

Research on the Role Transformation of Junior High School English Teachers and the Optimization of Teaching Strategies in the Digital-Intelligent Era

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Abstract:

With the deep integration of digital-intelligent into education, junior high school English teaching is undergoing profound transformation. The threefold changes in teaching resources, teaching methods, and teaching contexts have broken the closed framework of traditional English teaching. Simultaneously, new demands are being placed on teachers' competencies and professional positioning. To adapt to the evolving teaching environment of the digital-intelligent era, junior high school English teachers have undergone a multifaceted transformation in their roles: shifting from knowledge imparters to learning facilitators, from classroom controllers to digital-intelligent teaching collaborators, from experience-based instructors to lifelong learning researchers, and from language skill trainers to key competency cultivators. The transformation of the teacher's roles do not occur in isolation. It further drives the renewal of teaching strategies. Building upon this foundation, this study proposes optimization strategies for junior high school English teaching in the digital-intelligent era based on four dimensions: the learning subject, teaching resources, classroom models, and evaluation systems. It aims to provide references for promoting the professional development of English teachers and advancing the high-quality development of junior high school English education.

Keywords:

Digital-Intelligent, Junior High School English Teacher, Teacher Role Transformation, Teaching Strategy Optimization

1. Introduction

Against the backdrop of the current global technological wave, digital-intelligent has become a key driver of profound transformation in the education sector. In the Education Informatization 2.0 Action Plan issued by the Ministry of Education, it is explicitly states the goal of promoting the in-depth integration of information technology with education and teaching, and cultivating innovative talents with digital competence [1]. In 2021, the Ministry of Education released the Notice on

Implementing the Second Batch of Pilot Work for Artificial Intelligence to Boost Teacher Team Construction, aiming to deepen the integration of emerging technologies like Artificial Intelligence (AI) with the development of teacher teams. This initiative focuses on cultivating a high-level, professional, and innovative teacher workforce capable of actively adapting to technological innovation [2]. This demonstrates that digital-intelligent is not merely a technological trend but a strategic direction for educational transformation at the national level.

Digital-intelligent represents the deep integration of digitization and intelligence. Digitization focuses on converting diverse information into processable data, while intelligence leverages technologies like AI to analyze data and support decision-making. It involves attempting to mine and apply data through digital technologies and intelligent algorithms, ultimately achieving decision optimization and operational upgrades [3]. The digital-intelligent era is characterized by three prominent technological features: human-machine convergence, virtual-physical integration, and algorithmic dominance [4].

Amid the digital-intelligent era, the deep integration of technology and education has disrupted traditional pedagogical models. This transformation not only drives systemic changes in teaching environments but also compels multiple shifts in the teacher's role. The teacher's role refers to the functions and responsibilities they fulfill in knowledge transmission, production, and application [5]. However, this evolution is not isolated. It is intrinsically linked to the optimization of teaching strategies. Based on this, this paper begins by sorting out the transformation of junior high school English teaching environments in the digital-intelligent era. It then analyzes the new demands this transformation places on the teacher's role before delving into pathways for optimizing teaching strategies in junior high school English education within digital-intelligent era. The aim is to provide practical guidance for junior high school English teaching in the digital-intelligent era.

2. The Transformation of Junior High School English Teaching Environment in the Digital-Intelligent Era

As previously established, digital-intelligent has become a strategic direction for the nation in advancing high-quality education development. As the space where teaching activities unfold, the transformation of teaching environments represents a crucial manifestation of digital-intelligent implementation in English teaching. This transformation focuses on three key dimensions: diversification of teaching resources, modernization of teaching methods, and expansion of teaching contexts. This section will elaborate on the specific aspects of transforming junior high school English teaching environments in the digital-intelligent era.

2.1. Diversification of Teaching Resources

Traditional English teaching resources in junior high schools heavily relied on textbooks and limited audio materials, featuring rigid content and monotonous formats that struggle to meet the demands of cultivating students' key competencies. In contrast, teaching resources in the digital-intelligent era exhibit characteristics of multi-types, multi-sources, and multi-formats. In terms of types, teaching resources now encompass not only foundational textual materials but also extensive audio clips, videos, and multimedia courseware. Regarding sources, teaching resources are no longer confined to national textbooks. Teachers can also access more high-quality

materials from platforms like the National Primary and Secondary School Smart Education Platform and other international educational websites. The term multi-format refers to teaching resources can present diverse forms based on different teaching phases and learning needs. For instance, a text on Environmental Protection can serve as foundational reading material, be adapted into listening practice, or function as writing reference material in the digital-intelligent context.

