on the one hand,

provides teachers with rich teaching resources, efficient teaching tools and accurate teaching evaluation methods, which greatly broadens the boundaries and possibilities of education ; on the other hand, it also puts forward new requirements for teachers' professional skills, information literacy and ways of interacting with students, and even triggers a wide discussion on the irreplaceability of the teaching profession<sup>[5]</sup>.

In the face of the opportunities and challenges brought by the intelligent era, the crisis of teachers' identity is gradually emerging<sup>[6]</sup>. On the one hand, some teachers may feel marginalized due to technical anxiety and lack of skills, fearing that their role in intelligent systems is weakened or replaced ; on the other hand, how to effectively integrate intelligent technology while maintaining humanistic care and education temperature has become a practical problem that every teacher must face<sup>[7]</sup>. In addition, the intelligent transformation of the education evaluation system may also lead teachers to rely too much on data indicators and ignore the essence of education-to promote students' all-round development and personality growth<sup>[8]</sup>.

Therefore, exploring the identity of teachers in the intelligent era is not only a deep concern for the individual career development of teachers, but also a profound reflection on the nature of education, educational equity and the future direction of education. Analyze the connotation of teachers' identity, that is, to understand their self-positioning, value pursuit and career path in the intelligent environment; to reveal the crisis faced by identity, such as technical fear, role ambiguity and the pressure brought by the change of evaluation system ; and put forward effective coping strategies, such as strengthening teacher training, promoting the integration of technology and humanities, building an inclusive and flexible evaluation mechanism, etc.<sup>[9]</sup>, which is of great significance for guiding teachers' professional growth, promoting educational innovation, and realizing the smooth transition and sustainable development in the field of education. In a word, the issue of teachers' identity in the era of intelligence is an unavoidable and important issue in the process of educational modernization, which is worthy of our in-depth discussion and practice.

## 2. Connotation of Teacher Identity

The connotation of teachers' identity is a complex and rich concept. It is not only a simple understanding of teachers' personal identity, but also a deep understanding and acceptance of their multiple roles in the education system. This identity process covers three core aspects: role identity, professional identity and professional identity. They are intertwined and together constitute a complete framework of teacher identity.

Role identity is the basis of teacher identity. In the traditional education mode, teachers are often given the role of knowledge imparter, classroom manager and student guider. These roles define the basic responsibilities and behavior patterns of teachers in the process of education. However, with the advent of the intelligent era, the form and demand of education have undergone profound changes, and the role of teachers has also changed. They are no longer merely indoctrinators of knowledge, but mentors, resource integrators, and collaborative innovators in the student learning process<sup>[10]</sup>. This role change requires teachers to re-examine their own position in the education system, understand and accept the new role responsibilities and mission. This is not only a challenge to teachers' personal adaptability, but also a renewal and reshaping of their educational concepts. Professional identity is the core of teacher identity. It is related to teachers' sense of identity and belonging to their own educational profession, and is the source of teachers' professional satisfaction and happiness. In the era of intelligence, the professional status of teachers is facing unprecedented challenges<sup>[11]</sup>. With the rapid development and application of artificial intelligence technology, some educational tasks have been automated, and there is even a trend of replacing teachers in some fields. This threat has shaken teachers' professional identity to a certain extent and triggered professional anxiety and uncertainty. However, in the face of challenges, teachers should strengthen their professional self-confidence and correctly view the educational changes brought about by artificial intelligence technology. They should realize that although technology can simulate certain educational processes, teachers' humanistic care, emotional communication and personalized guidance are irreplaceable by machines. Therefore, actively responding to professional challenges and improving professional quality and innovation ability are the key to consolidating teachers' professional identity. Professional identity is an important part of teacher identity. It reflects the degree of teachers' self-confidence in the sense of identity and professionalism of the educational profession they are engaged in. In the era of intelligence, the advantages of teachers' professional skills have been suppressed to a certain extent<sup>[12]</sup>. The application of artificial intelligence in the field of

education is increasingly widespread. From intelligent teaching systems to personalized learning path recommendations, technological innovations continue to challenge teachers' professional skills<sup>[13, 14]</sup>. However, this does not mean that teachers will lose their professional status. On the contrary, it requires teachers to continuously improve their professional quality and adapt to new educational technologies and teaching methods. Through continuous learning, practice and innovation, teachers can strengthen their professional identity and become the leader and promoter of educational reform in the intelligent era.

