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Research on Strategies of AI Empowering English Teachers in Interdisciplinary Thematic Teaching

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Abstract

With the advancement of educational digitalization and curriculum reform, interdisciplinary thematic teaching has become a vital approach to integrated education and core literacy cultivation in English education. Under the new curriculum standards, traditional single-subject teaching can no longer meet the needs of cultivating students' comprehensive thinking, making interdisciplinary thematic teaching an essential teaching practice for English teachers. Currently, frontline English teachers generally face prominent competency bottlenecks in interdisciplinary teaching, including inadequate interdisciplinary cognition, inefficient resource processing, insufficient thematic design capacity, rigid classroom teaching modes and backward evaluation concepts, which restrict the high-quality implementation of English integrated teaching. Artificial intelligence can provide full-dimensional digital support covering teaching resources, instructional design, classroom practice and teaching evaluation to compensate for teachers' interdisciplinary teaching deficiencies. This paper clarifies the hierarchical connotations of core concepts related to English interdisciplinary thematic teaching, analyzes practical teaching dilemmas, and explores systematic implementation strategies for AI-empowered interdisciplinary teaching, aiming to provide practical references for frontline English teaching practice.

Keywords

AI empowerment; English Teachers; Interdisciplinary Thematic Teaching; Teaching Strategies; Core Literacy

1. Introduction

In 2016, the General Office of the State Council issued *Implementation Plan for the Outline of the National Action Plan for Scientific Literacy*, which proposed strengthening horizontal connections among various disciplines and launching interdisciplinary practical activities in middle schools. The *Compulsory education curriculum plan (2022 edition)* clearly stipulates that each subject shall allocate no less than 10% of class hours to interdisciplinary thematic learning, strengthening interdisciplinary linkage and practice-oriented education, and providing clear policy basis and implementation orientation for teachers to conduct interdisciplinary

thematic teaching (Ministry of Education of the People' s Republic of China, 2022). As a discipline with both instrumental and humanistic attributes (Ministry of Education of the People' s Republic of China, 2025), English undertakes the dual teaching mission of cultivating students' language application ability and shaping their cultural cognition and comprehensive literacy, and serves as an important carrier for implementing interdisciplinary thematic teaching and fostering students' core literacy.

Nevertheless, most frontline English teachers lack systematic concepts and practical experience in interdisciplinary thematic teaching. Constrained by long-term single-subject training and traditional teaching inertia, teachers find it difficult to break fixed disciplinary thinking, resulting in inadequate interdisciplinary integration competence and superficial classroom integration effects. In the absence of intelligent digital teaching support, English interdisciplinary teaching is confronted with prominent practical bottlenecks, including insufficient high-quality interdisciplinary teaching resources, inefficient manual material processing, rigid instructional design and monotonous classroom teaching modes, as well as backward evaluation concepts and incomplete teaching optimization closed loops. These problems greatly restrict the improvement of teachers' interdisciplinary teaching capacity and the high-quality development of English integrated teaching.

As an effective digital auxiliary tool, artificial intelligence, with its advantages in intelligent resource aggregation, personalized teaching design, whole-process learning tracking and multi-dimensional data evaluation, can effectively solve the above teaching dilemmas and comprehensively empower English teachers' interdisciplinary teaching practice. On this basis, this paper clarifies relevant core concepts, systematically analyzes the key bottlenecks in English interdisciplinary teaching, and constructs feasible AI-empowered teaching optimization strategies. This study aims to improve English teachers' comprehensive interdisciplinary teaching capabilities and promote the intelligent and sustainable development of modern English education.

