

Exploring the Application of Digital Textbooks in Middle School English Teaching

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How to cite this paper: Zhou, L. Q. (2025).

Exploring the application of digital textbooks in middle school English teaching. *Educational and Humanities*, 1(1), 8–15. ISSN Print: 3104-4352, ISSN Online: 3104-4360.

<https://doi.org/10.63313/EH.9002>

Published: 2025-07-15

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Abstract

Digital teaching materials are characterized by openness, interactivity and convenience. In the context of educational informatization, digital teaching materials have become an important resource for the change of teaching methods. With the deepening of English classroom teaching reform, digital teaching materials play an increasingly important role in English classroom teaching. This paper adopts the teaching case study method as well as the literature research method to talk about the classroom teaching mode that combines digital teaching materials and the wisdom platform, in order to provide a reference for the design and development of digital teaching materials for junior high school English.

Keywords

Digital teaching materials; Teaching application strategy; Intelligent platform; Information technology integration

1. Introduction

The Ten-Year Development Plan for Education informatization (2011-2020) points out that the development of education informatization should be guided by the innovation of advanced teaching concepts, rooted in the construction of high-quality educational resources and informatized learning environments, and dominated by the innovation of learning styles and teaching modes. The research results of the Ministry of Education on the development strategy of digital teaching materials for basic education in China show that digital teaching materials are the inevitable trend of teaching materials reform. In the era of intelligent education, digital teaching materials, as the carrier of knowledge content and curriculum design, can connect the learning community and are an important node in the era of intelligent education. Digital textbook is a kind of special e-book for education and teaching, which is inevitably related to e-books in terms of resource form, content format, etc., but maintains its own unique educational and teaching attributes.

2. Digital teaching material and its characteristics

2.1. Classification of digital teaching materials

Digital teaching materials began to spread in the 1990s. Unlike traditional paper teaching materials, digital teaching materials use multimedia technology to digitize traditional paper teaching materials and transform them into interactive learning materials suitable for various electronic devices. Digital textbooks combine text with audio, video, photos, animation and other elements, and utilize information technology to promote interactive sharing, hierarchical learning, analysis and improvement and other advantages, in a more lively and richer form. Digital teaching materials are divided into four levels: digitization of paper-based teaching materials, multimedia digital teaching materials, interactive digital teaching materials and clustered digital teaching materials. Different levels of digital teaching materials require different classroom teaching methods.

(1). Digitization of paper textbooks.

Digitization of paper textbooks is the most basic level of digitization, which is manifested as static electronic textbooks. The teaching method is mainly to guide students to read and practice.

(2). Multimedia digital teaching materials.

Multimedia digital teaching materials, i.e. multimedia electronic teaching materials, contain audio, video, animation and so on. Teachers not only guide students to read and practice, but also include listening and observing.

(3). Interactive digital teaching materials.

Interactive digital textbook is a data-based textbook that enables interaction. It can support the interaction between readers and digital textbooks, between teachers and students, between students, and between teachers, students and the authors of digital textbooks, guiding dialog, communication, and sharing to become necessary teaching methods.

(4). Clustered digital teaching materials.

Clustered digital teaching materials, which are data-based teaching materials with clustered digital resources, are the integration and enhancement of the first three levels, and are the highest form of digital teaching materials. Teachers' teaching mode lies in the learning terminal as the carrier and the learning cloud platform as the support, realizing multi-subject, multi-dimensional and multi-level efficient interaction. The development of digital teaching materials will lead the change of students' learning mode and promote the change of teachers' working mode.

2.2. Characteristics of digital teaching materials

Teaching is still considered the core and essential attribute of digital teaching materials. In addition, digital textbooks inherit the important attributes of traditional textbooks: ideological, practical, scientific and instrumental. Among them, technical

attributes are the key attributes that distinguish digital textbooks from traditional printed textbooks, which are reflected in multimedia, hyperlink, interactivity and interoperability. Multimedia refers to the fact that digital textbooks have richer forms of media expression, such as animation, audio-visual, three-dimensional, etc., and use media markup and script management language to integrate media content. Hyperlinkability mainly refers to the fact that digital textbooks can overcome the limitations of the hitherto linear arrangement of learning content. Interactivity refers to the ability of digital textbooks to provide timely feedback based on external data from the user. Interoperability refers to the ability of digital textbooks to interact and exchange data and information with other digital resources and systems, which greatly affects the effectiveness of interaction and compatibility of digital textbooks.

In addition, digital textbooks are characterized by accessibility and affordability, which have a direct impact on how they are adopted and used. The goal of education in the United States is to provide quality education in large quantities, but high tuition and textbook prices are barriers to achieving this goal and a potential risk to widening the digital divide. Therefore, the accessibility and affordability of digital textbooks is a major concern for the international education community. Other researchers consider the connectivity of digital textbooks as another important feature. This refers not only to the ease of use of digital textbooks, through which they communicate with the outside world, but also to the emergence of more systematic representations that can be used for collaborative learning and to form a unified and detailed learning framework. For example, Suleiman et al. identify 15 digital textbook attributes such as accuracy, aesthetics, and appearance only.