2.2. Modernization of Teaching Methods

In traditional English teaching, blackboards and chalk served as core teaching tools. The teaching process heavily relied on oral explanations and board demonstrations by teachers, resulting in unidirectional and static knowledge transmission. In the digital-intelligent era, interactive electronic whiteboards and similar devices have replaced traditional blackboards, enabling interactive teaching content and real-time operations. Immersive technologies like Virtual Reality (VR) and Augmented Reality (AR) enable teachers to create simulated real-world scenarios, transforming abstract language contexts into tangible, three-dimensional environments. This allows students to develop deep understanding of complex concepts and language application within simulated contexts [6]. AI-assisted tools, featuring automatic grading and error analysis, facilitate real-time monitoring of student learning progress. The integrated application of digital-intelligent technologies transforms language learning from abstract to concrete, enhancing teaching effectiveness.

2.3. Expansion of Teaching Contexts

Traditional English classroom teaching was strictly confined to the physical classroom, limiting student learning activities by time and space. Against the backdrop of the digital-intelligent era, the teaching contexts have evolved into blended scenarios combining in-class and out-of-class, as well as online and offline environments. Within the classroom, digital-intelligent devices enrich the interactivity of teaching and learning. Outside the classroom, students can access and apply language knowledge anytime, anywhere through digital-intelligent tools. For example, using fragmented time to expand their vocabulary. This expansion of the teaching contexts liberates English learning from the confines of the 45-minute classroom period, extending it into students' daily lives and enabling them to learn anytime and anywhere.

3. The Role Transformation of Junior High School English Teachers in the Digital-Intelligent Era

The reconstruction of junior high school English teaching environments by digital-intelligent technologies has not only altered the forms of teaching resources, methods, and contexts, but has also fundamentally reshaped the role of teachers. This section will specifically analyze the essence and direction of the transformation in junior high school English teachers' roles during the digital-intelligent era.

3.1. The Transformation from Knowledge Imparters to Learning Facilitators

Influenced by Confucian interpretations of knowledge's essence, traditional Chinese education posited that knowledge could not be acquired independently by students. Instead, it must be systematically imparted by teachers as conveyors of the Dao. This directly shaped China's teacher-dominated classroom model [7]. The advent of the digital-intelligent era has profoundly transformed how students acquire

knowledge. Digital-intelligent technologies have propelled knowledge acquisition toward democratization, diversification, and personalization [8]. Knowledge is no longer the exclusive domain of teachers, and students' access to it is no longer confined to oral instruction within the classroom. This has fundamentally dismantled the traditional educational model where teachers served as the sole repository of knowledge. The application of a series of intelligent tools centered on digitalization and intelligentization enables students to independently acquire foundational knowledge through smart education platforms, language learning apps, and other ways, while also catering to their individualized needs. It is crucial to note that digital-intelligent technologies will never replace teachers in any meaningful sense, as their operational mechanisms and effects fundamentally differ from human intelligence [9]. Therefore, this phenomenon does not diminish or supplant the value and status of teachers; rather, it directly propels the transformation of the teacher's role from knowledge imparter to learning facilitator. The core logic driving this transformation is the deepening of a student-centered classroom paradigm. Teachers no longer need to expend significant effort on repetitive explanations of foundational knowledge like vocabulary and grammar. Instead, they must curate and provide diverse, personalized learning resources while offering timely assistance and guidance as students engage in self-directed knowledge construction. The distinctiveness of English education in the digital-intelligent context stems from its inherent nature as a linguistic tool. English is not merely a knowledge system but also carries unique functions of linguistic communication and cross-cultural understanding. Junior high English teaching has long grappled with the dilemma of prioritizing knowledge over application. Tools like AI-powered oral assessment systems, virtual simulation communication platforms, and intelligent question banks have facilitated the deep integration of digital-intelligent technologies with competency-oriented English classrooms.

3.2. The Transitioning from Classroom Controllers to Digital-Intelligent Teaching Collaborators

In traditional junior high English classrooms, the lack of efficient auxiliary tools compelled teachers to dominate teaching to ensure content delivery and classroom order. However, the emergence of digital-intelligent technologies has disrupted this teacher-dominated paradigm. Teachers are no longer the sole controllers of the classroom. Instead, they collaborate with digital-intelligent technologies to form a teaching community. Digital-intelligent tools empower teachers to implement differentiated instruction and create personalized and inclusive learning environments [10]. They leverage technology's strengths in data analysis, real-time feedback, scenario simulation, and interactive enhancement, while preserving the irreplaceable role of teachers in providing humanistic care, cultural interpretation, and cognitive guidance. This ultimately forms a new junior high English classroom model characterized by technology-enabled, teacher-guided, and student-driven learning. The classroom evolves from a solo performance to a multi-directional participation space. In this process, technology serves as scaffolding for student learning, while teachers act as the designers and adjusters of this scaffolding.

