

Construction and Practice of English Teaching Methodology Based on AIAS Model

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Abstract

Against the backdrop of rapid development in artificial intelligence and intelligent educational technology, English teaching urgently needs to shift from the traditional model focused on knowledge transmission and outcome evaluation to a new teaching paradigm emphasizing the learning process and ability development. Addressing current problems in English classrooms such as student inattention, insufficient interaction, delayed evaluation, and lack of learning support, this paper introduces the Attention-Interaction-Assessment-Support (AIAS) model. Guided by attention theory, social constructivism, and formative assessment and learning support theories, it systematically explores the construction and practical path of English teaching methodology based on the AIAS model. Starting with conceptual definition and theoretical foundations, the study comprehensively reconstructs English teaching objectives, content, process, and evaluation, forming a teaching methodology system centered on the learning process and characterized by interaction-driven and continuous support. It also proposes actionable practical paths from aspects such as teaching preparation, classroom implementation, after-class extension, and teacher professional development. The study concludes that the AIAS model helps improve student engagement and interaction quality, optimizes evaluation and support mechanisms, and promotes the coordinated development of language ability, thinking ability, and self-directed learning ability, thus having a positive significance for promoting innovation in English teaching models.

Keywords

AIAS model; English teaching; learning process

1. Introduction

Against the backdrop of the rapid development of artificial intelligence, big data, and intelligent education technologies, English teaching is facing the practical need to shift from a "knowledge transmission" model to a "competency development" and "learning support" model. New-era English teaching not only focuses on the mastery of language knowledge but also emphasizes attention investment, interaction

quality, learning feedback, and continuous support during the learning process. However, traditional English classrooms generally suffer from problems such as scattered student attention, monotonous classroom interaction, delayed assessment, and insufficient learning support, making it difficult to effectively promote deep learning and continuous development. How to construct a teaching methodology centered on the learning process while balancing teaching efficiency and educational value has become an important issue in current English teaching reform. This paper proposes and introduces the Attention - Interaction - Assessment - Support (AIAS) model, attempting to construct a systematic English teaching methodology starting from the key elements of the learning process. The research aims to: 1. Clarify the core connotation and theoretical foundation of the AIAS model; 2. Explore the construction path of English teaching methods based on the AIAS model; 3. Propose operable and scalable English teaching practice solutions. This study has significant theoretical and practical value for promoting innovation in English classroom teaching models, improving learning quality, and fostering students' all-round development.

2. Conceptual Definition and Theoretical Foundation

2.1. Definition of the AIAS Model

The AIAS model is an instructional support model centered on the learning process. It consists of four elements: Attention, Interaction, Assessment, and Support. It emphasizes promoting sustained, high-quality student engagement through systematic design.

Attention refers to the learner's cognitive investment in the learning content, tasks, and language information during learning activities; it is a prerequisite for learning. In English teaching, attention is not only reflected in focus on language form but also in sustained focus on pragmatic meaning, contextual information, and communicative goals.

In the AIAS model, attention is considered the starting point of the learning process. Through instructional design such as context creation, problem-based learning, multimodal input, and task-driven learning, teachers consciously guide students to focus their limited cognitive resources on key language points and learning objectives, thus laying the foundation for subsequent interaction and knowledge construction.

Interaction refers to the two-way or multi-way communication and collaboration between learners and teachers, peers, and learning media during the learning process. In the field of language learning, interaction is widely recognized as a crucial mechanism for promoting language acquisition and meaning construction.

In the AIAS model, interaction includes not only traditional teacher-student and student-student interactions but also human-computer interaction. Through discussions, collaborative tasks, role-playing, and dialogue practice with intelligent

systems, learners continuously engage in language output, meaning negotiation, and expression revision, thereby promoting the simultaneous development of language and thinking abilities.

Assessment is the activity of systematically observing, analyzing, and judging the learning process and outcomes. Its core function is to diagnose learning status, provide feedback on learning progress, and guide learning improvement. In the AIAS model, assessment emphasizes process, development, and feedback orientation, rather than simply measuring results.

Through formative assessment, immediate feedback, and learning data recording, teachers and learners can promptly understand language mastery, the effectiveness of learning strategies, and existing problems, making assessment an important means of promoting learning, rather than a summary tool after learning ends.

Support refers to the cognitive, emotional, and strategic assistance provided to learners during the learning process, aiming to reduce learning difficulty, enhance learning confidence, and promote autonomous development. Support can come from teacher guidance and demonstration, or from learning tools, resources, and intelligent systems.