2. Core Concept Definition

2.1. Interdisciplinary Teaching

Du & Schultz (2005) pointed out that interdisciplinary teaching is an instructional form that takes one discipline as the core, selects teaching content around specific themes, and integrates multi-disciplinary knowledge to carry out comprehensive instructional design and classroom practice. Yu & Cao (2017) held that interdisciplinary teaching aims to break disciplinary barriers and establish and integrate inter-disciplinary connections on the premise of respecting the internal logic of each discipline, so as to implement comprehensive teaching incorporating multi-disciplinary content. Different from traditional fragmented subject teaching that focuses on single knowledge indoctrination, its core value lies in breaking rigid

disciplinary boundaries and building organic logical connections between scattered knowledge from different fields, so that students can form a holistic cognitive framework rather than mastering isolated knowledge points, and realize the transfer and application of cross-disciplinary knowledge.

2.2. Thematic Teaching

Gamberg et al. (1988) put forward that "thematic instruction is student-centered instruction that relies on broad thematic inquiry rather than confinement within a single subject area" (p. 102). Taking unified teaching themes as the main learning thread, this teaching mode shifts the core teaching focus from teachers' passive knowledge indoctrination to students' active independent exploration and collaborative inquiry. Li (2012) further defined thematic teaching as an instructional activity that exerts students' subjective construction and learning initiative through interdisciplinary thematic inquiry and practical activities to achieve all-round student development in knowledge, ability and literacy. Different from single-subject knowledge teaching that emphasizes systematic knowledge explanation, thematic teaching takes real life-oriented themes as the core thread, highlights students' autonomous inquiry and practical experience, and focuses on the holistic construction and internalization of knowledge system.

2.3. Interdisciplinary Thematic Teaching

Interdisciplinary thematic teaching organically combines the core ideas of interdisciplinary teaching and thematic teaching, absorbing the strengths of both two teaching modes. Ren (2022) further discussed the internal connection between interdisciplinary teaching and thematic teaching, arguing that both represent reforms to the curriculum structure and instructional approaches of traditional subject-based teaching yet differ in teaching emphasis and implementation orientation. He maintained that interdisciplinary thematic teaching should adhere to the fundamental stance of individual disciplines, break inherent disciplinary boundaries around specific teaching themes, integrate multi-disciplinary teaching content, resources and assessment methods, and facilitate students' active knowledge construction and holistic development through problem-oriented holistic instructional design.

Liao & Yang (2023) noted that interdisciplinary thematic teaching relies on professional disciplinary knowledge supplemented by auxiliary knowledge of other subjects through systematic thematic design to help students internalize, apply and construct complete knowledge systems. Luo et al. (2023) emphasized that interdisciplinary thematic teaching acts as a bridge connecting theoretical knowledge and practical competencies, enabling students to recognize internal interconnections among disciplines and promoting the integration and structuration of knowledge for the continuous advancement of students' comprehensive practical capabilities.

2.4. Interdisciplinary Thematic Teaching in English

Interdisciplinary thematic teaching in English is the specific application and localized practice of interdisciplinary thematic teaching within the English subject, with core language knowledge cultivation and language application ability improvement as its primary teaching goal. Focusing on daily instructional practice of frontline English teachers, Wang & Liu (2023) argued that interdisciplinary thematic teaching in English should be grounded in standard English curriculum content and centered on unit core themes to coordinate and integrate learning content, methodologies and thinking modes of other disciplines, so that knowledge of various subjects can be organically integrated around unit themes, guiding students to form systematically organized cognition and independent problem-solving abilities and boosting holistic development of their core English literacy.

In general, interdisciplinary thematic teaching in English centers on the English discipline and adopts thematic inquiry learning through organic integration of multi-disciplinary content, rather than simple mechanical splicing of English and other disciplinary knowledge. It can effectively remedy the drawback of traditional English teaching that overemphasizes knowledge memorization while neglecting practical competency cultivation, and functions as the core instructional mode for English teachers to meet integrated education requirements and cultivate students' comprehensive literacy in the new curriculum reform era.