3.3. The Transformation from Experience-Based Instructors to Lifelong Learning Researchers

The widespread adoption of digital-intelligent technologies has made it possible for people's intrinsic transformation. In the digital-intelligent era, it is not teachers who

are being phased out, but rather those who rely solely on technology for teaching and those who fail to utilize technology effectively. The role of the experience-based instructors is particularly prominent in traditional junior high English classrooms. Teachers rely on years of teaching experience to conduct teaching, such as fixed grammar explanation templates, reused instructional designs, and judging student learning situations based on experience. However, the advent of digital-intelligent technologies has disrupted this reliance on experience. For example, AI writing correction tools can quickly and accurately identify grammatical errors in student essays, with accuracy and speed far surpassing teachers' experience-based sentence-by-sentence corrections. This demonstrates that technology can, to a certain extent, replace teachers' repetitive, experience-based tasks. For middle school English teachers, this disruption does not negate the value of teaching experience but urges teachers to integrate experience with technology. Only through lifelong learning and enhancing digital literacy can teachers avoid being marginalized by technological tools and find their proper role in teaching within the digital-intelligent era. This represents an intrinsic need for teachers' professional development and is an inevitable requirement for improving English teaching quality in the digital-intelligent era.

3.4. The Transformation from Language Skill Trainers to Key Competency Cultivators

The fundamental goal of education is nurturing individuals. Therefore, the purpose of language education is not to cultivate tool-like individuals who mechanically apply grammatical rules for language output, but to develop well-rounded individuals who can use language as a medium to understand the world and express themselves. In the digital-intelligent era, without a solid disciplinary foundation and proper educational direction, the sophistication of digital-intelligent technologies may instead divert education from its core purpose, leading to the pitfall of "technological frenzy" [11]. Digital-intelligent tools possess excellent capabilities in storing and processing information with greater accuracy and efficiency [12]. Therefore, digital-intelligent tools are far more efficient than teachers in training students' language skills. However, teachers play an irreplaceable role in cultivating students' thinking abilities and shaping their values. For instance, teachers can encourage students to compare different versions of AI translations, analyze the machine's misinterpretations of cultural metaphors such as the misunderstanding in Western contexts caused by the literal translation of the Chinese character for "long" as "dragon", and through this process, help students build cultural confidence and develop their critical thinking skills. Amidst the digital-intelligent wave, the convergence of globalization and digitalization is inevitable. This demands that English education transcend exam-oriented skills to cultivate students' language abilities, cultural awareness, thinking abilities, and learning capacities. As cultivators of students' key competencies, educators should empower learners to thrive in the future society.

4. The Optimization of Junior High School English Teaching Strategies in the Digital-Intelligent Era

The transformation of junior high school English teaching environments and the transition of teachers' roles in the digital-intelligent era necessitate the optimization of teaching strategies. Based on this, this paper identifies four interconnected pathways

for optimizing teaching strategies, grounded in the student-centered nature of education and the characteristics of digital-intelligent-driven teaching.

4.1. The Return of the Learner as the Subject

The constructivist teaching perspective asserts that effective learning is not a one-way process of knowledge transmission by the teacher, but rather an active process of knowledge construction by the learner [13]. The return of the learner as the subject is the core objective of optimizing junior high school English teaching strategies in the digital-intelligent era. Its essence lies in empowering teaching through digital-intelligent technologies, shifting the focus from the teacher's teaching to the student's learning, enabling students to become active participants in knowledge construction. Digital-intelligent tools break the temporal and spatial constraints of student learning, creating flexible learning environments. Students can independently choose their learning pace through smart platforms. For instance, those with weaker foundations can repeatedly watch grammar micro-lessons. Virtual simulation technology constructs immersive language scenarios, such as shopping in a mall or ordering food in a restaurant, allowing high-level students to apply grammatical rules in near-real-world contexts while teachers provide guidance at critical junctures. Therefore, digital-intelligent tools play the role of enablers in this process. Specifically, they facilitate the exertion of students' subjectivity by expanding access to learning resources and enriching practical scenarios for language learning. Teachers, on the other hand, act as guides. They provide directional guidance and methodological support when students use digital-intelligent tools, make up for the shortcomings of these tools in cultivating students' competencies. They work together to promote the transformation of the student-centered approach from a concept to practice.