In the AIAS model, support and evaluation are closely integrated. Support content and methods are dynamically adjusted based on evaluation results, such as providing prompts, examples, learning strategy suggestions, or personalized practice tasks. As learners' abilities improve, support gradually decreases, guiding them from dependence on support to self-directed learning. In the AIAS model, Attention is the prerequisite for learning initiation, Interaction is the core mechanism of learning, Assessment is the key means of learning regulation, and Support is the guarantee for continuous and in-depth learning. These four elements interact and cyclically advance, jointly constituting an English teaching support system centered on the learning process.

In English teaching, the AIAS model emphasizes:

- (1) Enhancing learning attention through instructional design;
- (2) Promoting language construction through diverse interactions;
- (3) Providing feedback on learning status through process-based evaluation;
- (4) Ensuring learning development through continuous support.

2.2. Attention Theory and Learning Engagement

Attention is a crucial psychological mechanism in cognitive activity and a prerequisite for learning. Cognitive psychology research shows that the level of attention learners invest during the learning process directly affects the depth of information processing and learning outcomes. Only when learners effectively focus their limited cognitive resources on the learning content can language input be fully processed and internalized into long-term memory.

In English teaching contexts, attention is not only reflected in focus on language

form but also in the overall grasp of contextual information, communicative purpose, and linguistic meaning. However, traditional lecture-based teaching methods easily lead to student distraction and insufficient learning engagement, thus affecting language acquisition effectiveness.

The AIAS model emphasizes actively guiding and maintaining learners' attention through instructional design. It stimulates students' learning motivation through scenario creation, problem-oriented learning, and task-driven approaches; and enhances the attractiveness and comprehensibility of information presentation through the combination of multimodal inputs, such as text, audio, and video. Based on this, students can maintain sustained attention to the learning task, laying a cognitive foundation for subsequent interaction and language construction.

2.3. Interaction Theory and Social Constructivism

Social constructivism posits that knowledge is not the result of isolated individual construction, but rather gradually formed through language exchange and meaning negotiation in a social interaction process. Vygotsky pointed out that learning occurs within social interaction, and an individual's cognitive development is inseparable from communication and cooperation with others.

As a highly communicative language, English learning heavily relies on interaction. Learners need to gradually master language forms and functions through continuous trial, correction, and feedback in real or near-real communicative activities. Language learning lacking interaction often remains at the level of superficial memorization, making effective acquisition difficult.

The AIAS model expands the interactive dimensions of the English classroom by constructing a multi-layered interactive environment. On the one hand, it promotes language output and intellectual exchange through teacher-student and student-student interaction; on the other hand, it provides students with low-anxiety, high-frequency language practice opportunities through human-computer interaction. Supported by diverse interactions, students can continuously adjust their language expression during meaning negotiation, promoting the synergistic development of language and thinking abilities.

2.4. Educational Evaluation and Learning Support Theories

Educational evaluation theory emphasizes that evaluation is not only a judgment of learning outcomes, but also plays a diagnostic, feedback, and learning promotion role. Formative evaluation focuses on performance and changes during the learning process, providing important basis for teachers to adjust their teaching and for students to improve their learning.

Learning support theory emphasizes that cognitive, affective, and strategic support should be provided according to learners' actual needs during the learning process to help them overcome learning difficulties and achieve continuous development.

Effective learning support should be targeted, timely, and progressive.

The AIAS model organically combines evaluation and support, forming a cyclical mechanism of "evaluation-support-relearning." Through process evaluation and immediate feedback, teachers and the learning system can promptly identify students' problems in language learning and provide corresponding support measures, such as prompts, demonstrations, strategic guidance, or emotional encouragement. As learning ability improves, support gradually decreases, guiding students to achieve autonomous learning and self-regulation, thereby promoting continuous learning progress.

3. Construction of English Teaching Methods Based on AIAS Model

3.1. Process-Oriented Reconstruction of Teaching Objectives

Within the AIAS model framework, English teaching objectives have shifted from a traditional outcome-oriented evaluation system to a process-centered approach. Teaching no longer uses exam scores or language knowledge mastery as the sole metric, but focuses more on students' engagement, interaction quality, and ability development trajectory throughout the learning process.

