Innovative Application and Effect Analysis of Multimedia Technology in Higher Vocational English Listening Teaching

Xiaoyan Zheng[1,a], Chunlei Zhang[2,b]

[1]Qingdao Ocean Shipping Mariners College, Qingdao, 266000, Shandong, China

[2]Qingdao Hanying Minsi Education Consulting Co., Ltd., Qingdao, 266000, Shandong, China

[a]2823197937@qq.com, [b]751772090@qq.com

Keywords: Multimedia technology; Higher vocational English; Listening teaching; Innovative application; Instructional effect

Abstract: At present, the application of multimedia technology in English listening teaching in higher vocational colleges (HVC) has attracted much attention. This article aims to explore the innovative application of multimedia technology in English listening teaching in HVC and its influencing factors. By combing the theories of multimedia technology and higher vocational English listening teaching, this article analyzes its innovative application strategies in the integration of instructional resources, the reform of instructional mode and the creation of teaching environment. With the help of several targeted tables, the factors affecting the application effect are analyzed from three aspects: teachers, students and teaching management. It is found that although multimedia technology brings new opportunities to English listening teaching in HVC, it is restricted by many factors. Teachers' multimedia application ability, teaching design level, students' learning attitude and autonomous learning ability, and school multimedia facilities and teaching platform management all affect the instructional effect. Based on this, this article puts forward that teachers' ability should be improved, students' awareness of autonomous learning should be cultivated, and teaching management should be improved, so as to give full play to the advantages of multimedia technology in English listening teaching in HVC and improve teaching quality.

1. Introduction

Under the background of the acceleration of globalization, English, as an important tool of international communication, the cultivation of its application ability is particularly critical [1]. For students in HVC, English listening level is not only related to whether they can successfully acquire cutting-edge knowledge in professional fields, but also has an important impact on their future career development [2]. The traditional English listening instructional mode in HVC mostly relies on the recording materials and simple listening exercises matched with the teaching materials, which has the disadvantages of single form and lack of modernity, and it is difficult to fully stimulate students' interest and enthusiasm in learning, resulting in unsatisfactory teaching results [3].

At present, with its remarkable characteristics of integration, interactivity and real-time, multimedia technology is gradually integrated into the field of education, which brings new opportunities and challenges to English listening teaching in HVC [4]. Multimedia technology can organically integrate audio, video, images, animation and other elements, create a more vivid, real and situational language learning environment for students, and help to enhance students' learning experience and participation [5].

This article focuses on the application of multimedia technology in English listening teaching in HVC, aiming at deeply analyzing its innovative application mode and its influence on instructional effect. By comprehensively and systematically combing the relevant theoretical basis, this article discusses the innovative application strategies of multimedia technology in the integration of instructional resources, the innovation of instructional mode and the creation of teaching environment, and analyzes in detail many factors affecting the application effect of multimedia

  DOI: 10.25236/iceesr.2025.009

technology. It is expected that this study will provide a useful reference for the optimization of English listening teaching in HVC and promote the improvement of English listening teaching quality in HVC.

2. Relevant theories of English listening teaching in HVC

Multimedia technology refers to the comprehensive processing and management of text, data, graphics, images, animations, sounds and other media information through computers, so that users can interact with computers in real time through various senses [6]. It is integrated, and can gather a variety of media information together, such as combining English listening materials with related video pictures, and giving students multi-dimensional information input. Interaction allows students to actively participate in the learning process, such as controlling the progress and content of listening learning by clicking and selecting. Real-time ensures the timeliness of information presentation and makes the learning resources obtained by students more timely.

The language input hypothesis was put forward by Krashen, emphasizing that comprehensible input is a necessary condition for language acquisition. In English listening teaching in HVC, multimedia technology can provide rich comprehensible input materials that are in line with students' language level [7]. For example, with the help of animation and images, students can understand the listening content and promote the internalization of language knowledge. Cognitive load theory points out that people's cognitive resources are limited. Multimedia technology reduces students' cognitive burden by optimizing information presentation [8]. For example, using charts and graphs with listening texts can make the information more clear and intuitive, and avoid students' cognitive overload caused by single text or sound information processing, thus improving learning efficiency. Constructivist learning theory holds that learning is that learners acquire knowledge through meaning construction with the help of others and necessary learning materials in certain situations. Multimedia technology can create realistic language situations, such as simulating workplace English communication scenes, in which students actively explore and discover knowledge and build their own English listening knowledge system.