3. Practical Dilemmas of English Teachers' Interdisciplinary Thematic Teaching

3.1. Solidified Disciplinary Thinking and Deficient Interdisciplinary Integration Ability

The long-standing subject-centric teaching model has fostered rigid disciplinary boundaries in basic English education. As English teachers are trained and practiced primarily within a single discipline, they generally lack systematic and in-depth understanding of other subjects' knowledge systems, teaching logics and curriculum objectives (Wang & Zhang, 2024). Ji (2025) pointed out that most English teachers are deficient in in-depth interdisciplinary integration competence. In actual interdisciplinary teaching, teachers often merely splice superficial external subject knowledge or insert fragmented cross-disciplinary content into English lessons. They fail to build intrinsic logical connections between English and other disciplines around core unit themes. Such practice neither highlights the dominant position of English language teaching nor realizes substantive interdisciplinary integration, leading to formal and superficial thematic instruction that cannot effectively cultivate students' interdisciplinary thinking and problem-solving abilities.

Furthermore, most schools lack stable cross-subject communication and collaborative teaching mechanisms among teachers. Interdisciplinary joint

teaching usually adopts segmented and fragmented teaching modes, featuring turn-based teaching or one-teacher-led instruction with superficial auxiliary participation from other subject teachers. This situation further solidifies disciplinary barriers and greatly restricts English teachers' interdisciplinary integration awareness and collaborative teaching capacity (Tian & Sun, 2019).

3.2. Scarce Interdisciplinary Resources and Inefficient Manual Material Processing

Primary and secondary schools generally lack school-based, theme-targeted interdisciplinary digital resources matching English unit teaching, which places a heavy time and energy burden on English teachers' independent resource development and manual sorting. Yuan & Wang (2023) indicated that while single-subject digital teaching resources are well-developed, high-quality bilingual interdisciplinary resources suitable for English classrooms are extremely scarce. Most existing resources are confined to individual schools, lacking universality and cross-school sharing, resulting in severe shortages in the quantity and practical adaptability of interdisciplinary teaching resources.

A survey conducted by Wu (2024) demonstrated that 75.81% of teachers encounter obvious difficulties in acquiring targeted interdisciplinary teaching materials, and 87.67% struggle to integrate multi-disciplinary content into English teaching organically. Under the traditional manual lesson preparation mode, English teachers have to spend substantial spare time collecting scattered online materials, which are usually disorderly, repetitive and uneven in quality, with few resources highly adapted to unit themes. In addition, conventional static resources cannot support immersive, inquiry-based and interactive interdisciplinary teaching. Without intelligent screening and classification tools, teachers waste considerable working time sifting invalid and redundant materials, reducing lesson preparation efficiency and lowering the overall quality of interdisciplinary instructional design.

3.3. Rigid Teaching Design Concepts and Single Classroom Teaching Modes

English teachers' rigid instructional design thinking and monotonous classroom delivery stem from insufficient interdisciplinary innovation awareness and practical design capacity. Influenced by long-term subject teaching inertia and exam-oriented education, most teachers' teaching thinking is limited to the instruction of vocabulary, grammar and other linguistic knowledge. They lack the ability to design thematic, inquiry-based and practical interdisciplinary teaching activities (Jiang & Wang, 2023). Most English interdisciplinary classrooms still rely on cramming lectures and mechanical question-and-answer modes (Li & Cui, 2023), focusing on repetitive drilling of basic language knowledge rather than constructing progressive, layered and theme-centered inquiry task chains. Disciplinary content is simply

assembled in a fragmented manner, failing to form in-depth theme-led teaching structures. Moreover, teachers' instructional design lacks hierarchical adaptive planning. The unified, one-size-fits-all teaching mode cannot adapt to students' diverse English proficiency and cognitive levels, limiting students' independent inquiry and collaborative learning space and undermining classroom teaching effectiveness.

