

Research On the Trends and Obstacles of The Development of Teacher-Student Relations in Universities Under the Background of Artificial Intelligence

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Abstract. The emergence and continuous iteration and upgrading of artificial intelligence technology have had a significant impact on the field of education. In the field of higher education, the relationship between teachers and students is the most fundamental. A good teacher-student relationship not only affects the effectiveness of educational activities but also affects the personality development and psychological status of students. Therefore, in the context of artificial intelligence, the issue of how to develop the relationship between teachers and students in universities has received widespread attention. Starting from the practical challenges faced by teaching-learning, ethics, and emotional relationships between teachers and students in universities, this article analyzes the need to promote the transformation and upgrading of teacher-student relationships. Based on this, this article proposes to strengthen the subjectivity of teachers and students, pursue higher levels of emotional interaction, and at the same time, abandon knowledge authority, and common beliefs, and pay attention to the individual needs of students.

Keywords: Artificial Intelligence; higher education; teacher-student relationships; transformation and upgrading.

1. Introduction

With the continuous progress and development of artificial intelligence technology, artificial intelligence with deep learning capabilities represented by ChatGPT has completely overturned the previous education ecosystem and has a certain impact on the traditional teacher-student relationship [1]. Artificial intelligence with deep learning capabilities has shaken the exclusive position of human teachers in imparting knowledge and resolving doubts in the minds of students, leading to the emergence of new and intense conflicts in teacher-student relationships. The penetration of artificial intelligence in the field of education will inevitably have a significant impact on the two most fundamental entities that constitute school education and teaching activities and students. A good relationship between teachers and students is a prerequisite and foundation for the normal conduct of educational and teaching activities, which is related to the effectiveness of teachers' education and teaching, the cultivation of excellent moral character among students, and their healthy development of bodies and minds [2]. Therefore, in the era of artificial intelligence, how to collaborate human-machine relationships and build a new landscape of transformation and upgrading of teacher-student relationships has become an important issue that urgently needs to be solved [3]. Based on this, this article elaborates on the opportunities and challenges faced by the teacher-student relationship in universities in the era of artificial intelligence and proposes a construction path to promote its transformation and development, hoping to inspire the development of teacher-student relationships in the new situation.

2. Characteristics of Teacher-Student Relationship in Higher Education Stage

2.1. Interpretation of the Connotation of Teacher-Student Relationship

The teacher-student relationship refers to a special interpersonal relationship established by mutual influence and interaction between teachers and students in the common process of education and teaching [4].

The teacher-student relationship in higher education is not purely a teaching-learning relationship but also has ethical, emotional, and managerial dimensions. The teaching-learning relationship is reflected in the fact that teachers are the learning guides and demonstrators of students. Teachers have the responsibility of "imparting knowledge and solving doubts", guiding students, and ensuring their learning. Students also expect to receive authoritative explanations from teachers. The ethics of teacher-student relationships stem from traditional "etiquette", which includes a set of principles to guide and provide behavioral norms. It endows different roles with different ethical requirements, and teachers should become moral models. Students should respect and obey teachers. Obeying the commands and guidance of teachers is considered a virtue of students, in line with the traditional Chinese moral system, aimed at maintaining social order and harmony. From an emotional perspective, communication between teachers and students is a process of mutual enlightenment and spiritual influence. Teachers and students gain sincere trust and respect for their personalities. Teachers can establish a harmonious relationship with students, and the relationship between the two is equal. The emotional dependence of students, the encouragement and expression of teachers, and the temperament of words and actions all play an important role in the growth of students [5]. From a management perspective, teachers should act as caregivers for students like parents. Teachers should treat students like they take care of children, and students should obey the teacher's management like they treat their parents. As a parent like teachers, teachers should fulfill their duties, take care of students' physical and mental health, pay attention to safety, and carry out all-around management, sometimes even through self-sacrifice.