3. Innovative application strategies of multimedia technology in English listening teaching in HVC

3.1. Innovative integration based on instructional resources

The traditional English listening instructional resources in HVC are relatively single, and most of them are limited to the supporting audio of textbooks. Multimedia technology can break this limitation and realize the diversified integration of instructional resources. Teachers can collect rich audio, video, animation and other materials from the network platform, such as BBC English broadcasting, English film clips, English animation short films, etc., and filter and edit them according to the instructional objectives and students' level. For example, when teaching tourism English listening, we choose an English vlog of a well-known tourism blogger as the listening material. Compared with the traditional monotonous listening material, this real and vivid material can greatly enhance students' interest in learning.

Table 1: Comparison of Pre- and Post-Integration of Multimedia Instructional resources for Higher Vocational English Listening

Comparison Item	Traditional Instructional resources	Instructional resources after Multimedia Integration
Resource Form	Single Audio	Combination of Audio, Video, Animation, Graphics and Text, etc.
Content Source	Textbook-based	Rich online resources, such as international news websites and English film and television platforms
Update Frequency	Long-term Fixed	Timely updates based on current events and teaching needs
Degree of Student Interest Stimulation	Low	High, with various elements attracting students' attention

In order to present the differences before and after the integration of multimedia instructional resources more clearly, this article makes a comparative analysis through Table 1. It can be clearly seen from Table 1 that the instructional resources after multimedia integration have obvious advantages in form, source, updating frequency and stimulating students' interest.

3.2. Innovation and reform of instructional mode

Using multimedia technology, many innovative instructional modes can be constructed. Situational instructional mode creates realistic language situations with the help of multimedia. For example, in business English listening teaching, students can feel the business communication scene and enhance their listening comprehension by playing the video of business negotiation. The interactive instructional mode relies on the interactivity of multimedia to carry out group listening discussion, role-playing and other activities. Teachers can publish listening tasks on the multimedia teaching platform, and students can discuss them in groups, and then show their achievements through the platform. For example, in the teaching of hotel English listening, students are divided into groups to simulate the reception scene of the hotel. One person plays the role of the customer, the other plays the role of the front desk to have an English conversation, and other team members listen and point out the problems in listening comprehension.

3.3. Innovative creation of teaching environment

Multimedia technology is helpful to create virtual language environment and online learning community. The virtual language environment is realized by virtual reality and other technologies. Students can wear devices to enter virtual English communication scenes, such as being in foreign airports and restaurants, and communicate with virtual characters in English to improve their listening and speaking skills. The online learning community is based on the online teaching platform. Students can share their listening learning experiences and recommend high-quality listening resources in the community, and teachers can also post learning tasks and answer questions in the community. For example, students initiate a discussion about the listening difficulties of an English film in the community, and everyone can express their opinions and improve their listening level together.

4. Factors influencing the effect of multimedia technology in English listening teaching in HVC

4.1. Teacher factors

Teachers play a key role in the application of multimedia technology to English listening teaching in HVC. Its multimedia technology application ability directly affects the instructional effect. Teachers who are proficient in the operation of multimedia software and can flexibly use various multimedia tools according to the teaching content can better integrate multimedia technology into listening teaching. If teachers can skillfully edit English video clips and add appropriate subtitles and explanations, students' listening learning experience can be improved.

Through the investigation of English teachers' application ability of multimedia technology in some HVC (see Table 2), this article finds that about 30% teachers have difficulties in operating complex multimedia software, which limits the deep application of multimedia technology in teaching to some extent.

Table 2: Survey on Multimedia Technology Application Ability of Higher Vocational English Teachers

Dimension of Multimedia Technology Application Ability	Percentage of Teachers with the Ability	Percentage of Teachers with Difficulties
Basic Software Operation (e.g., PPT Making)	91%	11%
Audio and Video Editing and Processing	64%	42%
Utilization of Teaching Platform Interaction Functions	72%	30%

Teachers' teaching design level is also crucial. Reasonable teaching design can give full play to the advantages of multimedia technology. In the design of a listening course, when to introduce multimedia materials and how to guide students in using these resources for effective learning require careful planning. The survey (see Table 3) shows that only 42% of teachers' teaching designs can fully combine the characteristics of multimedia, and about 38% of teaching designs lack systematicness in the use of multimedia resources.