3.4. Backward Teaching Evaluation System and Unclosed Teaching Optimization Loop

Most schools lack targeted assessment systems and standardized evaluation mechanisms for interdisciplinary thematic teaching, leading to English teachers' insufficient comprehensive evaluation awareness and hindering the formation of teaching optimization closed loops. Ren (2022) found that interdisciplinary thematic teaching is not fully incorporated into regular school teaching assessment, with vague evaluation criteria, which weakens teachers' initiative and enthusiasm for interdisciplinary teaching practice. Jiang & Wang (2023) further summarized a "dual deficiency" in current evaluation practice: the absence of scientific indicators for assessing students' interdisciplinary literacy and the lack of unified standards for evaluating teachers' interdisciplinary teaching performance.

Cheng & Zhang (2024) argued that most existing interdisciplinary evaluation indicator systems remain at the theoretical stage, lacking operable implementation guidelines for frontline teachers. In practical English teaching, teachers mainly adopt traditional summative paper-and-pencil tests focusing on language knowledge memorization to assess students' learning outcomes. They ignore dynamic process evaluation covering students' thematic inquiry ability, interdisciplinary thinking, collaborative innovation and practical application, making it impossible to form a complete "instruction–evaluation–optimization" closed loop for English interdisciplinary thematic teaching.

4. Implementation Strategies for AI Empowering English Teachers in Interdisciplinary Thematic Teaching

4.1. AI Aggregates Diverse Materials to Improve Teachers' Resource Capacity

High-quality and targeted thematic teaching resources are the core guarantee for English teachers to carry out efficient interdisciplinary teaching. As an effective auxiliary tool, artificial intelligence empowers English teachers to comprehensively upgrade their professional capabilities in teaching resource collection, screening, integration, development and differentiated application, solving prominent difficulties such as insufficient resource reserves, single material types and high integration costs in teachers' daily teaching (Li, 2025). With the support of AI intelligent technology, English teachers can efficiently complete the precise

integration, personalized generation and dynamic updating of interdisciplinary thematic resources, and independently build targeted, systematic and hierarchical exclusive resource libraries suitable for English interdisciplinary teaching, so as to improve their overall resource application and curriculum design ability.

First, AI assists English teachers in realizing accurate docking and in-depth integration of interdisciplinary resources, greatly reducing teachers' manual sorting workload. Relying on AI knowledge graph tools, teachers can take the unit themes and core linguistic knowledge points of English textbooks as the core, and quickly screen, match and integrate high-quality multidisciplinary teaching materials that fit teaching objectives. This intelligent auxiliary method replaces teachers' inefficient manual material collection and collation, enabling them to accurately connect English curriculum content with multi-disciplinary knowledge such as culture, history and art. For instance, when teaching the junior high school English unit themed Traditional Culture, teachers can rely on AI to expand supporting teaching resources including Chinese literary allusions, historical origins and traditional art and crafts. On this basis, teachers can select and optimize AI-generated bilingual explanations, English introductions to traditional customs and cultural comparison materials according to teaching needs, and build a diversified integrated teaching resource system of "language + culture + art + history", which effectively improves teachers' ability to develop interdisciplinary curriculum resources.

Second, AI helps English teachers realize differentiated and layered resource design, optimizing teachers' personalized teaching ability. In traditional teaching, it is difficult for teachers to accurately grasp students' learning differences and design targeted hierarchical resources due to limited classroom observation and data statistics capabilities. In contrast, AI intelligent teaching systems can capture real-time data on students' English knowledge mastery, learning difficulties and interest preferences, and generate accurate student learning portraits (Mu et al., 2025). Relying on these objective data results, English teachers can scientifically classify and match teaching resources for different student groups. For underachievers, teachers can select and apply basic resources such as simple bilingual sentences and introductory popular science materials to consolidate their basic language ability; for advanced students, teachers can adopt extended resources such as English cultural commentaries and interdisciplinary research topics to expand their learning horizons. This intelligent auxiliary mode helps teachers solve the pain point of "one-size-fits-all" resource allocation, and significantly improves teachers' ability of differentiated teaching design.