Regarding language proficiency objectives, emphasis is placed on students' ability to comprehensively use English for comprehension and expression in authentic or near-authentic situations, with a focus on the coordinated development of accuracy, fluency, and appropriateness. Frequent, low-risk language practice activities promote the gradual improvement of language skills.

Regarding cognitive and thinking objectives, the instructional design incorporates higher-order thinking activities such as analysis, reasoning, evaluation, and expression, guiding students to construct viewpoints and make meaning judgments during language learning. Simultaneously, the introduction of cross-cultural contexts enhances students' understanding of the cultural values and communicative norms behind the language, cultivating cross-cultural communicative awareness.

Regarding learning process objectives, the teaching objectives explicitly target the cultivation of students' focused engagement, active interaction, and self-regulation abilities. Through attention guidance, process feedback, and strategy support, students are helped to gradually develop good learning habits and self-directed learning abilities, achieving a shift from externally controlled learning to internally controlled learning.

3.2. Task-Based and Contextualized Design of Teaching Content

The English teaching content design based on the AIAS model focuses on authentic pragmatic tasks, reconstructing traditional textbook content through task-based and contextualized approaches to enhance the authenticity and meaning of the learning

content.

Teaching tasks are closely integrated with students' actual lives, learning, or future application scenarios, such as information acquisition, problem-solving, expression of opinions, and collaborative communication, enabling students to naturally use language and understand language functions while completing tasks. Task settings follow the principle of gradual progression from simple to complex, from scaffolded support to autonomous completion, ensuring both learning feasibility and promoting ability development.

Contextualized design constructs a language use environment through multimodal resources such as text, audio, and video, helping students understand the meaning and usage rules of language in specific contexts, avoiding isolated and mechanical language drills, thereby improving the transferability and application value of language learning.

3.3. Integration of the Four Elements of AIAS in the Teaching Process

Under the AIAS model, the English classroom teaching process is designed and dynamically integrated around four elements: Attention, Interaction, Assessment, and Support, forming a cyclical and progressive learning process.

In the Attention stage, teachers guide students to focus their attention on learning objectives and key language points through contextual introductions, question setting, and task prompts, creating the necessary conditions for deep learning.

In the Interaction stage, students participate in language practice activities such as discussions, role-playing, collaborative tasks, or intelligent dialogues through teacher-student interaction, student-student interaction, and human-computer interaction. The interactive process provides students with opportunities for language output and meaning negotiation, and is a core element of language acquisition.

In the Assessment stage, teachers and the learning system continuously observe and record the student learning process. Through immediate feedback, peer evaluation, or self-evaluation, learning progress and existing problems are diagnosed, making assessment an important basis for learning regulation.

In the Support phase, teachers provide targeted support based on evaluation results and students' learning status, such as hints, demonstrations, strategy guidance, or supplementary exercises, to help students overcome learning difficulties. The support content gradually decreases as students' abilities improve, promoting their independent development.

3.4. Transformation of Teaching Evaluation Methods

Guided by the AIAS model, English teaching evaluation has shifted from primarily summative testing to a diversified evaluation system that prioritizes formative assessment supplemented by summative assessment. The focus of evaluation has

shifted from outcome judgment to process attention, emphasizing the diagnostic and facilitative functions of evaluation. Formative assessment runs throughout the entire teaching process, focusing on students' performance and changes in task completion, interactive participation, and strategy application. Through teacher feedback, peer assessment, and self-assessment, it helps students adjust their learning strategies in a timely manner.

Simultaneously, evaluation results provide a basis for teaching support, creating a virtuous cycle between evaluation and support. By guiding learning through evaluation and promoting development through support, teaching evaluation truly becomes an important tool for serving learning and improving teaching.

4. English Teaching Practice Path Based on AIAS Model

4.1. Practical Path of the Instructional Preparation Stage

Within the AIAS model framework, the instructional preparation stage is a crucial guarantee for the effectiveness of instructional implementation. Teachers need to systematically plan the overall design of the learning process before class, ensuring the internal consistency between attention guidance, interactive activities, assessment methods, and learning support.

First, teachers should clarify the teaching objectives and process indicators. Beyond language proficiency goals, they should further refine the learning process objectives, such as attention span, interaction participation, and task completion quality, making the teaching objectives more observable and evaluable.

Second, in terms of task scenario design, teachers should create learning scenarios that closely resemble real-life language use, such as problem-solving, information exchange, or opinion expression scenarios, based on the teaching content and students' actual situation, enhancing the authenticity and meaning of the learning tasks. Simultaneously, they should clarify the AIAS elements corresponding to each task, ensuring that classroom activities serve to optimize the learning process.

