

Teacher Role Positioning and Ability Enhancement Strategies in the Process of Digital Education

Zhanye Liu, Li Luo

Wuhan University of Engineering Science, Wuhan, Hubei, China

Abstract: With the deep embedding of digital technology, the digital transformation of education has put forward systematic reconstruction requirements for the role positioning and ability structure of teachers. This article aims to explore the logical shift, practical difficulties, and ability improvement paths of teachers' roles in the process of educational digitization. Research suggests that the role of teachers needs to shift from knowledge transmitters to learning guides, from executors to ecological co builders, and from static identities to dynamic ability builders; In reality, there are common problems such as cognitive biases in roles, erosion of professional autonomy by platform logic, implicit weakening of emotional support functions, and identity anxiety caused by the overlapping of multiple roles. Based on this, this article proposes a capability enhancement strategy system that integrates digital literacy, human-machine collaboration, personalized guidance, and humanistic care. Teachers should seek a dynamic balance between technological empowerment and humanistic commitment, in order to achieve the organic unity of the mission of educating people in the digital age and professional growth.

Keywords: Digitalization of Education; Teacher Role Positioning; Ability Enhancement Strategy; Human-Machine Collaboration

1. Introduction

With the rapid development of digital technologies such as artificial intelligence, big data, and cloud computing, the education sector is undergoing a profound digital transformation. This transformation not only reshapes the teaching environment and resource supply methods, but also poses unprecedented challenges to the role positioning of the ancient profession of teachers. The traditional single role

of "knowledge transmitter" is no longer suitable for the new ecology of human-machine collaboration, data-driven, and personalized learning. Teachers are facing the reality of role ambiguity, lagging abilities, and identity anxiety. Therefore, clarifying the logical reconstruction path of the role of teachers in the process of educational digitization, deeply examining their practical deviations in the field, and proposing practical and feasible strategies for improving their abilities based on this not only concerns the professional development of individual teachers, but also plays a key role in promoting the transformation of educational digitization from technological applications to deep changes.

2. Logical Reconstruction of Teacher Roles under Digital Empowerment

2.1 The Starting Point for the Transformation from Traditional Knowledge Transmitters to Learning Guides

The core of digital education is not to transfer knowledge online, but to completely change the way knowledge is acquired. In the era of information overload, students can easily access massive knowledge through intelligent terminals, and the position of teachers as the sole source of knowledge is deconstructed. This change forces teachers to shift from being "wise men on the podium" to being "guides around students". The starting point of transformation is to acknowledge that simply memorizing and retelling knowledge is no longer the focus of education, and how to screen, verify, and creatively apply knowledge in massive amounts of information has become a new ability goal^[1]. Teachers need to give up the "teaching hegemony" first and transform the classroom from a one-way output to a problem driven exploration field. This is not only an update of technological tools, but also an adjustment of educational beliefs - shifting from pursuing standard answers to encouraging critical thinking. Only from this starting point can teachers truly

understand that digitization is not about weakening its professionalism, but about reshaping its irreplaceable guiding value.

2.2 The Extension of the Function of the Executor of the Teaching Process to the Co Builder of the Learning Ecosystem

In traditional teaching, teachers strictly follow the predetermined process according to the textbook and syllabus, resulting in a closed and linear classroom. The digital environment has changed this pattern: online learning platforms, virtual simulation experiments, social media groups, and generative artificial intelligence tools collectively form an open learning ecosystem. The function of teachers has extended from "executing scripts" to "co building ecosystems"^[2]. He no longer decides the teaching pace alone, but needs to identify the educational potential of different digital tools and organically embed them into the learning chain; It is necessary to coordinate the relationship between human-computer interaction, student student interaction, and teacher-student interaction, so that technology serves real communication rather than replacing interpersonal connections. The core ability of co builders is reflected in ecological design - setting cross scenario learning tasks, allowing students to autonomously shuttle between museum apps, academic databases, and collaborative whiteboards. This extension means that teachers take on the composite roles of curators, coordinators, and situational designers, making teaching a dynamically generated process rather than a fixed program execution.

2.3 Updating the Positioning of Static Identity Holders to Dynamic Ability Growers

The traditional identity of teachers is often marked by professional titles, teaching experience, or stable teaching methods, forming a relatively static professional portrait. However, with the acceleration of digital technology iteration, new teaching tools and concepts emerge every 2-3 years, making it difficult for static identities to adapt to the rapidly changing educational ecosystem. Therefore, teachers need to position themselves as "dynamic ability growers": no longer sticking to a mature teaching method or a set of courseware, but maintaining a growth mindset of lifelong learning and continuous iteration. The essence of this update is to transform 'what kind of teacher

to become' from a one-time career choice to a daily self restructuring. Dynamic growth is reflected in three aspects: actively tracking new technological knowledge rather than passively receiving training; Reflect on your own digital teaching practices and adjust your behavior accordingly; Form a learning community with peers and update ability combinations through collaboration. Digitization has transformed the teaching profession from a 'completion time' to an 'ongoing time', and from an 'endpoint' to a 'path'. Only by accepting this mobility can teachers avoid being trapped by technology and instead use it to empower themselves to transcend.