Therefore, the connotation of teacher identity is a multi-dimensional and multi-level concept, which covers three aspects: role identity, professional identity and professional identity. In the era of intelligence, teachers should actively face challenges, re-examine and position their roles, strengthen professional self-confidence, and improve professional quality, so as to strengthen identity and promote the common development of individuals and education.

### **3.Challenges Faced by Teachers' Identity in the Intelligent Era**

With the rapid development of artificial intelligence technology, the field of education is undergoing unprecedented changes. In this change, teachers' identity faces many challenges, which are not only related to teachers' personal career development, but also affect the future direction of the whole education system. The following will discuss in detail the challenges faced by teachers' identity in the intelligent era from three aspects: the weakening of role authority, the threat of professional status and the pressure of professional skills.

#### **3.1 Weakening of Role Authority**

In the era of intelligence, artificial intelligence technology is gradually changing the face of education with its efficient and accurate characteristics<sup>[15]</sup>. This technology not only provides students with rich learning resources and information, but also makes the learning process more personalized and efficient through intelligent learning paths and evaluation feedback<sup>[16]</sup>. However, this change also weakens the traditional role authority of teachers to a certain extent. In the traditional education model, teachers, as the imparter of knowledge and the controller of the classroom, have a high authority. They guide students to learn and master knowledge through teaching, demonstration and evaluation. However, in the era of intelligence, students can easily obtain a large amount of learning resources and information through artificial intelligence technology, and no longer rely entirely on teachers' teaching. This change in the way of information acquisition has challenged the authority of teachers in imparting knowledge.

In addition, artificial intelligence technology can also provide personalized learning paths and evaluation feedback, so that students can learn independently according to their own needs and interests in the learning process. This change in the way of learning further weakens the control of teachers in the teaching process. Teachers are no longer the only guide of students' learning, but become the tutors and supporters in the process of students' learning. This change of role makes teachers need to re-examine their role and try to adapt to the new educational environment.

#### **3.2 Occupational Status Threats**

With the continuous development of artificial intelligence technology, some simple and repetitive teaching tasks are gradually replaced by machines<sup>[17]</sup>. This trend has aroused people's concern about the professional status of teachers. Some people even believe that in the near future, teachers may be completely replaced by artificial intelligence technology. This concern not only affects the professional stability of teachers, but also may lead to a decrease in teachers' sense of identity and belonging to their own profession<sup>[10]</sup>. In fact, although artificial intelligence technology can complete some simple teaching tasks, its application in the field of education still has some limitations. For example, artificial intelligence technology cannot completely replace the role of teachers in humanistic care, emotional communication, and personalized guidance<sup>[18]</sup>. However, the existence of this concern still has a lot of psychological pressure on teachers. They began to worry about their career prospects, worried that they would be replaced by machines. This concern not only affects teachers' career satisfaction and well-being, but also may lead to their lack of enthusiasm and creativity in their work.

In order to cope with the threat of this professional status, teachers need to constantly improve their professional quality and innovation ability. They need to pay attention to the latest developments and technological developments in the field of education, and understand the application prospects and limitations of artificial intelligence technology in education. At the same time, they also need to actively explore new teaching methods and strategies to meet the educational needs of the

intelligent era. Through these efforts, teachers can enhance their professional competitiveness and improve their status and value in the field of education.

### 3.3 Professional Skills Under Pressure

The era of intelligence requires teachers to have new teaching skills and knowledge. However, many teachers feel powerless in the face of artificial intelligence technology. They lack the necessary technical literacy and knowledge reserve, and cannot effectively integrate artificial intelligence technology into teaching practice. The pressure of this professional skill makes teachers face great challenges in adapting to the educational needs of the intelligent era.

Firstly, teachers need to master certain information technology and data analysis capabilities. They need to understand the basic principles and application scenarios of artificial intelligence technology, and be able to use information technology to carry out curriculum design and teaching implementation. At the same time, they also need to have data analysis capabilities that can collect, analyze and interpret students' learning data to develop personalized teaching strategies and evaluation programs. Secondly, teachers need to have innovative thinking and interdisciplinary integration ability. In the era of intelligence, education is no longer limited to traditional subject knowledge, but pays more attention to cultivating students' innovative thinking and practical ability<sup>[19]</sup>Minzu University of China, No. 27 Zhongguancun South Avenue, 100081, Beijing, China</auth-address><titles><title>Generative artificial intelligence attitude analysis of undergraduate students and their precise improvement strategies: A differential analysis of multifactorial influences</title><secondary-title>Education and Information Technologies</secondary-title></titles><periodical><full-title>Education and Information Technologies</full-title></periodical><pages>1-36</pages><number>prepublish</number><keywords><keyword>Generative artificial intelligence (GenAI). Therefore, teachers need to have interdisciplinary knowledge background and integration ability, and can integrate the knowledge and methods of different disciplines to provide students with a richer and more diverse learning experience. However, the learning and mastery of these new skills is not achieved overnight. Many teachers feel powerless in the face of these challenges and lack the necessary support and guidance. The education sector and schools need to provide teachers with the necessary training and support to help them acquire new teaching skills and knowledge<sup>[20]</sup>. At the same time, teachers also need to maintain a positive learning attitude and innovative spirit, constantly challenge themselves and surpass themselves to meet the educational needs of the intelligent era.