2.2. The Importance of a Good Teacher-Student Relationship

Artificial intelligence has changed the form of education, but the essence of education has not changed [6]. The teacher-student relationship remains the most important and fundamental pair of relationships in educational and teaching activities and is the most important dynamic factor affecting educational effectiveness, directly related to the quality of education [2]. The teacher-student relationship not only affects the effectiveness of educational activities, such as affecting students' interest in the courses taught by the teacher, their learning emotions, and the frequency of teacher-student interactions, but also affects their personality development and psychological status, such as meeting their basic psychological needs, affecting their self-esteem and learning motivation, and affecting their creativity. Therefore, Mr. Gu Mingyuan pointed out that "a good teacher-student relationship is the greatest educational force" [7].

3. The Trends and Obstacles to the Development of Teacher-Student Relations in Universities under the Background of Artificial Intelligence

3.1. The Relationship Between Teaching and Learning

With the evolution of artificial intelligence technology and the deepening of its integration with education, the binary relationship between teachers and students in universities has gradually evolved into a ternary relationship of "teacher-artificial intelligence-student". Artificial intelligence can provide students with learning resources, and regularly diagnose and guide problems, and the collaborative work between teachers and artificial intelligence forms a smart learning partnership between teachers and students [8]. With the participation of artificial intelligence, the division of labor between teachers and artificial intelligence becomes clearer. Compared to teachers, artificial

intelligence has the characteristics of fast computation and memory storage. It is not limited by physical and mental limitations and can maintain efficient working conditions for a long time, which teachers cannot achieve. Some processes in traditional teaching can be completed through machines, such as grading test papers, organizing materials, calling rolls, etc. Teachers can invest the time saved in more creative work and become service-oriented teachers.

However, deepening human-machine cooperation can also lead to the loss of subjectivity among teachers and students. When AI approaches the classroom, artificial intelligence between teachers and students appears. Without a doubt, the application of educational artificial intelligence is more suitable for the personality and needs of each student, which will greatly improve teaching efficiency, optimize the education process, and bring unprecedented changes to educational work. The era of human-computer symbiosis may break the original dependency relationship between teachers and students. In addition, machines are emotionless. When the human-computer interaction time in education is prolonged, it becomes a wall blocking the relationship between teachers and students, and the teacher-student relationship becomes distant [9]. At the same time, they will also be gradually tamed into species that obey algorithms. The relationship between teachers and students is no longer mutual respect and respect, but full of symbols and data, which goes against the original intention of educational artificial intelligence. Ultimately, it constrains the nature of students, limits their comprehensive development, and hinders educational progress and the progress of human society.

3.2. Ethical Relationships

With the development of information technology, teachers will combine new technologies with education, making university classrooms more flexible, interactive, and open. Tablets and the internet provide online resources and intelligent learning environments, effectively completing face-to-face teaching in online virtual classrooms remotely, and allowing students to engage in learning activities such as communication and group discussions online simultaneously. Teachers can communicate with students through cloud platforms, without being limited by time and location [10]. This communication method makes teaching more effective and flexible, and the interaction between teachers and students tends to become virtual. Rich educational resources have enhanced students' initiative in learning and met their individualized learning needs, while also innovating university education [11].

However, the emergence of virtual teachers has diluted the traditional concept of "respecting teachers and loving students" [7]. Some online course resource platforms and experiential simulation courses have replaced some traditional courses. The opportunities for face-to-face and peer-to-peer communication between teachers and students are reduced, and the learning environment for students is more focused on artificial intelligence technology. They are more inclined towards technology worship, while teachers also tend to rely on technology. Artificial intelligence has no emotional ability and is nonsensory, computers cannot control any field with emotions. Education, on the other hand, has spiritual attributes [12]. Although technology enhances students' autonomy and independence in learning, excessive use of technology frees them from their natural state of self-existence. Overindulgence in the virtual world can weaken communication between students and teachers, classmates, and society, reduce the frequency of teacher-student interaction, and lack emotional interaction, leading to a past tense of "respecting teachers and loving students". Over time, teachers and students have become estranged, and the relationship between teachers and students has become indifferent. The "temperature" of education is slowly decreasing, and the traditional love and affection in teacher-student relationships have become a bubble. These are not conducive to the establishment of a harmonious teacher-student relationship [3].