4.2. Integration of Dynamic Teaching Resources

The core of dynamic teaching resource development lies in teachers using digital-intelligent technologies to systematically integrate various relevant teaching materials based on textbook content, forming a continuously updated and adjusted teaching resource system. Through the integration of teaching resources, the alignment of textbook resources, student needs, and the contemporary developments is achieved. Specifically, teachers can approach this from four dimensions. First, using textbook unit themes as a framework, integrate foundational teaching resources such as supplementary reading texts related to unit discourse and mind maps. Second, incorporate generative teaching resources by compiling students' typical errors, individual achievements, and group collaboration outcomes to serve as targeted teaching materials for subsequent lessons. Third, integrate interdisciplinary teaching resources. Traditional English teaching materials are often confined to single-subject content, failing to meet students' needs for comprehensive language application in authentic contexts. Teachers should use digital-intelligent tools to obtain interdisciplinary materials related to English subject, such as incorporating English historical documents on "cultural exchanges between China and foreign countries" from history lessons or English charts on "data statistics" from math lessons. This breaks down knowledge barriers between English and other subjects, ensuring digital resources not only support language learning but also enhance students' comprehensive competencies. Fourth, supplement with timely teaching resources by incorporating and regularly updating social hot topics and cultural events. For instance, teachers can supplement lessons with English reports on athletes during

international sporting events. This allows students to learn English while staying updated on the latest competition developments and acquiring popular, authentic expressions like come from behind to win or break the record.

4.3. Innovation in Classroom Models

The core of classroom model innovation lies in shifting from the traditional in-class lecture-based teaching to interactive teaching centered on blended online-offline teaching. Blended teaching should become a widely adopted teaching method, as it meets the teaching needs against the backdrop of technological advancement [14]. Essentially, blended online-offline teaching supported by digital-intelligent tools subverts the traditional teach-first and learn-later process and breaks down the temporal and spatial boundaries of in-class instruction and after-class practice. Its specific implementation is divided into three key stages. First, in the pre-class online preparation stage, teachers provide students with preview learning resources in advance through intelligent teaching platforms based on learning objectives, such as grammar micro-videos demonstrated by AI animations. Students autonomously pace their studies and pose questions through the platform, enabling teachers to identify cognitive starting points and common challenges for targeted in-class preparation. Second, the in-class interactive stage focuses on addressing questions raised during online preparation. Teachers organize group discussions to solve learning problems, facilitating knowledge internalization through collaborative inquiry. This stage is not limited to knowledge explanation. It places greater emphasis on helping students convert fragmented knowledge gained from online learning into applicable language skills through group cooperation, teacher-student interaction, and student-student mutual evaluation. Teachers dynamically adjust teaching pace based on classroom dynamics. Finally, during the post-class online extension stage, teachers deliver diverse and personalized reinforcement and enrichment resources based on classroom performance. Students with weaker foundations receive targeted foundational exercises, while advanced learners access supplementary materials like extracurricular reading passages.

4.4. Optimizing the Evaluation System

Influenced by factors such as technological advancement and societal evolution, traditional educational evaluation struggles to accurately capture real-time classroom dynamics and generate effective feedback. This limitation fails to meet the demands for high-quality education in the digital-intelligent era. Consequently, leveraging digital-intelligent technologies to transform educational evaluation toward contemporary needs has become an urgent priority [15]. Optimizing the evaluation system in the digital-intelligent era involves using technologies to shift from single-dimensional evaluation to comprehensive evaluation. First, regarding the evaluators, it breaks the limitation of teacher-only evaluation. digital-intelligent tools can assist teachers in conducting formative assessments of students, such as using speech recognition technology to record pronunciation accuracy and fluency. Alternatively, digital-intelligent tools can collect formative evaluation data like online homework grading and revision records, or classroom interaction frequency. Teachers, on the other hand, should focus on evaluating the competency dimensions that are lacking in the evaluation by digital-intelligent tools, such as students' communication and collaboration abilities demonstrated in group cooperation. This approach dismantles the outdated model of one exam determining excellence. Secondly, digital-intelligent

technologies overcome the limitations of delayed feedback by providing timely and targeted evaluation. Traditional teaching evaluations often lag behind instruction, for example, teachers may only revise student essays after class. Digital-intelligent tools, however, provide immediate feedback, with evaluation results directly translating into instructional improvement strategies. This transforms evaluation from an endpoint of learning into a tool that propels students' continuous progress.

5. Conclusions

This paper focuses on the transformation of junior high school English teaching in the digital-intelligent era and systematically sorts out the changes in the teaching environment, the fourfold transformation of teachers' roles, and the four-dimensional optimization of teaching strategies in this era. The transformation of the teaching environment fundamentally breaks the closed framework of traditional English teaching, injecting new vitality into English education. The fourfold transformation of the teacher's role responds to the reconstruction of knowledge acquisition in the digital-intelligent era while aligning with the essential requirement of unifying the instrumental and humanistic dimensions of the English discipline. The four-dimensional optimization of teaching strategies overcomes the limitations of junior high English teaching in the digital-intelligent context. In summary, junior high school English teaching in the digital-intelligent era is gradually building a new educational ecology characterized by technology empowerment, teacher guidance, and competency-oriented education through the transformation of teachers' roles and the optimization of teaching strategies, thus providing a practical path for the high-quality development of junior high school English education.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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