Therefore, the identity of teachers in the intelligent era faces many challenges. These challenges are not only related to the personal career development of teachers, but also affect the future direction of the entire education system. In order to cope with these challenges, teachers need to constantly improve their professional quality and innovation ability, pay attention to the latest trends and technological development in the field of education, and actively explore new teaching methods and strategies. At the same time, education departments and schools also need to provide teachers with the necessary support and guidance to help them adapt to the educational needs of the intelligent era. Through these efforts, we can jointly promote the sustainable development of education and contribute to the cultivation of more talents with innovative spirit and practical ability.

## 4. Coping Strategies of Teachers' Identity in the Intelligent Era

The arrival of the intelligent era not only brings about the innovation of educational technology<sup>[21]</sup>, but also poses new challenges to teachers' role positioning, professional quality and professional identity. In order to effectively deal with these challenges, teachers need to adopt a series of positive strategies to resolve the identity crisis and realize the dual development of individual and career. The following will discuss in detail the coping strategies of teacher identity in the intelligent era from four aspects: re-examining role positioning, strengthening professional self-confidence, improving professional quality and strengthening professional identity.

### 4.1 Re-Examine the Role Positioning

In the era of intelligence, the role of teachers is no longer limited to the imparter of knowledge, but needs to develop in a more diversified and comprehensive direction. In the face of this change, teachers need to re-examine their own role positioning and clarify new role responsibilities and missions.

Firstly, teachers should change from the imparter of knowledge to the tutor in the process of students' learning. With the

help of intelligent technology, students can more easily obtain various learning resources, but how to effectively integrate these resources, how to deeply understand and apply the knowledge learned, still need teachers to provide professional guidance and guidance. Therefore, teachers need to pay attention to students' learning process, understand their learning needs and difficulties, and provide personalized learning suggestions and support. Secondly, teachers should become resource integrators. In the era of intelligence, the diversity and richness of educational resources are unprecedented. Teachers need to have a strong ability to integrate resources, be able to select the most suitable content for students from a large number of learning resources, and build a personalized learning path. At the same time, teachers also need to have an interdisciplinary knowledge background, which can integrate the knowledge and methods of different disciplines to provide students with a more comprehensive and in-depth learning experience. Finally, teachers should become collaborative innovators. Educational innovation in the era of intelligence is no longer limited to a single discipline or field, but requires interdisciplinary and interdisciplinary collaboration. Teachers need to actively participate in various educational innovation projects and practices, and conduct in-depth cooperation with peers, students, enterprises and other parties to explore new educational models and teaching methods.

#### **4.2 Firm Professional Self-Confidence**

In the face of the impact of artificial intelligence technology, teachers' professional self-confidence is often easily shaken. However, firm professional self-confidence is an important prerequisite for teachers to meet the challenges of the intelligent era. Firstly, teachers should correctly view the educational changes brought about by artificial intelligence technology. Although artificial intelligence technology can replace some of the functions of teachers to a certain extent, its unique role and value in the education process cannot be completely replaced. For example, teachers' ability of humanistic care, emotional communication and personalized guidance is incomparable to artificial intelligence technology. Therefore, teachers should actively embrace artificial intelligence technology as an important tool to improve the quality and efficiency of education and teaching, rather than an enemy that threatens their professional status. Secondly, teachers should pay attention to their own career development. In the era of intelligence, teachers need to continuously improve their professional quality and teaching ability to adapt to new educational needs and technological changes. By participating in various trainings, seminars and exchange activities, teachers can constantly broaden their horizons and knowledge and enhance their professional competitiveness.