3.3. Emotional Relationships

AI-assisted teaching redefines the emotional relationship between teachers and students [7]. In the past, communication between teachers and students in universities was based on students' thirst for knowledge. Students respected their teachers and valued their teachings, and teachers imparted

knowledge and guidance". Due to the integration of artificial intelligence into teaching, some of the functions of teachers have been replaced by them. Teachers are no longer the only way for students to acquire knowledge, and students do not need to be present with teachers to engage in learning activities. Communication between teachers and students can be completed through technology and can be carried out anytime and anywhere. The enhancement of self-learning ability weakens students' dependence on teachers, and self-learning has become a trend. Without teachers, students can still acquire knowledge and complete learning tasks. Gradually, the status of students and teachers became equal, and the democratic nature of the teacher-student relationship increased.

However, the contradiction between teachers and students has become acute due to the emergence of new authorities. Due to the emergence of "machines" as intermediaries between teachers and students, both teachers and students need to allocate a portion of their time to understand and adapt to it, and a portion of their time in the future classroom needs to be allocated to artificial intelligence technology. As a result, the personal interaction time between teachers and students is reduced, leading to a significant decrease in the interest of students in interacting with teachers. Artificial intelligence has become an intermediary for communication between teachers and students, reducing their sense of need [13]. On the one hand, the source of educational content is no longer singular, and students can access information and learn through more channels. On the other hand, it also breaks the top-down transmission of knowledge. In the era of artificial intelligence, the dissemination of knowledge is networked and is no longer limited by time and space. The emergence of artificial intelligence provides opportunities for students of different levels to engage in personalized and precise learning [14]. The two characteristics of huge resource sharing and super ideological equal space have to some extent shaken the knowledge authority of teachers. The authority of teachers is weakened, and the personalized needs of students are enhanced [15]. Teachers are prone to gradually losing their "discourse power" in front of students, as the two begin to transform and become incompatible in terms of identity, values, and behavior, leading to conflicts and confrontational interactions between teachers and students. All of these pose a huge threat to the knowledge authority of teachers, and this contradiction has been prevalent in teaching activities for a long time, which will bring certain obstacles to the construction of a good teacher-student relationship.

4. The Path of Constructing the Relationship between Teachers and Students in Universities under the Background of Artificial Intelligence

4.1. Strengthening the Subjectivity of Teachers and Students

With the deepening integration of artificial intelligence and education, the binary relationship between teachers and students in universities has gradually evolved into a tripartite relationship of "teacher-artificial intelligence-student". However, artificial intelligence has always appeared in front of humanity as a "tool". Artificial intelligence will not replace teachers but will replace machine teachers who have no enthusiasm for work, only repeat mechanical teaching work, and are indifferent to students. Artificial intelligence lacks emotions, communication, and innovative thinking like humans, so the teacher-student relationship remains the main body of the teaching-learning relationship. Both teachers and students should actively open up, accept each other, think, communicate, and share. The warmth of education still needs to be maintained by teachers. The teacher-student relationship formed in the school field not only requires the exchange of knowledge between both parties but also includes psychological communication carried out by teachers and students to promote the comprehensive development of students. Teachers should fully consider the characteristics of student development, based on student interests, and deeply immerse themselves in student life, using diverse and effective teaching methods to actively absorb and expand knowledge in a different form, gradually opening up students' thinking, improving their expression and sharing abilities, and reflecting their subjectivity [2]. Students should strengthen their initiative in the learning process and have more and more say.

