

# Current Situation and Improvement Strategies of Teaching Engagement by Teachers in Higher Medical Colleges Under the Background of “New Medical Education”

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**Abstract:** The “New Medical Education” is a new requirement for the development of medical education in the new era. As a key and core element of the construction of the “New Medical Education,” the engagement in teaching work of university teachers is a key issue that determines the level of teaching development of university teachers and affects the quality of talent cultivation in universities. Using the literature review method, this study analyzed 39 relevant literatures retrieved from China National Knowledge Infrastructure (CNKI) from 1997 to 2023. The concept, connotation, current situation, influencing factors, and improvement strategies of teaching engagement by university teachers were reviewed and summarized. The results showed that the issue of teaching engagement by university teachers has not received high attention in the field of higher education, especially in higher medical education, which has not yet been reported. Although the overall number of literature is not large, some of the conclusions have important implications for the next research on the influencing factors and mechanisms of double-qualified teacher engagement in higher medical colleges.

**Keywords:** New Medical Education; Higher education; Double-qualified teachers; Teaching engagement; Improvement strategy

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## 1. Introduction

The “New Medical Education” is a new educational concept that integrates new technologies based on the transformation needs of the medical industry. Its main purpose is to cultivate new medical talents to meet the development needs of medical talents in the new era. The construction of “New Medical Education” is a new mission entrusted to higher medical education in the new era, and it is also an inevitable trend in the development of higher medical education in the new era <sup>[1]</sup>. University teachers are the most important and active strategic resource for achieving the construction of the “New Medical Education,” and also a key factor for the sustainable development of universities <sup>[2]</sup>.

As early as 1993, Professor Zhou Yuanqing, then Director of the National Department of Education and Higher Education, pointed out four problems of insufficient investment in university teaching: insufficient investment in teaching funds, insufficient investment in cadre management, insufficient investment in teaching by teachers, and insufficient investment in students' learning energy. The level of teacher engagement in teaching is an important factor that affects students' academic engagement, academic achievement, and thus the quality of talent cultivation in universities <sup>[3]</sup>. The Ministry of Education also explicitly designated "teacher's teaching engagement" as an important evaluation indicator in the newly issued undergraduate education teaching evaluation plan in 2021 <sup>[4]</sup>.

The willingness of teachers is actually their teaching engagement, which is the guarantee for teachers to release their educational and teaching energy. In this sense, if we seize the investment of teachers in teaching, we grasp the quality of education and teaching itself. Based on this, the author explores the concept, connotation, current situation, influencing factors, and improvement strategies of teacher teaching engagement.

## 2. Concept of teaching engagement

The concept of "teaching engagement" mainly originates from the concept of "work engagement," and the study of work engagement first emerged with the emergence of positive psychology, and Kahn first proposed the concept of work engagement. He pointed out that work engagement is the process in which organizational members combine themselves with their work roles and engage in personal emotions, cognition, and physical energy in the process of obtaining work performance, including the expression of their own behavior, cognition, and emotions in professional role performance. Rothbard believes that work engagement refers to the level of psychological engagement and feelings of employees towards the organization. Schaufeli *et al.* further defined work engagement as "a positive and continuous emotional and cognitive state that includes three aspects: vitality, dedication, and focus." Vitality refers to the energy and effort invested in work, corresponding to behavioral dimensions. Dedication refers to feeling the significance, importance, and pride of work, corresponding to emotional dimensions. Concentration refers to investing cognitive resources and maintaining high levels of attention in work, corresponding to cognitive dimensions <sup>[5]</sup>. Due to different cultural backgrounds, domestic scholars mainly express work engagement research as work dedication. For example, Yang proposed that employee dedication is the psychological state in which employees identify with their work, invest their time and energy in the work, and are willing to develop together with the organization. Li *et al.* believe that work engagement is a positive and complete emotional and cognitive state that individuals exhibit towards their work during the work process, characterized by dispersion and persistence. It can be seen that most studies both domestically and internationally emphasize that work engagement is an individual's work state, manifested as the subjective psychological experience of individual work engagement.