#### **4.3 Improving Professional Quality**

In the era of intelligence, teachers' professional quality is the key to meet the challenges. In order to improve professional quality, teachers need to strengthen learning and practice, and constantly adapt to new educational technology and teaching methods. Firstly, teachers should strengthen the study and research of artificial intelligence technology. By deeply understanding the basic principles and application methods of artificial intelligence technology, teachers can better master this technology and apply it to educational practice. For example, teachers can use artificial intelligence technology to explore and practice learning situation analysis, personalized learning path design, and teaching effect evaluation. Secondly, teachers should actively participate in the practice of educational innovation. By participating in various educational innovation projects and practices, teachers can constantly try new teaching models and teaching methods to improve their teaching ability and professional quality. At the same time, teachers can continue to expand their educational horizons and knowledge through cooperation and exchanges with peers, students, enterprises and other parties.

#### **4.4 Strengthen Professional Identity**

Strengthening professional identity is one of the important strategies for teachers to cope with the challenges of the intelligent era. By strengthening professional identity, teachers can enhance their self-confidence and sense of belonging, so as to better cope with various challenges and difficulties.

Firstly, teachers should constantly improve their professional quality and academic level by participating in professional training, academic exchanges, educational research and other activities. These activities can not only help teachers understand the latest educational concepts and teaching methods, but also improve their academic literacy and research ability. By participating in these activities, teachers can continuously enhance their professional identity and self-confidence.



Secondly, teachers should also actively participate in educational practice. Applying the knowledge and skills learned to practical teaching can not only verify and improve their professional ability, but also enhance teachers' sense of professional achievement and belonging. Through interaction and communication with students, peers and parents, teachers can have a deeper understanding of their own educational practice and teaching effect, so as to constantly adjust and optimize their teaching strategies and methods.

Therefore, the coping strategies of teachers' identity in the intelligent era need to comprehensively consider many aspects such as role positioning, professional self-confidence, professional quality and professional identity. Through the implementation of strategies such as re-examining role positioning, strengthening professional self-confidence, improving professional quality and strengthening professional identity, teachers can effectively cope with the challenges brought by the intelligent era and realize the dual development of individuals and professions. At the same time, the implementation of these strategies will also help to promote the sustainable development of education and contribute to the cultivation of more talents with innovative spirit and practical ability.

## **5. Case Analysis of Teacher Identity in the Era of Intelligence**

In order to better understand the identity of teachers in the intelligent era, the following will be analyzed in combination with specific cases.

### **5.1 Case 1: Personalized Teaching Under AI Tools**

In the educational reform of the intelligent era, a primary school actively tried to use AI tools for personalized teaching. This innovative initiative aims to use the powerful functions of artificial intelligence to identify and meet the unique learning needs and interests of each student, thereby improving teaching effectiveness and students' learning experience.

#### **5.1.1 Transformation and Challenges of Teacher Identity**

##### **(1) Role redefinition**

In the traditional teaching mode, teachers are usually the instillers of knowledge and control the dominance of the classroom. However, after the introduction of AI tools, the role of teachers began to change, from the knowledge imparter who dominated the classroom to the mentor who guided and supported students' autonomous learning. This change of role requires teachers to redefine their responsibilities, no longer just to impart knowledge, but to pay more attention to the individual needs of students, provide timely feedback and guidance, and create an environment conducive to deep learning.

##### **(2) Technology integration and application**

Teachers need to learn and master new teaching techniques and tools in the process of using AI tools for personalized teaching. This includes understanding the functions and limitations of AI systems, collecting and analyzing data to optimize teaching decisions, and solving possible technical problems. The integration and application of technology is a challenge for teachers, but it is also an opportunity for learning and growth. By participating in professional training, sharing experience and reflection with other teachers, teachers have gradually mastered new teaching techniques and tools and effectively integrated them into teaching practice.

##### **(3) Balance the role of AI and human teachers**

Although AI can provide personalized learning resources and feedback, it cannot completely replace the role of human teachers in emotional support, moral guidance and interpersonal communication. Teachers need to find a suitable way to combine the advantages of AI with their own teaching expertise to achieve the best teaching effect. This requires teachers to constantly explore and innovate in teaching practice, not only to make full use of the advantages of AI technology, but also to maintain the unique value of human teachers.

#### **5.1.2 Reinforcement and Promotion of Identity**

##### **(1) Professional growth and self-realization**

In the educational reform of the intelligent era, teachers have improved their professional quality and teaching ability through continuous learning and practice. They not only master new teaching techniques and tools, but also learn how to better pay attention to the individual needs of students and provide targeted guidance and help. This process of professional growth and self-realization enhances teachers' sense of identity.