4.2. Pursuing Higher-Level Emotional Interaction Between Teachers and Students

High-level emotional interaction can make the operation of the teaching ecosystem more flexible, thereby improving the overall quality of the mutually beneficial teaching relationship between teachers and students. Although the development of artificial intelligence technology has expanded the field of communication between teachers and students, and face-to-face communication between teachers and students is no longer limited, students still need to respect their teachers and emphasize the importance of morality, and both parties should strengthen emotional interaction. Combining online and offline approaches to jointly build a new ecosystem of teacher-student relationships. Online, teachers can use the convenience of the internet to strengthen communication with students who are not good at speaking, gradually integrating into their inner world. They can also use intelligent interaction platforms such as voice messages, innovative and rich emoticons, and online text to bridge the psychological distance between teachers and students. Offline, the subtle emotional network between teachers and students is difficult for artificial intelligence to characterize and program. Teachers should pay attention to the physical and mental development of students, strengthen face-to-face emotional communication and interaction with them, and unconsciously bring the distance between the hearts of teachers and students closer, colliding to create sparks of spiritual interaction. At the same time, attention should also be paid to the negative impact of technology abuse on emotional interaction between teachers and students. Teachers should not overly rely on technology in teaching. Artificial intelligence is ultimately just a teaching aid, and its shortcomings in emotional interaction are difficult to compensate for. It should not be allowed to dominate and affect emotional interaction between teachers and students [16]. Faced with specific classroom situations full of unknowns and variability, artificial intelligence finds it difficult to pay attention to the changes that students may encounter at any time in the classroom. Only those who are face-to-face in the situation can instantly understand a variety of nonverbal information, such as eyes, facial expressions, and body movements [17]. Therefore, in the era of artificial intelligence, it is the uniqueness of teachers themselves that shows the core of education is to cultivate well-rounded individuals. It is the "care" and "expectation" that educators and their corresponding environments convey to learners and can be felt [18].

4.3. Abandoning Authority and Worldly Thoughts, Valuing the Individual Needs of Students

There is an equal and democratic dialogue relationship between teachers and students. Handing over simple knowledge-based learning tasks to artificial intelligence frees teachers from tedious teaching tasks and allows them to devote more time to caring for students' humanistic needs and paying attention to their personalized growth and development. Teachers should allow students to develop at different speeds, in order, and with differences. There are innate and undeveloped natural forces in humans that can grow and develop [19]. Through observation and communication, teachers can answer students' questions and create a good atmosphere of teacher-student relationships. With the help of artificial intelligence technology, they can understand the personalized needs of each student and better play the role of a guide for their growth and development. They should not only stay at the level of knowledge transmission but also further deepen emotional communication. The subjectivity of teachers in human-machine collaboration cannot be abandoned. They do not blindly rely on and give way to artificial intelligence, but instead treat it as a "microscope" and a "wide-angle mirror" [20]. It can not only focus on individual details that are easily overlooked in the process of education and teaching from a partial perspective but also accurately grasp the overall state of education and teaching from a holistic perspective.

5. Conclusion

In summary, from the perspective of artificial intelligence education, with the intervention of artificial intelligence technology in the teacher-student relationship, there are practical challenges in teaching-learning, ethics, and emotional relationships in the teacher-student relationship in

universities. To meet these practical challenges and promote the transformation and upgrading of teacher-student relationships, it is necessary to continuously strengthen the subjectivity of teachers and students, pursue higher levels of emotional interaction, and at the same time, abandon knowledge authority, and common beliefs, and pay attention to the individual needs of students. Of course, the progress of artificial intelligence technology and its continuous development in the field of education and teaching, as well as the continuous integration and innovation of education and artificial intelligence technology, will bring more practical challenges to the transformation and upgrading of teacher-student relationships, and there will be more and better strategies to cope with them, thereby promoting the teacher-student relationship to become a healthier, more harmonious, and more intelligent good ecological relationship.

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