The research on work engagement of university teachers both domestically and internationally is mainly reflected in the specific application of work engagement theory in the field of university teacher work. There is relatively little research abroad on the work engagement of university teachers, mainly including them as intellectual groups and as enterprise employees. The research on the work engagement of high school teachers in China is conceptually similar to the understanding of "work engagement." Most studies acknowledge that teacher work engagement is a positive psychological experience and subjective feeling that teachers have when they are engaged in their work <sup>[6]</sup>.

### 3. Connotation and structure of teaching engagement

According to the definition of work engagement, Klassen defined teaching engagement as the autonomous allocation of behavioral, emotional, and cognitive resources by teachers in activities related to teaching<sup>[7]</sup>. They pointed out that as a special profession, teachers spend a lot of time and energy interacting and communicating with students in their work, establishing long-term and meaningful teacher-student relationships, which other professions do not have. A good teacher-student relationship not only promotes students' learning engagement and outcomes, but also helps to enhance teachers' sense of happiness and reduce emotional stress and job burnout. Therefore, they believe that the social relationship between teachers and students is the core of teaching work, and advocate adding a social dimension beyond behavior, cognition, and emotion to measure teachers' teaching investment. Klassen developed an Engaged Teacher Scale (ETS) specifically for this purpose, which includes four dimensions: behavior, cognition, emotion, and society.

The issue of teacher engagement in teaching has also attracted widespread attention in the domestic higher education research community. Earlier domestic scholars mainly analyzed teaching investment from three dimensions: time, energy, and emotion. Representative figures such as Liu believe that teaching investment is the sum of the time, energy, and emotions invested by teachers in educational and teaching activities. Time investment refers to the amount of time a teacher invests in teaching activities, energy investment refers to the level of effort, dedication, and effort a teacher puts into teaching, and emotional investment refers to the teacher's attitude and emotions towards teaching. Among them, "emotional investment" is the internal driving force of a teacher's teaching investment<sup>[8]</sup>. Liu further pointed out that in addition to the investment directly related to teaching activities, the time, energy, and emotions invested by teachers in professional growth should also be a part of teaching engagement<sup>[9]</sup>. Guo defined teaching engagement from four dimensions: cognition, emotion, society, and behavior. He measured the teaching engagement of Chinese university teachers through a scale, and analyzed the influencing factors of teaching engagement from both individual and environmental perspectives. He constructed an "environment-self-engagement-outcome" structural equation model that includes teaching environment perception, teaching self-efficacy, teaching engagement, teaching effectiveness, and teacher job satisfaction, which was used to explain the influencing factors and mechanisms of teaching engagement by university teachers<sup>[10,11]</sup>.

The cognitive dimension includes teaching focus and engagement, which refers to the degree to which teachers are fully focused and immersed in the teaching process. The emotional dimension includes teaching enthusiasm and investment, which refers to the positive emotional reactions of teachers towards teaching, such as enthusiasm, identification, and pride. The social dimension includes colleague relationship engagement and teacher-student relationship engagement, referring to the interactions and relationships between teachers, colleagues, and students in teaching. The behavioral dimension includes investment in teaching methods and investment in teaching preparation. Investment in teaching methods refers to the teacher's investment in student-centered teaching strategies such as stimulating students' interest in learning, promoting students' autonomous learning, and classroom participation. Investment in teaching preparation refers to the time and effort a teacher puts into curriculum design and preparation to complete teaching tasks. The author believes that Professor Guo Jianpeng's definition of the connotation dimension of teaching investment is more comprehensive, which can more accurately reflect the teaching investment situation of university teachers and provide a valuable analytical framework for further research on measurement indicators of teaching investment in the future.

## 4. Current situation of teaching engagement

### 4.1. Current situation of teaching engagement by university teachers

The engagement of university teachers in teaching directly affects the efficiency of classroom teaching and the cultivation of students, and it is one of the important factors that affect the improvement of school education and teaching quality. In recent years, more and more scholars have joined this research and explored such topics through empirical methods.