The above features are not fixed characteristics of digital textbooks. Instead, they reflect a continuum of measurement of this characteristic, the degree and level of which varies depending on the state of technological development, user needs, cost-effectiveness, pedagogical efficiency, and other considerations.

3. The analysis of middle school English digital textbook examples

A study found that the use of digital textbooks has an obvious positive impact on learners by comparing two control groups that used and did not use digital textbooks. 36%-84% of students preferred to use digital textbooks for learning, and the probability of students choosing digital textbooks was as high as 87% if they could choose between digital textbooks and paper-based textbooks. Digital textbooks, because they themselves consist of animation, audio, etc., give a stronger intuitive impact, and can effectively stimulate students' subjective initiative and interest in learning. Mining typical cases of digital textbooks promoting students' learning is the need of the times and an effective path to enhance the digital literacy of primary and secondary school teachers and students. Here, the author personally observed

three English lessons: "When was tea invented?", "I like music that I can dance to.", "I like music that I can dance to", "I like music that I can dance to. ", "Is this your pencil?" in the first book of Grade 7, for example, to analyze the positive role played by digital teaching materials in promoting changes in the teaching method of the English subject.

3.1. Creating Contexts and Improving Language Proficiency

Compared with paper textbooks, IT-supported digital English textbooks can create a suitable language environment for classroom learning through audio and video, helping students learn more effectively and deeply and making learning more attractive and communicative. In digital textbooks, the natural and standard pronunciation of video and audio can help students practice standard intonation, and the audio and animation can help students familiarize themselves with the content of the text and lay the foundation for oral communication. When learning texts, teachers can use digital teaching materials to read aloud the texts, correct students' pronunciation with audio recordings, and use audio recordings to help students understand the main meaning of each text, which effectively improves students' language construction ability, expression ability and communication ability. In addition, thanks to the unique features of the system, the digital teaching material platform can also provide real-time assessment and feedback on students' answers. For example, when students use the digital teaching material platform to read aloud the text, the digital teaching material platform will give students different scores according to the accuracy of pronunciation in human-computer interaction, encouraging students to make breakthroughs and progress.

3.2. Changing the approach and cultivating cultural awareness

Digital teaching materials can provide students with a constantly updated, focused, authentic and credible English learning environment, creating a favorable language learning atmosphere so that students can speak naturally and express themselves correctly. Digital textbooks can make reading more effective, listening more realistic, and conversation scenarios more realistic. For example, when the teacher teaches the lesson "When was tea invented?", the digital teaching materials effectively change the way of teaching in the English classroom. Through the use of digital materials such as video, audio and pictures, the teacher stimulates the students' interest in learning the language and deepens their understanding of the culture. In the introductory part, the teacher sings a song he has arranged, and through the animation effect of the digital materials, students learn about tea culture and enliven the classroom atmosphere. In the extension part, students watch a video and flexibly use the multimodal material "Four Great Inventions of China" which is related to modern times to deepen their understanding of the rest of the Four Great Inventions and communicate the content of the lesson outside the classroom. In the extension

part of the lesson, students watch the video and flexibly use the multimodal resource "China's Four Great Inventions" related to modern times to supplement the rest of the "New Four Great Inventions" and take the content of the lesson out of the classroom.

3.3. Enhancing interaction and developing quality of thinking

The multimedia tools of digital teaching materials help teachers to innovate classroom activity design, help students integrate learning and thinking, and implement a creativity-based view of English learning activities. With the help of digital textbooks, teachers can use games, platform quizzes, quiz points and group competitions to mobilize students to answer questions in classroom interactions, cultivate students' ability to identify and analyze problems, and improve students' thinking quality. For example, when teaching the sentence pattern "I like music that..." in the lesson "I like music that I can dance to.", the teacher uses digitalized teaching materials to teach students how to answer the questions. For example, when teaching the sentence pattern "I like music that I can dance to..." in the lesson "I like music that I can dance to...", the teacher makes use of the advantage of digital teaching materials, matches each sentence pattern with the corresponding video for teaching, guides students to imitate the classroom interactions after watching the video, and develops the students' quality of thinking through the application of the sentence pattern to the determiner conjunctions and the subsequent sentence making exercises, so that the students get a positive learning experience. The digital platform strives to ensure the fairness of classroom questioning by randomly selecting students to answer the Q&A questions and automatically filtering out those who have already answered, so that all students have the opportunity to answer.

