



# Research on the Design of Interactive Multimedia Teaching in High School Chinese

Yunxia Yang\*

Zhongwei No.1 Middle School, Ningxia Hui Autonomous Region, Zhongwei, 755000, China  
Corresponding author's email: tg667788@xzstudio.com

## Abstract:

With the continuous development of Internet science and technology, various industries have also been challenged by changes and innovations. For multimedia technology, in addition to playing an important role in the field of social life, it also has a certain promotion in school classroom teaching effect. In addition, in traditional high school Chinese classroom teaching, due to the relatively single teaching mode, it is difficult to effectively mobilize the enthusiasm of students, and ultimately it is difficult to promote the improvement of students' own Chinese literacy. For this reason, this paper uses the multimedia interactive teaching mode to create a good classroom learning situation for students, actively stimulate students' interests in learning, and then better highlight their leading positions, so that students can actively learn and think in the interaction. In the end, it will promote the teaching effect of high school Chinese classroom and the comprehensive quality of students.

**Keywords:** *high school Chinese; multimedia; interactive teaching; classroom*

## 1 INTRODUCTION:

In today's world, with the rapid development of teaching technology, multimedia has become an important teaching tool. However, in the current high school language teaching, teachers are still the dominant and controllers of teaching activities, and students passively receive language knowledge under the constraints of teaching to the test, which not only does not improve students' learning performance, but also inhibits the development of students' thinking. In the long run, students will not only lose the ability to think independently, but also their enthusiasm for learning will be completely suppressed. For this reason, in high school language teaching, then it is necessary to carry out organic interaction between teachers and students in the classroom. Only through this form, it can stimulate students' enthusiasm for learning as the starting point for teaching, so that students better master the content of language knowledge.

## 2 ANALYSIS OF THE IMPORTANCE OF CHINESE MULTIMEDIA INTERACTIVE TEACHING IN SENIOR HIGH SCHOOL

### *2.1 Build an Interactive Classroom to Stimulate Students' Interest in Chinese Learning*

Under the influence of traditional teaching concepts, high school Chinese teachers usually use passive indoctrination teaching methods to carry out teaching activities for students, blindly instill the theoretical knowledge in Chinese textbooks to students without targeting, so that Chinese classrooms become boring. There is no vitality, and it is difficult for students to be interested in learning Chinese courses. Under the background that information technology continues to promote the pace of new curriculum reform, Chinese teachers should constantly optimize and change their own teaching ideas, not only to adapt to the requirements of the new curriculum reform, but also to integrate information technology and interactive teaching more realistically [1]. It can make the Chinese classroom more active, interesting, warm, harmonious and easier for students to enter the learning state, so that students can become the masters of the Chinese classroom.

## 2.2 Improve Students' Comprehensive Quality in Multimedia Interaction

In today's era, the development of information technology is changing with each passing day, and the whole society is also developing at a high speed. The traditional talent demand model is no longer applicable to the contemporary society. The demand pattern of talents has undergone earth-shaking changes. The requirements for talents are not limited to possessing superb professional skills, but also require them to have good character, positive attitude, rich knowledge and innovation ability. Quality education aims to improve the comprehensive quality of students so that they can better meet the needs of current social development.

## 3 DESIGN AND IMPLEMENTATION OF HIGH SCHOOL CHINESE MULTIMEDIA INTERACTIVE TEACHING

### 3.1 High School Chinese Multimedia Interactive Teaching Design

#### 3.1.1 Pre-class analysis and research

##### 3.1.1.1 Design philosophy

In order to achieve a certain teaching effect, multimedia interactive teaching requires certain advanced technical facilities and teaching resources as support, etc., thus creating preconditions for the interactive activities between teachers and students, students and human-computer. It can make classroom teaching more flexible. Therefore, it is necessary to use Internet information technology as the main content of interactive teaching, and use the software and hardware resources in the multimedia context as an auxiliary. In the process of high school Chinese teaching, a variety of teaching methods can be used. For example, group cooperation and task-driven methods are common teaching methods, in which human-computer interaction between teachers and students and the technological environment is fully realized.

##### 3.1.1.2 Teaching content analysis

Before the interactive teaching process, teachers must be fully familiar with the content of the course to be taught, including the structure and sequence of the textbook, the text and language of the textbook, etc., and then conduct an overall analysis, and then specifically understand and master the content structure of each section. Finally, on the basis of analyzing the teaching content, the key points and difficulties of this part of the teaching content are sorted out, and the time used for each part is allocated reasonably.