Dan developed a “Questionnaire on the Teaching Work Status of University Teachers” (including teachers’ evaluations of school teaching conditions, teaching management, teaching quality, classroom teaching mode, students’ learning status, and their own teaching investment) and a student evaluation questionnaire (including students’ evaluations of teachers’ teaching energy investment, teacher satisfaction evaluation, and other information) for the teaching work status of some universities in Jilin Province. After research, it has been found that most teachers subjectively support the various work of the school. However, due to the expansion of enrollment scale, assessment of teaching and research workload, evaluation of professional titles, impact of marketization, as well as the existence of subjective and objective factors such as unreasonable personal knowledge structure of teachers and dissatisfaction with the distribution system, it is inevitable for teachers to invest insufficient energy in their own positions on campus<sup>[12]</sup>. Liu drew inspiration from the “Survey of Learning Engagement among Chinese College Students” developed by the Research Group of Tsinghua University to develop a survey questionnaire on teaching engagement among university teachers. The questionnaire included three elements: time, energy, and emotion. An anonymous survey was conducted on 380 teachers from “985,” “211,” and local universities. The results showed that the total amount of teaching engagement among university teachers in China was relatively low, and the teaching engagement of teachers was related to age and gender, and there are significant differences in degrees, professional titles, and institutional levels<sup>[8]</sup>. He used research methods such as in-depth interviews, physical data collection, and random classroom observation to conduct a follow-up study on a senior professor and students in the teaching class. The results showed that the impact of teachers’ teaching investment on classroom teaching effectiveness and quality is mainly manifested in two aspects. Firstly, when students feel the influence of teachers’ teaching investment, they automatically increase their learning investment which ultimately improves teaching quality. Secondly, increasing teachers’ investment in teaching will enhance their teaching level, thereby enhancing the attractiveness of teaching and ultimately affecting students’ learning engagement and teaching quality. Undoubtedly, if these two aspects work together, the improvement of classroom teaching quality is unquestionable<sup>[13]</sup>.

Zhai used a combination of quantitative and qualitative research methods to explore the influencing factors of undergraduate teaching engagement by teachers in a certain university. Quantitative research is a descriptive statistical analysis of the annual teaching workload of a certain school in a certain year. The results show that there are significant differences in the workload of teachers in different teaching departments and professional titles. Qualitative research involves selecting some teachers for in-depth interviews to understand their satisfaction with undergraduate teaching engagement. The results indicate that public course teachers are more likely to identify with undergraduate teaching engagement than professional course teachers. There are differences in workload satisfaction among teachers in different courses. In addition, the study also found a linear relationship between teachers’ undergraduate teaching engagement time and satisfaction<sup>[14]</sup>. Su conducted a survey on some teachers and students of a provincial comprehensive second tier university, and the results showed that the total amount of time, energy, and emotions invested by university teachers in teaching was relatively low, which is similar to the research conclusion of Liu. Teachers with higher education pay more

attention to the application of teaching methods than those with lower education. Young teachers not only focus on the development and improvement of teaching abilities, but also actively communicate with students. These conclusions all indicate significant differences in teaching investment among university teachers <sup>[15]</sup>.

Yan analyzed the survey data of teachers in high-level universities in China and found that the undergraduate teaching time investment of teachers in Chinese universities is not lower than that of research universities in the United States. There is a repulsive effect between the time investment of scientific research and undergraduate teaching activities, that is, the system and value orientation of emphasizing scientific research in high-level universities are indeed important factors that affect teachers' time investment and enthusiasm for undergraduate teaching. Factors such as research pressure, student evaluation pressure, administrative trivialities, and family work conflicts have a negative impact on teachers' enthusiasm for engagement, and teachers' personal undergraduate teaching preferences are key variables that enhance teachers' enthusiasm for engagement <sup>[16]</sup>. Guo conducted a survey of 8044 teachers from 93 undergraduate universities across the country, and the results showed that in terms of teaching engagement, the overall teaching engagement of teachers is at a relatively high level, especially in terms of focus investment and teacher-student relationship investment. This indicates that they are highly focused on teaching and care about students' feelings and problems. Compared to other investments, teachers' emotional investment in teaching and colleague relationship investment are slightly insufficient. At the same time, the more support teachers perceive from the teaching environment, the stronger their sense of teaching self-efficacy, and the more willing they are to invest time and energy in teaching activities <sup>[10]</sup>.