### (2) Teaching innovation and teamwork

In the process of using AI tools for personalized teaching, teachers constantly explore and innovate teaching methods and strategies. Through teamwork and sharing experience, they jointly solve the problems and challenges encountered in teaching. This spirit of teaching innovation and teamwork also enhances teachers' sense of identity.

### (3) Students' feedback and recognition

In the process of using AI tools for personalized learning, students have obtained better learning experience and results. They give positive feedback and recognition to teachers' hard work and innovative spirit. This kind of feedback and recognition from students also further enhances teachers' sense of identity. Therefore, teacher identity in the intelligent age is a complex and changeable process. Teachers need to constantly adapt to the new educational technology and teaching mode, redefine their roles and responsibilities, and constantly explore and innovate in teaching practice. Through professional growth, teaching innovation and teamwork, teachers can strengthen and enhance their sense of identity and contribute more to students' learning and development

## 5.2 Case 2: Exploration of the Teaching Mode of Human-Machine Collaboration

A university has carried out the exploration of man-machine collaborative teaching mode. In this model, teachers and students jointly use artificial intelligence technology for teaching and learning activities. Teachers can publish learning tasks and resources through the intelligent teaching platform, and students use intelligent devices for autonomous learning and collaborative inquiry. At the same time, the intelligent teaching platform can also collect students' learning data and learning effect feedback in real time, and provide teachers with accurate teaching decision support.

In this case, the man-machine collaborative teaching mode enables teachers and students to make full use of the advantages of artificial intelligence technology for teaching and learning activities. Teachers can understand students' learning situation and needs in real time through the intelligent teaching platform, and provide personalized learning support and guidance. Students can carry out independent learning and collaborative inquiry through intelligent devices to improve their learning effect and innovation ability. At the same time, the teaching mode of man-machine collaboration also promotes the communication and cooperation between teachers, and improves the professional quality and teaching ability of the whole teaching team.

## 6. Conclusion and Prospect

### 6.1 Conclusion

The coming of the intelligent era has undoubtedly brought earth-shaking changes to the field of education. Among them, teachers' identity is facing unprecedented challenges and unprecedented opportunities. Under the background of this era, teachers not only need to adhere to the essence of traditional educational concepts, but also have the courage to accept the baptism of emerging technologies and realize the reshaping and sublimation of their own roles. Based on the above analysis, this paper draws the following conclusions.

(1) In the face of the challenges of the intelligent age, teachers need to re-examine and clarify their own role. In traditional teaching, teachers are the transmitters of knowledge, and in the era of intelligence, teachers have become more of a guide and promoter of learning. This change requires teachers not only to have solid professional knowledge, but also to have the ability to guide students to learn independently and explore learning. At the same time, firm professional self-confidence is very important for teachers. Under the impact of intelligent technology, some teachers may have career anxiety and self-doubt, but only by constantly improving themselves and firming their beliefs can they gain a foothold in the intelligent era.

(2) Improving professional quality and strengthening professional identity are the key for teachers to cope with the challenges of the intelligent era. Teachers need to constantly learn new knowledge and new skills, especially educational technology related to artificial intelligence, in order to better integrate it into teaching practice. In addition, teachers should also actively participate in educational research and explore the deep integration path of intelligent technology and education and teaching, so as to continuously improve their teaching level and professional quality.

(3) Education departments, schools and all sectors of society should also provide teachers with the necessary professional development support and protection. This includes formulating a scientific teacher training plan, providing a variety of educational resources, and establishing a fair and reasonable evaluation mechanism. Through these measures, teachers can be

encouraged to actively participate in professional development, constantly improve themselves, and create a good educational ecological atmosphere to provide teachers with a broad space for development and growth platform.

## 6.2 Prospect

Looking forward to the future, with the continuous development and application of artificial intelligence technology, the field of education will usher in more changes and innovations. Teachers should actively embrace artificial intelligence technology and make full use of its advantages to improve the quality and efficiency of education and teaching. For example, intelligent teaching system is used to realize personalized teaching, and big data is used to analyze students' learning behavior and effect, so as to formulate more accurate teaching strategies. In addition, teachers should also continue to explore new teaching models and teaching methods. In the era of intelligence, students' learning methods and needs have undergone profound changes, and the traditional teaching mode has been difficult to meet their needs. Therefore, teachers need to constantly innovate and try new teaching methods and methods, such as project-based learning, flipped classroom, etc., to adapt to the new educational environment and teaching needs.

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The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper.

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