Finally, AI's intelligent classification and archiving function helps English teachers build personal and school-shared interdisciplinary resource libraries, effectively improving teachers' resource management and iterative optimization capabilities. In traditional teaching, English teachers often spend a lot of time sorting and storing scattered teaching materials, and it is difficult to realize resource reuse and dynamic

update, resulting in low teaching efficiency. With the help of AI intelligent management tools, teachers can automatically classify, archive and label various interdisciplinary teaching resources, form standardized and retrievable resource libraries, and realize rapid resource calling and sharing. On this basis, teachers can continuously optimize and supplement resource content according to actual teaching effects, realize the iterative upgrading of teaching resources, greatly save time cost of resource development, and focus more energy on curriculum design and student teaching guidance, thereby comprehensively improving their professional teaching literacy and resource development capacity.

4.2. AI Generates Teaching Schemes to Strengthen Teachers' Thematic Design Capacity

Most English teachers are trained with single-subject professional backgrounds, which makes their traditional interdisciplinary instructional design often restricted by narrow subject thinking and insufficient cross-disciplinary knowledge reserves. They frequently face practical problems such as scattered design logic, superficial interdisciplinary integration and deviated teaching themes in curriculum design. In this context, artificial intelligence serves as a powerful teaching assistant to standardize teachers' design thinking, compensate for their interdisciplinary knowledge deficiencies, and help them independently develop open, flexible and student-centered interdisciplinary classroom models that fit students' cognitive development rules, thereby comprehensively strengthening their thematic teaching design capacity.

First, AI empowers English teachers to achieve systematic and standardized thematic instructional design and optimize their curriculum planning logic. In conventional teaching, teachers often rely on personal teaching experience to design interdisciplinary courses, which leads to random teaching links and inconsistent teaching progress. With the help of AI tools, English teachers only need to input key teaching information including teaching grade, unit core themes and curriculum literacy objectives. The AI can intelligently generate complete, curriculum-standardized interdisciplinary teaching schemes, which clearly sorts out scientific interdisciplinary integration entry points, defines teaching key and difficult points, and sets up progressive student inquiry tasks. This effectively helps teachers avoid the common drawbacks of superficial knowledge splicing and vague theme positioning in interdisciplinary teaching, and standardizes their professional design procedures. Taking the Environmental Protection thematic unit as an example, AI can integrate multiple disciplinary elements including English language expression skills, biological ecological knowledge, geographical environment cognition and moral education connotations. On this basis, teachers can adjust and perfect the hierarchical task chains covering English theme surveys, ecological exploration practices, environmental protection scheme formulation and English

achievement presentations according to actual classroom conditions, so as to improve their ability to design systematic interdisciplinary teaching courses.

Second, AI assists English teachers in building immersive thematic teaching scenarios and enriching their situational teaching design capabilities. Limited by classroom conditions and teaching resources, English teachers struggle to create vivid and authentic interdisciplinary teaching contexts in daily teaching, resulting in rigid classroom teaching and low student engagement. Relying on AI virtual scene generation and intelligent voice interaction technology, teachers can easily build diversified authentic teaching contexts such as cross-cultural English communication scenarios and interdisciplinary English science lecture scenarios. As Guo (2025) pointed out, such immersive learning environments created with AI assistance enable teachers to place students in real English application situations, guide students to actively explore and solve interdisciplinary practical problems, and effectively activate classroom vitality. This greatly makes up for teachers' deficiencies in situational creation, enriches teachers' diversified teaching design methods, and improves their practical interdisciplinary teaching ability.