In summary, although researchers have different research focuses and methods, the conclusions drawn from the studies still have many similarities. Firstly, the insufficient engagement of teachers in teaching in universities, especially research-oriented universities, is one of the main reasons for the decline in the quality of higher education. Secondly, there are significant differences in teaching engagement among internal teachers in universities due to factors such as age, gender, educational background, and professional titles. The important reason for the insufficient engagement of university teachers in teaching is the policy preference of "emphasizing scientific research and neglecting teaching."

## **4.2. Current situation of teaching engagement by "double-qualified" teachers in university affiliated hospitals**

Xi'an Medical University is a full-time regular undergraduate institution focusing on medicine, with comprehensive, research-oriented, and application-oriented characteristics. The school is positioned to "face the grassroots, serve the local areas, and cultivate high-quality application-oriented medical and health talents." The special positioning and talent cultivation goals of applied undergraduate colleges determine that the knowledge structure, ability level, and professional competence of teachers are also different from traditional undergraduate colleges, and determine that teachers should possess the characteristics of "double-qualified" teachers, that is, the dual literacy of university teachers and doctors. The cultivation of applied talents emphasizes the specific application of knowledge, and the exploration and improvement of practical abilities. In our school, clinical medicine majors spend about half of their time teaching theoretical and practical courses, and related teaching tasks are undertaken by double-qualified teachers from affiliated hospitals. Therefore, the quality of clinical practice teaching largely depends on the teaching level, professional knowledge level, and teaching engagement awareness of clinical teachers. If these problems are not solved properly and form a cumulative effect on each other, it will affect the healthy development of clinical teaching work.

The university affiliated hospital has a triple mission of rescuing the dying, nurturing talents, and

conducting scientific research. As a “double-qualified” teacher in an affiliated hospital, the roles of medicine, teaching, and research are integrated, and the task is heavy. Due to various factors such as the hospital management system, the actual situation of medical work, the clinical teachers’ teaching awareness, and the relatively insufficient emphasis on teaching work, various contradictions between clinical and teaching continue to emerge. The internal motivation for teaching work is generally insufficient, and the level of teacher engagement in teaching urgently needs to be improved.

## 5. Influencing factors of teaching engagement

Hou pointed out that the reasons for the insufficient teaching engagement of university teachers are multifaceted, but they mainly stem from problems in school policy management. For example, the evaluation of professional titles has a clear tendency to prioritize scientific research over teaching, the welfare benefits of schools cannot be tilted towards frontline teachers, there is a lack of incentive mechanisms in policies, as well as a lack of objective, and fair evaluation and recognition of teachers’ teaching work<sup>[17]</sup>. Shao believes that in addition to the bias of professional title evaluation affecting teachers’ teaching engagement, the impact of the market economy is also an important reason. Many university teachers not only have heavy teaching tasks but also undertake the task of generating income, which inevitably disperses their energy with lower concentration on teaching<sup>[18]</sup>. Yin analyzed the factors that affect university teachers’ engagement in teaching from both internal and external perspectives. External factors mainly include macro level factors, such as the level of social development and the guidance of national scientific research policies, paid social services, and market attraction. Factors at the meso level include policies and measures within universities, and various teaching and training. Factors at the micro level are teaching conditions and facilities, and learning atmosphere. The internal factors mainly include teachers’ teaching attitude and sense of responsibility, teaching psychological environment, and teaching efficacy<sup>[19]</sup>.