#### 3.1.1.3 Preparation before interactive teaching

Firstly, for teachers, the interactive teaching content mainly includes the following three points. The first is to closely follow the teaching objectives of this class, be familiar with all the content to be taught in this class, and form a comprehensive and accurate understanding of the knowledge points to be taught. The second is that teachers should also understand the key points and difficulties of the interactive teaching content of the whole class, so that students can fully and smoothly grasp the content to be learned [10]. The third is that in addition to mastering the content to be taught, teachers should also carefully prepare various multimedia resources or materials required for classroom interactive teaching. Secondly, for students, in addition to previewing the content to be learned before the interactive teaching, and striving to have a clear understanding of the learning content to be interactive, they should also prepare the teaching materials and materials used in the interactive teaching. In terms of the operation and use of the software, if the students take classes in the future classroom environment for the first time, teachers also need to train the students in the use of relevant software in advance, such as the IRS interactive and timely feedback system in the students' tablet [9]. Therefore, during teaching, students can respond interactively by touching the IRS feedback device in their hands. The basic use of other infrastructure in the classroom environment of the future, such as interactive electronic whiteboards, should also be very clear.

#### 3.1.2 Carry out interactive teaching activities

The main process of Chinese multimedia interactive teaching design in high school mainly adopts group cooperation interactive and task-driven teaching methods, which are mainly divided into the following four parts, as shown in figure 1.

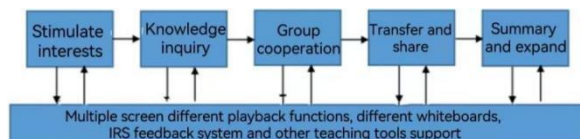


Figure 1: Design steps of high school Chinese multimedia interactive teaching

##### 3.1.2.1 Introduce situation, stimulate interests

The so-called situational introduction refers to the introduction of a certain teaching problem at the beginning of the teaching process or the introduction of a teaching problem, and the use of intuitive teaching methods such as stories, activities, videos, games, corresponding to the teaching content, can inspire students to associate and imagine, and stimulate students. It is also a specific, vivid and emotional mood and idea of interest. By creating a situation, it can fully mobilize the

curiosity of the students, so that the students can quickly penetrate into the classroom teaching content [11]. In the future classroom environment, interactive electronic whiteboard design, IRS interactive feedback system, physical booth and other designs can be used to design teaching scenarios based on problems, games, life cases, audio and video, etc., and fully interact with students to stimulate students' learning interests. This part reflects the characteristics of teacher-class interaction.

3.1.2.2 Task determination and knowledge inquiry

Teachers can use the same screen mode or loop mode to play the teaching courseware or use other teaching resources in the Web network and teaching platform to provide task information related to teaching, and let students observe or discuss calculations by themselves to get the answer to the task. At this time, teachers can use the grouping function in the IRS interactive feedback system to divide the whole class into several groups for students to discuss in groups. After the discussion is completed, it can use the different screen playback function or use the student tablet to submit the students' homework to the interactive whiteboard or touch all-in-one computer, and the teacher will comment.

3.1.2.3 Teamwork to build new knowledge

This part is the focus of classroom teaching. According to the previous knowledge exploration, teachers can combine the loop playback function of courseware, interactive electronic whiteboard, IRS interactive feedback software, etc. to teach knowledge and interactive feedback with students in a timely manner [8]. This part can provide the practice of new knowledge in time in the process of building new knowledge and let students work in groups or practice individually.

3.1.2.4 Transferring enhancement, communication and sharing

This part is the consolidation of new knowledge. Teachers can use the IRS interactive feedback system to combine with the student tablet, use the IRS interactive feedback system to download and upload teaching tasks or answers for interactive communication and sharing. It can also draw students to the interactive whiteboard in front of the podium to perform demonstrations by using the draw session in the IRS feedback system.

**3.2 Design and Implementation of High School Chinese Teaching Cases**

*3.2.1 Pre-class analysis and preparation*

For this class, here it will mainly explain the two words in Tune:Spring in a Pleasure Garden Changsha and Charm of a Maiden Singer, the first-year course of the first-year Chinese textbook of the People's Education Edition. The main requirements of teaching are to understand the background of the creation of the poem, understand the meaning of the whole poem, fully grasp the important words and phrases in the poem, understand the emotions and aspirations expressed in the poem. In this way, students can appreciate the creator's ambition and life emotion, which is of great significance for shaping the students' body, mind and values. Environment: Multimedia interactive classroom. Teaching resources: multimedia teaching courseware. Media resources: teaching resource platform, text documents. Teaching software: IRS interactive feedback system software; electronic whiteboard interactive software; Rain Classroom, etc.