Third, AI inspires English teachers to carry out innovative thematic project teaching and expand their interdisciplinary curriculum innovation capacity. Traditional English interdisciplinary project teaching is limited by teachers' insufficient creative ideas and single project types, failing to meet students' diverse collaborative inquiry needs. AI can provide teachers with abundant, innovative and curriculum-matched project theme resources, such as Interpreting Traditional Solar Terms in English, Promoting International Campus Culture and Writing English Popular Science Essays. On the basis of these AI-generated project themes, English teachers can screen, optimize and design targeted group collaborative inquiry activities according to students' learning levels and curriculum requirements. This innovative teaching mode integrates students' English linguistic ability improvement, multidisciplinary knowledge acquisition and core literacy development, meanwhile effectively cultivating teachers' innovative thinking in thematic design and improving their comprehensive interdisciplinary teaching development capacity.

4.3. AI Tracks Whole-process Learning to Strengthen Teachers' Targeted Teaching Capacity

In traditional English interdisciplinary teaching, teachers are often restricted by limited classroom observation energy and manual data statistics limitations. They tend to rely on subjective teaching experience to judge students' learning status, making it difficult to accurately grasp individual learning differences and carry out high-precision targeted teaching. Equipped with full-process learning tracking technology, AI effectively compensates for English teachers' deficiencies in student learning diagnosis and differentiated teaching, helping teachers form a complete set of pre-class prediction, in-class adjustment and post-class tutoring teaching logic, so

as to continuously consolidate and improve their targeted and personalized teaching capabilities.

Before class, English teachers used to find it difficult to comprehensively understand students' language foundation and interdisciplinary knowledge reserves, resulting in unreasonable teaching focus and mismatched task difficulty. With the support of AI assessment and big data analysis tools, teachers can scientifically arrange targeted interdisciplinary preview tasks. AI analyzes students' preview completion status, original language proficiency and knowledge weak points to generate visualized and accurate student learning portraits. Based on these objective data results, teachers can accurately locate classroom teaching priorities and difficulties, and design hierarchical and differentiated inquiry tasks for students at different levels. This data-driven pre-class preparation mode helps teachers get rid of blind empirical design and greatly improves their pre-class predictive teaching and layered curriculum design ability.

During classroom teaching, it is impossible for teachers to capture every student's real-time learning state all the time, which often leads to rigid teaching rhythm and untimely personalized guidance. AI interactive functions including intelligent Q&A, real-time quizzes and intelligent voice error correction enrich teachers' classroom teaching forms. More importantly, AI can synchronously record students' real-time learning data such as answer accuracy, classroom interaction frequency and thinking engagement duration. By referring to real-time learning feedback provided by AI, English teachers can dynamically adjust classroom progress, appropriately optimize task difficulty, and conduct targeted on-site guidance for students with learning difficulties. This effectively improves teachers' classroom teaching perception and dynamic teaching adjustment ability, realizing student-centered precise classroom teaching.

After class, English teachers usually bear heavy manual grading work, and it is difficult for them to provide detailed personalized feedback for each student, resulting in single post-class evaluation and ineffective targeted tutoring. AI assists teachers in realizing hierarchical post-class teaching arrangement and intelligent evaluation. Teachers can rely on AI to assign differentiated extended learning tasks covering foundational knowledge consolidation, thematic language application and interdisciplinary innovative practice according to students' learning levels. In addition, AI can automatically correct daily assignments and generate individualized learning reports based on each student's learning characteristics and knowledge weaknesses (Chen, 2025). This intelligent auxiliary mode greatly reduces teachers' repetitive mechanical workload, saves time for manual grading and statistical analysis, and allows teachers to focus more on analyzing students' learning problems and formulating personalized tutoring plans, thereby effectively improving teachers' post-class refined teaching and personalized education capabilities.