Yan explored the reasons why university teachers cannot devote themselves to teaching from the perspective of improving the teaching environment in universities. Firstly, the establishment of diversified values leads teachers to pay more attention to achieving personal goals, thereby reducing investment in undergraduate teaching work. Secondly, the construction of the core competitiveness of universities mainly comes from the support of scientific research strength and achievements. Whether it is the development of schools or the improvement of individual academic abilities of teachers, they need to lean towards scientific research. The continuous rise in social living costs has made the teachers in the ivory tower no longer calm. In addition to obtaining more research funding, they also need to invest their energy in paid social services. Lastly, the expansion of enrollment in universities, the construction of new campuses, and the increase in teacher mobility all affect the investment of teachers’ teaching energy to varying degrees<sup>[20]</sup>. He believes that the main factors affecting the teaching engagement of university teachers include insufficient understanding and mastery of teaching theories, relatively backward teaching concept and negative attitude, traditional and outdated teaching methods, and negative information in student learning feedback<sup>[21]</sup>. Li believes that high social expectations lead to increased social pressure on university teachers, multiple roles and tasks can lead to increased professional pressure on university teachers, and the gap between reality and ideals can lead to a decrease in the sense of achievement of university teachers. These are all factors that affect the teaching enthusiasm of university teachers<sup>[22]</sup>. Guo believes that teaching engagement is influenced by individual factors such as teacher gender, professional title, teaching self-efficacy, as well as environmental factors such as school type, nature, and perception of teaching environment. School environmental support also indirectly affects



teaching engagement through teaching self-efficacy<sup>[10]</sup>.

In summary, the main factors that affect the teaching investment of university teachers can be divided into three levels. Firstly, the relevant national and university policies and measures, mainly including various teaching and research policies, professional title evaluation and management policies, and various assessment, reward, and punishment measures related to university teachers. The second aspect is the social environment, mainly including the impact of the market economy, increased social living costs, unequal development space, and a lack of creative and supportive work environment. The third aspect is the individual level of teachers, mainly involving aspects such as individual or team development, teaching ability, and attitude of teachers. Factors affecting the teaching investment of university teachers do not only involve a single level, but they are often the result of the interaction of several levels<sup>[23]</sup>.

## **6. Strategies for improving teaching engagement**

Although there are different opinions in the academic community on whether the teaching engagement of domestic university teachers is insufficient, there is a consensus on the existence of problems in teaching investment. Ensuring a high level of teaching engagement by teachers is an important way for higher education in China to achieve connotative and high-quality development.

External factors determine the lower limit of teachers' undergraduate teaching engagement, while internal factors determine the upper limit of undergraduate teaching engagement. Effectively promoting the engagement of university teachers in teaching requires universities to make corresponding policy adjustments and stimulate their internal motivation.

Firstly, universities need to fully value the role of the teaching environment, provide sufficient support for teachers to carry out teaching activities, enhance teaching experience, and strive to create a good teaching environment<sup>[11]</sup>. Universities should formulate corresponding policies and systems to ensure the status of teaching, guide teachers to devote themselves to educating people, and resolutely overcome the tendency of "valuing scientific research over teaching," increase the weight of teaching performance in terms of professional title promotion, salary, personnel, etc. To improve teaching management and service levels, priority should be given to investing more educational resources in teaching. When formulating policies, it is necessary to emphasize the opinions of teachers and fully mobilize their enthusiasm for participating in school education, teaching, and management.

Secondly, universities should strive to enhance teachers' sense of teaching self-efficacy, promote their professional development, and stimulate their intrinsic motivation to engage in teaching. While paying attention to whether teachers are engaged in teaching, it is also important to fully realize that promoting teachers' professional development is an important way for teachers to achieve personal value and provide feedback on teaching. Schools should provide various opportunities that contribute to the professional growth and development of teachers, including participating in various teaching and research projects, participating in various academic conferences, improving teacher teaching consultation and guidance, organizing teacher teaching professional seminars, establishing teacher teaching communities, and conducting various academic further education.

Thirdly, universities should establish a teacher exit mechanism and form a virtuous competition mechanism. The absence of exit mechanisms and benign competition mechanisms for university teachers is an important reason for the insufficient investment of some teachers in teaching. In addition to establishing a teacher exit mechanism, with the development of information technology, exploring the introduction of high-

quality social education resources at a high level and forming a healthy competition mechanism with teachers on campus are also effective ways to encourage teachers to invest in teaching. The issue of teacher investment in teaching is a key issue for universities to improve teaching quality, and it is also a topic worth long-term attention and research.

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