3. Realistic Examination of Teacher Role Positioning in the Process of Digital Education

3.1 Role Cognitive Bias in the Integration of Technology and Teaching

Some teachers simply understand digitalization as "replacing blackboard writing with PowerPoint" or "assigning homework online", and the application of technology remains superficial, failing to touch on the deep changes in teaching logic. This cognitive bias leads to confusion in role positioning: on the one hand, it emphasizes technical tools, but neglects its irreplaceable function as a learning guide; On the other hand, blindly pursuing full coverage of platform functions is led by technology^[3]. The root of the deviation lies in the lack of a systematic understanding of how technology serves education. Teachers are prone to losing balance between equipment operation and instructional design, ultimately resulting in "doing old things with new tools", which not only wastes resources but also misses the key window for role transformation.

3.2 Dual Effects of Platform Based Teaching on Teachers' Professional Autonomy

On the one hand, platform based teaching provides teachers with structured course templates, automatic grading, and learning situation analysis tools, improving efficiency and freeing up some repetitive labor; On the other hand, standardized processes and algorithmic recommendation mechanisms quietly erode teachers' professional autonomy. When the teaching pace is regulated by the platform progress bar, the teaching content is

limited by the resource library push, and the evaluation method is framed by system parameters, teachers are prone to become "operators" of the platform. This dual effect warning: platforms should be auxiliary tools rather than decision-makers. If teachers do not actively examine the tension between platform logic and educational laws, their professional judgment will gradually be weakened, ultimately losing their dominance in the classroom.

3.3 The Implicit Weakening of Teachers' Emotional Support Function under Data-driven Decision-making

Learning analytical techniques can accurately present students' answer accuracy, dwell time, and attention fluctuations, making it easier for teachers to adjust teaching strategies. However, excessive reliance on data can easily lead teachers to simplify students into "performance indicators", ignoring the emotional state, peer relationships, and growth confusion behind grades^[4]. The emotional support function is difficult to quantify, but it is precisely the most heartwarming aspect of education. When data becomes the primary or even sole basis for decision-making, teachers may subconsciously reduce "inefficient" behaviors such as listening, empathy, and encouragement, leading to a tendency towards instrumentalization of teacher-student relationships. This weakening process is often implicit, and by the time teachers notice it, the humanistic soil in the classroom has already been lost.

3.4 Fuzzy Career Boundaries and Identity Anxiety Caused by the Overlapping of Multiple Roles

In the digital environment, teachers play multiple roles such as content designers, data analysts, technical support personnel, psychological counselors, and home school liaison officers. These roles are not naturally coordinated and often conflict with each other: they have to pursue teaching depth while dealing with technical failures; We need to protect students' privacy while also utilizing learning data; We need to innovate teaching methods while being constrained by assessment indicators. The overlapping of roles exceeds the reasonable limit, leading to the dispersion of teachers' energy and a sense of frustration of "doing everything but not being proficient in everything"^[5]. Identity anxiety follows: Am I a

teacher or a technical operator? Over time, the risk of occupational burnout significantly increases, and the attitude of the teacher community towards digital reform shifts from expectation to exhaustion.

4. Ability Enhancement Strategy Based on Role Reconstruction

4.1 Strengthen the Basic Ability of Digital Literacy and Interpretation of Teaching Data

The primary prerequisite for teacher role reconstruction is to solidify the fundamental ability of digital literacy, which goes far beyond simple software operations and covers comprehensive dimensions such as information retrieval, tool selection, data ethics, and security protection. On this basis, the ability to interpret teaching data becomes the core - teachers should be able to identify students' learning engagement status from the behavioral data output by the learning management system (such as login frequency, homework submission time, page dwell time), locate knowledge weaknesses from formative evaluation data, and discover silent groups from classroom interaction data. This requires teachers to master basic data visualization reading skills, be able to distinguish between correlation and causality, and avoid being misled by superficial numbers. At the same time, teachers need to establish ethical boundaries for data usage, not using data as the sole criterion for evaluating students, but viewing it as auxiliary evidence for teaching decisions. Through specialized workshops, real data case reviews, and interdisciplinary data collaboration analysis, we aim to help teachers steadily improve their professional judgment in the digital environment from the perspective of "using data" rather than "being defined by data".

4.2 Building Human Computer Collaborative Teaching Design and Ecological Regulation Capability

Faced with the widespread intervention of intelligent teaching tools, teachers need to shift from the "confrontation between humans and technology" to the "human-machine collaboration" thinking mode, and their core abilities are reflected in the division of labor consciousness and ecological regulation in teaching design. Specifically, teachers should clarify which tasks can be delegated to artificial intelligence (such as standardized exercise

grading, learning resource recommendation, and preliminary planning of learning paths), and which tasks must be led by human teachers (such as value judgment, emotional communication, critical thinking guidance, and classroom rhythm control). On this basis, teachers need to master the ability to dynamically adjust the teaching ecology: based on real-time learning feedback, determine when to introduce virtual teaching assistants, when to withdraw technical interventions, and return to face-to-face explanations. This requires teachers to be familiar with the basic logic of mainstream intelligent teaching platforms, be able to identify the limitations of algorithms (such as oversimplifying complex problems), and establish reasonable division of labor boundaries between humans and machines. Through case studies, simulated classroom exercises, and in-depth experience with technical tools, we aim to cultivate teachers' balanced wisdom in maintaining teaching leadership in a human-machine hybrid environment without rejecting technological empowerment.