4.4. AI Analyzes Multi-dimensional Data to Cultivate Teachers' Comprehensive Evaluation Capacity

Traditional English interdisciplinary teaching evaluation is largely limited by teachers' single-dimensional assessment perspective and over-reliance on paper-and-pencil tests, which makes it hard for teachers to fully capture students' comprehensive learning performance and core literacy development. This empirical and result-oriented evaluation mode hinders teachers from accurately reflecting teaching effectiveness and optimizing instructional design in a targeted manner. In contrast, artificial intelligence effectively broadens and diversifies teachers' evaluation horizons, helping them break through the bottlenecks of conventional single-index assessment and construct a complete, literacy-oriented whole-process interdisciplinary evaluation system to drive continuous teaching optimization (Han & Zhang, 2026). As Li et al. (2023) emphasized, interdisciplinary thematic teaching requires systematic full-cycle evaluation covering pre-class, in-class and post-class stages. Supported by intelligent data tools, teachers can realize dynamic tracking of students' learning process and achieve truly personalized and refined teaching evaluation.

With the help of AI's powerful data storage and multi-dimensional statistical analysis functions, English teachers can comprehensively record and sort out students' whole-learning process performance, including preview completion status, classroom test accuracy, independent inquiry thinking, in-class participation, group collaborative performance and post-class thematic learning outcomes. These multi-source learning data help teachers build complete, systematic and traceable student learning trajectories, avoiding the one-sided evaluation caused by relying solely on final examination results. Furthermore, AI enables teachers to integrate diversified assessment methods, including student self-evaluation, peer evaluation, professional teacher evaluation and thematic achievement scoring. On this basis, visualized literacy evaluation reports are automatically generated to quantitatively and qualitatively assess students' comprehensive competencies covering language application proficiency, interdisciplinary thinking, collaborative innovation awareness and practical problem-solving abilities. Relying on objective and comprehensive data analysis results, teachers can accurately grasp the overall implementation effect of interdisciplinary teaching, clearly identify existing teaching deficiencies and students' common learning problems, and timely adjust and optimize subsequent teaching design and classroom arrangement. This forms a scientific closed-loop teaching mechanism of "instruction–evaluation–improvement", which greatly improves English teachers' comprehensive teaching evaluation ability and instructional optimization capacity.

5. Conclusion

Artificial intelligence provides unprecedented digital opportunities for English

teachers to optimize interdisciplinary thematic teaching practices and compensate for various deficiencies in comprehensive professional teaching competencies. It effectively addresses the core dilemmas that plague teachers' traditional interdisciplinary teaching, including rigid subject boundaries, inefficient thematic resource development and integration, single and rigid instructional design modes, and backward one-dimensional evaluation mechanisms. Fundamentally, AI empowerment for English interdisciplinary thematic teaching is not a simple technical overlay or mechanical tool application. Instead, it drives a holistic professional upgrade for English teachers, covering educational teaching concepts, unit thematic design logic, classroom teaching implementation modes, and teaching evaluation thinking. With AI-enabled whole-dimensional support for diversified resource aggregation, innovative thematic instructional design, full-process targeted teaching, and multi-dimensional teaching evaluation, English teachers can effectively break through traditional teaching limitations, realize in-depth interdisciplinary integration centered on textbook unit themes, and ultimately create high-efficiency and student-centered classrooms that cultivate students' core English literacy and comprehensive interdisciplinary competencies.

Under the background of digital educational reform, English teachers are required to actively break the shackles of single-subject thinking and traditional empirical teaching modes, take the initiative to learn and apply intelligent teaching technologies, and continuously explore effective integration paths between AI tools and English interdisciplinary teaching. Meanwhile, teachers should always adhere to the core principle ofteaching-oriented and technology-assisted, rationally utilize intelligent teaching advantages while avoiding excessive dependence on artificial intelligence that may weaken independent teaching thinking and professional judgment. In future teaching practice, English teachers need to further deepen exploration and research on intelligent interdisciplinary integrated teaching, continuously optimize personalized and targeted AI application paths suitable for English curriculum characteristics, and achieve sustained and steady improvement in their interdisciplinary teaching design, resource development, precise teaching and comprehensive evaluation capabilities. This will help promote the high-quality and sustainable development of digital English education and talent cultivation.

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