Table 3: Survey on the Rationality of Multimedia Listening Teaching Design by Higher Vocational English Teachers

Dimension of Teaching Design Rationality	Percentage of Teachers with Reasonable Design	Percentage of Teachers with Unreasonable Design
Fit between Multimedia Resources and Teaching Objectives	42%	60%
Presentation Order and Pace of Multimedia Materials	38%	65%
Guidance on Students' Utilization of Multimedia Resources	45%	56%

4.2. Student factor

Students' own learning attitude has obvious influence on the effect of multimedia-assisted listening learning. Active students can make full use of multimedia resources to improve their listening, while passive students may only participate in form. Some students regard multimedia devices as entertainment tools rather than learning AIDS. Futhermore, students' autonomous learning ability is also crucial. Students with good autonomous learning ability can independently plan their listening learning plans and choose appropriate resources in the multimedia environment. However, the autonomous learning ability of higher vocational students is uneven, and some students rely too much on the guidance of teachers, so they are easy to get lost in the multimedia learning environment.

4.3. Teaching management factors

The equipment of multimedia facilities in schools directly affects the instructional effect. If the multimedia equipment is outdated, insufficient or the network is unstable, it will seriously hinder the application of multimedia technology in listening teaching. Due to the limited funds in some HVC, the number of multimedia classrooms can not meet the teaching needs, which affects the normal development of multimedia teaching. Teaching platform management can not be ignored. Effective platform management can ensure the orderly release of instructional resources, accurate collection and analysis of students' learning data, and provide a basis for teaching adjustment. If the platform management is chaotic, the resources are not updated in time, and the interactive function cannot be used normally, it will reduce students' learning enthusiasm.

5. Conclusions

This article focuses on the application of multimedia technology in English listening teaching in HVC. With its integration, interactivity and real-time characteristics, multimedia technology has brought remarkable changes to English listening teaching in HVC. In the integration of instructional resources, it breaks through the limitation of traditional single audio supporting textbooks, and realizes the integration of various forms of resources such as audio, video and animation widely collected from the network, which enriches the teaching content and stimulates students' interest in learning. By constructing innovative instructional modes such as situational teaching and interactive teaching, and creating teaching environments such as virtual language environment and online learning community, a more dynamic and effective learning atmosphere has been created for students.

The application effect of multimedia technology in English listening teaching in HVC is influenced by many factors. Teachers' multimedia technology application ability and teaching

design level are one of the key factors. Some teachers have shortcomings in complex multimedia software operation and reasonable teaching design, which limits the full play of multimedia technology advantages. Students' learning attitude and autonomous learning ability cannot be ignored. Negative learning attitude and weak autonomous learning ability make it difficult for some students to effectively use multimedia resources to improve their listening level. In addition, the school multimedia facilities and teaching platform management also have an important impact on the instructional effect, and the lack of facilities and chaotic platform management will hinder the smooth development of multimedia teaching.

In order to improve the application effect of multimedia technology in English listening teaching in HVC, schools should strengthen teachers' multimedia technology training and improve their application ability and teaching design level; Pay attention to cultivating students' positive learning attitude and autonomous learning ability. Furthermore, schools should increase investment in multimedia facilities and improve the management of teaching platforms. Only in this way can we fully tap the potential of multimedia technology, effectively improve the quality of English listening teaching in HVC and lay a solid foundation for the improvement of students' English application ability.

Acknowledgements

General subject of educational science research of China Transportation Education Research Association-"Research on Innovation Strategies for High-Quality Development of Vocational Colleges in Shandong Province" (Project code: JT2024YB468).

References

[1] She Dan. The Application of Interactive Teaching in Higher Vocational English Listening Teaching [J]. Shenzhen Youth, 2023(2):58-60.

[2] Yue Yunzhi. A Discussion on Improving Listening and Speaking Skills in Higher Vocational Medical English Teaching Based on METS2 [J]. Wealth Era, 2020(11):86-87.

[3] Bai Huan. A Study on the Effectiveness of Scaffolded Teaching Mode in Higher Vocational English Listening Teaching [J]. Vocational Technology, 2021, 020(011):70-74.

[4] Guo Siyu. Research on the Current Situation and Countermeasures of English Listening Teaching in Higher Vocational Sports Colleges [J]. Inner Mongolia Education, 2020,(02):89-90.

[5] Ding Linqian. Analysis of the Current Situation and Countermeasures of Higher Vocational English Listening Teaching in an Information-based Environment [J]. Win the Future, 2021(11):118-119.

[6] Wen Wen. The Application of Metacognitive Strategies in Higher Vocational English Listening Teaching [J]. Henan Agriculture, 2020,(12):28-29+32.

[7] Wan Jing. The Application of VR Games in Higher Vocational English Listening Teaching [J]. Fujian Tea, 2020, 42(02):186-187.

[8] Li Junrong. Research on Problems and Countermeasures in Higher Vocational English Listening Teaching in a Network Environment [J]. Campus English, 2020(49):62-63.