4.3 Enhance the Ability to Diagnose and Guide Personalized Learning for Students' Development

The digital environment has given teachers greater possibilities to achieve personalized teaching, but this requires teachers to have accurate learning diagnostic abilities and differentiated guidance strategies. Learning diagnosis is not simply a matter of ranking scores, but rather a comprehensive use of classroom observation, homework analysis, stage assessments, and learning process data to determine each student's cognitive style, interest tendencies, thinking bottlenecks, and self-regulated learning abilities. Teachers need to learn to distinguish between "knowledge deficiency" and "strategic deficiency", "ability weakness" and "motivation issues", in order to match differentiated learning resources, task difficulty, and guidance methods for different students. On this basis, enhancing personalized guidance ability means being able to design flexible learning paths: providing expandable challenge tasks for advanced students, building scaffolding style small steps for backward students, and linking interdisciplinary projects for interest drivers. This ability does not require teachers to develop independent lesson plans for each student, but rather to establish an adjustable

teaching response system. Through student case studies, layered teaching design workshops, and personalized feedback training, we help teachers move from "uniformity" to "teaching according to individual needs", making digitalization truly serve the growth rhythm of every student.

4.4 Improve the Humanistic Care Ability of Teachers' Emotional Connection and Value Guidance

In the context of technology deeply embedded in the educational process, the most irreplaceable function of teachers precisely returns to the "human" level - emotional connection and value guidance. Digital teaching can easily lead to a "screen distance" in teacher-student interaction, causing students to feel distant and lacking in meaning when faced with cold data reports and algorithm push notifications. Therefore, teachers need to consciously strengthen their ability to recognize emotions: they need to keenly capture students' emotional signals from the wording and tone of online discussion forums, personal notes attached to assignments, and facial expressions in video classrooms, and provide empathetic responses in a timely manner. At the same time, the ability to lead values requires teachers to help students establish information discernment, ethical judgment, and social responsibility in an environment where massive information and diverse values coexist. This is not preaching style indoctrination, but guiding students to form their own positions in real problems through classroom discussions, case studies, and project-based learning of value issue design. Through emotional communication micro skill training, ethical case teaching method, and teacher-student dialogue simulation exercises, we help teachers maintain the warmth and direction of education in the digital wave.

5. Conclusion

In summary, digitalization of education is not a dissolution of the role of teachers, but a fundamental reconstruction of their functional positioning. Starting from a logical starting point, this article reveals that teachers need to shift from knowledge transmitters to learning guides, from executors to ecological co builders, and from static identities to dynamic ability growth drivers; Simultaneously examined issues such as cognitive biases, professional autonomy dilemmas, weakened emotional support, and identity anxiety in reality. On this basis, a

systematic capability enhancement strategy covering digital literacy, human-machine collaboration, personalized guidance, and humanistic care was proposed. In the future, teachers should seek a dynamic balance between technological empowerment and humanistic adherence, transforming digitalization into a true driving force for improving the quality and efficiency of education, rather than a source of pressure for role alienation. Only in this way can teachers achieve the organic unity of professional growth and educational mission in the wave of change.

Acknowledgments

This paper is a research outcome of the 2025 Higher Education Digital Transformation Research Special Project of the China Association of Higher Education (CAHE), titled "Research on the Positioning of Teachers' Roles in the Context of Educational Digital Transformation," Project No. GJX25Z2147.

References

[1] Xu Xia. Analysis of the Role Orientation of

Teachers in Open Universities under the Background of Educational Digital Transformation[J]. *China Educational Technology & Equipment*, 2026, (02): 59-62.

- [2] Huang Jun, Zhou Dengxue, Xiong Wenjun, et al. On the Role Orientation of Rural Teachers in the Process of Educational Digital Transformation[J]. *The Science Education Article Collects*, 2024, (02): 16-19.
- [3] Fu Weidong, Wei Jiu. Role Orientation and Practical Approaches of Primary and Secondary School Teachers under the Background of Educational Digital Transformation[J]. *Journal of Educational Development*, 2023, (09): 5-12.
- [4] Wang Xiaoxian, Wu Hewen. The Logic, Representation and Practice of Teacher Role Transformation in the Context of Educational Digitalization[J]. *Teaching & Administration*, 2026, (09): 41-45.
- [5] Song Jie. Challenges and Countermeasures of College English Teachers' Role Transformation in AI-Assisted Teaching[J]. *Journal of Henan University of Economics*, 2026, 40(01): 93-96.