Third, teachers need to plan attention guidance points, interaction formats, and assessment methods. For example, they can focus learning attention through problem-oriented learning, promote language output through group collaboration or human-computer interaction, and design formative assessment tools in advance to provide a basis for classroom feedback and support.

4.2. Classroom Teaching Implementation Path

The classroom teaching stage is the core of AIAS model practice. Its implementation follows a basic flow of "introduction—interaction—feedback—support," forming a progressive learning process.

In the introduction stage, teachers use situational introductions, problem-setting, or multimodal materials to spark student interest, clarify learning objectives and task

requirements, activate learning attention, and lay the foundation for classroom interaction.

In the interaction stage, students engage in multi-level language practice around tasks, including teacher-student interaction, student-student interaction, and human-computer interaction. Through discussions, role-playing, and collaborative task completion, students engage in language output and meaning negotiation in authentic communication, promoting the development of language and thinking abilities.

In the feedback stage, teachers and the learning system provide immediate evaluation and diagnosis of students' learning performance, pointing out strengths and weaknesses in language use, and guiding students to understand the feedback information rather than simply accepting the results.

In the support stage, teachers provide targeted support based on the feedback results, such as language prompts, model expressions, strategy guidance, or supplementary exercises, to help students overcome learning difficulties. As students' abilities improve, support gradually decreases, promoting their independent completion of learning tasks.

4.3. Post-Class Learning Extension and Continuous Support

The post-class learning stage is a crucial link in the AIAS model for consolidating learning and promoting personalized development. Teachers should guide students to extend classroom learning outcomes through reflection and extension tasks, forming a continuous learning mechanism.

Students can review their learning process through learning logs, reflection questionnaires, or self-assessment forms, analyzing their performance in areas such as attention engagement, interactive participation, and language expression, thereby enhancing their self-regulation awareness.

Based on this, teachers or the learning system provide differentiated learning tasks for students, such as consolidation exercises for those with weak language foundations and extension tasks designed for those with stronger abilities, meeting diverse learning needs. Through continuous support and feedback, students gradually form stable and effective learning paths.

4.4. Practical Pathways for Teacher Professional Development

Under the AIAS model, teacher professional development exhibits a clear process-oriented and reflective characteristic. The teacher's role shifts from the traditional knowledge transmitter to a learning designer, process regulator, and learning supporter.

First, teachers need to continuously improve their instructional design capabilities, integrating elements of attention, interaction, assessment, and support from a learning process perspective to design teaching activities that meet students'

developmental needs.

Secondly, teachers should strengthen their classroom management and assessment skills. By observing students' learning behaviors and analyzing learning data, they can adjust their teaching strategies in a timely manner to promote teaching and learning through assessment.

Finally, teachers should continuously optimize the classroom application of the AIAS model through teaching reflection, peer support, and professional learning communities, thereby promoting the synchronous development of their professional abilities and teaching philosophies.

5. Conclusion

In the context of the deep integration of intelligent technology into education, the transformation of English teaching models has become an inevitable trend. This paper, from the perspective of the learning process, introduces and systematically explains the Attention-Interaction-Assessment-Support (AIAS) model, constructs a methodology and practical path for English teaching based on this model, and provides a new theoretical framework and practical ideas for English classroom teaching reform.

Research shows that the AIAS model, starting with attention guidance, focusing on interactive practice, using assessment and regulation as a means, and ensuring continuous support, can effectively address problems in current English teaching such as insufficient learning engagement, monotonous interactive forms, and weakened assessment functions. By reconstructing the process orientation of teaching objectives, designing task-oriented and contextualized teaching content, and integrating the four elements of the teaching process, English teaching shifts from outcome-oriented to focusing on learning behaviors and development processes, which helps promote the coordinated improvement of students' language ability, cognitive ability, and self-learning ability.

At the practical level, the teaching preparation, classroom implementation, after-class extension, and teacher professional development paths proposed in this paper enhance the operability and scalability of the AIAS model in real teaching situations. This study suggests that English teaching based on the AIAS model not only helps improve classroom teaching quality but also poses new requirements for teachers' role transformation and professional development. This paper primarily explores the AIAS model from the perspectives of theoretical construction and practical pathways. Future research can combine specific teaching experiments and learning data to empirically test the model's effectiveness, further verifying its teaching value and application results.

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