3.4. Feedback in the classroom, facilitating the integration of "teaching-learning-evaluation"

In addition to using colorful multimedia functions to assist students in learning and stimulate students' interest in learning, the digital teaching material platform can also display students' works on the screen in class to promote sharing and mutual evaluation. For example, in the writing teaching of "Is this your pencil?", teachers use digital teaching materials to stimulate students' interest in writing in English. After presenting the topic in the form of questions, they used the writing and drawing functions of the digital textbook to give students the opportunity to complete the writing exercises in an interesting way. After students completed the writing exercises in the same classroom, teachers were able to use the digital platform to display students' results so that students could immediately see their work and use the digital system to ask their peers to evaluate it. In addition to allowing students to conduct self-assessment and mutual assessment in a timely manner, it also achieves the teaching goal of "allowing students to assess Notice". In classroom teaching, the dig-

ital textbook and its platform can record the whole process of teaching, learning and evaluation, and run through each link, effectively promoting the implementation of the integration of "teaching-learning-evaluation", and the students' enthusiasm for participation is high, which improves their sense of teamwork and English writing skills in an enjoyable and relaxed atmosphere. Students were enthusiastic in participating and improved their teamwork and English writing skills in a pleasant and relaxing atmosphere.

4. Application Strategies of Digital Teaching Materials in English

Digital teaching materials can bring a lot of convenience to language learning, but it depends on the users' ability to make full use of their technological advantages and play different roles in the pre-course, in-course and post-course sessions to help students create situations and spaces for active participation and exploration, so as to improve the efficiency of the classroom and enhance the learning effect. In daily teaching, teachers should also pay attention to the following points.

4.1. Normalize the use of digital teaching materials and enhance the awareness of their application.

In daily teaching, teachers need to enhance their awareness of the use of digital teaching materials and give full play to the advantages of digital teaching materials, including improving students' language skills, cultural awareness, thinking and learning skills, facilitating access to information, helping students to construct knowledge, express their thoughts and feelings, and ensuring that students have a positive learning experience. Incorporating digital materials into new learning needs to be improved. For example, digital textbooks need to be implemented into the new curriculum concepts. At the same time, the advantages of the digital teaching materials platform need to be utilized to establish a two-way communication mechanism between teachers, between teachers and students, and between students and students, so that teachers and students can share and display their learning achievements and experiences of using the teaching materials, so as to better satisfy the requirements of the new learning standards and better implement the requirements of the new curriculum standards.

4.2. Enriching students' learning experience with digital teaching materials

Language learning is not carried out in isolation, but is closely related to the language environment. Digital English teaching materials supported by information technology, with the help of audio and video materials, can create a language environment suitable for teaching and help students learn more effectively and deeply. Teachers should pay attention to the use of digital learning materials so that students can improve their listening and reading comprehension skills in a more intuitive

tive, graphic, vivid and interesting environment, and help students better practice their speaking, writing and other expressive skills through multimedia forms such as video and audio, so that they can have a richer learning experience. In practice, teachers should pay attention to the design of the context, do not overemphasize animation, color and sound effects, and let students actively participate in interactive exchanges, rather than the phenomenon of self-centeredness and focusing on technology rather than knowledge transfer.

4.3. Handling the relationship between digital teaching materials and paper-based teaching materials

Serhat Akyuz et al.'s study shows that information technology provides many opportunities for teachers to teach language and has a very positive impact on learners in terms of teaching vocabulary and reading, but has a negative impact on grammar learning. Similarly, digital textbooks facilitate language learning, but they also have drawbacks and users should utilize their advantages wisely to facilitate learning. Teachers should understand the relationship between digital textbooks and paper textbooks, use paper textbooks to determine the direction of teaching and clarify teaching priorities, and use digital textbooks to enrich learning resources and mobilize the classroom atmosphere.

4.4. Utilizing the advantages of digital teaching materials to improve teaching efficiency

The digital textbook platform not only allows teachers to better familiarize themselves with the students' learning environment with the help of advanced information tools, but also helps students to complete practical activities such as classroom exercises, homework and learning tasks in the game. In fact, teachers can use AI technology to statistically analyze students' pre-class assignments, in-class communication, homework and test scores, provide students with timely and effective feedback, and effectively promote students' understanding of in-class and post-class assignments. Teachers should learn to utilize the technological advantages of the digital textbook platform for statistical analysis to change teaching methods and improve learning effects.

5. Conclusion

In conclusion, the reform of classroom teaching mode combining digital teaching materials and wisdom platform should take advantage of students' interest in electronic product learning as a way to promote the application of digital teaching inside and outside the classroom, optimize the process of classroom teaching, promote the diversified development of students, highlight the diversified interactions of information technology, give full play to the students' subjective initiative, and promote personalized and precise teaching and wisdom sharing. The digital teaching materi-

al program has brought more and more surprises to our classroom, and the continuous development and updating of information technology has brought more new methods and breakthroughs for its application. The blended teaching method that integrates online and offline teaching is getting more and more attention, and classroom teaching is undergoing more and more profound changes. Relying on digital teaching materials, making information technology deeply integrated in classroom teaching, natural and seamless, realizing better teaching effect, focusing on the cultivation of students' independent learning ability, and cultivating excellent comprehensive talents in the new era, which is what we are constantly exploring and pursuing.

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