*3.2.2 Application and analysis of teaching media*

**Table 1:** Teaching media use table

No.	Contents	Media type	The way of presentation	Effect
1	Course content and requirements	Electronic whiteboard courseware	Four screens play in full screen / loop	Teaching of courses
2	Teaching tasks and operations	Word	Same-screen / send to students	Help the students to understand the specific operation of the task

3	Classroom exercises / course tasks	IRS interactive feedback system	Send/ submit	Teachers send teaching tasks to students in time, and students can also send answers to the teacher for comments
---	------------------------------------	---------------------------------	--------------	--

### 3.2.3 The process of interactive teaching

Tune: Spring in a Pleasure Garden Changsha

Interactive teaching in the process of explaining the poem, language teachers can use multimedia audio-visual equipment to recite the poem, and students can feel the inner charm of the poem and the author’s creation in the process of listening to the poem [5]. In this way, students can actively feel the lofty mind and extraordinary ideal of the poet. After the poetry reading is over, the language teacher can also let the students read the text emotionally, so as to further deepen the students’ emotional experience of the text, and at the same time improve the students’ oral expression and recitation ability. Therefore, as for the combination of multimedia information technology and interactive communication between teachers and students, Chinese teachers pay full attention to emotional communication with students, present the charm of Chinese subjects from different angles, guide students to think more and think more, and inspire students’ innovative thinking and emotional expression ability. Such interactive teaching can make the atmosphere of the Chinese classroom more free and harmonious.



Figure 2: Multimedia teaching diagram of Spring in a Pleasure Garden Changsha

### 3.2.4 Charm of a Maiden Singer

When explaining this poem, the focus is to let the students understand the admiration and reverence of the creators at that time for the ancient heroes, as well as their rough and tragic career. It can more intuitively feel ‘ I fancy General Zhou at the height, of his success, with a plume fan in hand. In a silk hood, so brave and bright. The

poem gives students the opportunity to express themselves, and trigger students to think deeply about the content of the poems. The author was jealous that Zhou Yu’s elegance and demeanor were highly valued and trusted by the court, lamented his bad luck, and hated his grief and indignation that he was old before he made his merits. This kind of classroom atmosphere of natural communication and interactive discussion can deepen students’ understanding of the emotions of the text and improve the efficiency of classroom learning.

## 4 ANALYSIS AND EVALUATION OF CHINESE MULTIMEDIA INTERACTIVE TEACHING IN HIGH SCHOOL

### 4.1 Choice of Evaluation Method

In the selection of teaching evaluation methods in this paper, it mainly includes interviews with teachers and students, and decoding and analysis of classroom videos captured by the intelligent recording and broadcasting system under the multimedia situation. [4] In the interview method, 10 students were randomly selected from teachers and students to conduct corresponding interviews with the previously prepared questions. In the process of analyzing video coding, the ‘human-technology-environment interaction analysis and coding system’ proposed by Ye Xindong and others is mainly used on the Transam platform.

### 4.2 Teaching Case Evaluation and Analysis

#### 4.2.1 Interviews and results statistics

After the course, 10 randomly selected teachers and students were interviewed. The purpose of this interview was to study their feelings of interactive teaching in a multimedia environment. The questions set in the interviews in this article are also relatively open. For this method, it is also the first and most effective way to obtain user experience. The main points of the interviews can be summarized as follows. First of all, teachers and students have not been in multimedia interactive teaching for a long time, and they are not very familiar with the teaching environment and teaching tools in the classroom, so they

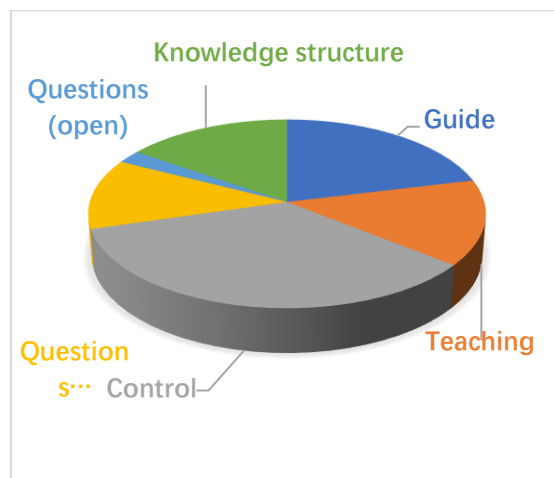
will feel very new to this teaching mode. In the second place, teachers and students feel very happy in this teaching environment, no matter in terms of desks, chairs, teaching infrastructure, they are better than before [3]. In terms of software, for example, interactive electronic whiteboard, IRS interactive feedback system is also relatively easy to operate, and they have an important impact on teachers' teaching and students' learning. Thirdly, in terms of interaction, the use of new media interactive teaching is better than the interaction of multimedia projection teaching in traditional classrooms. Last but not least, teachers should repeatedly contact basic operations such as electronic whiteboards and IRS interactive feedback software.

#### 4.2.2 Video result analysis statistics

Regarding the interactive behavior analysis in this class, the classroom video analysis method is adopted, that is, the class video recorded by the automatic recording and broadcasting system in the future classroom environment is carried out on the Transam platform according to the aforementioned 'human-technology-environment interactive analysis and coding system' for code analysis. Through the analysis of the video results, the data of classroom behavior and teaching structure can be better displayed [2].

#### 4.2.3 Teacher behavior analysis

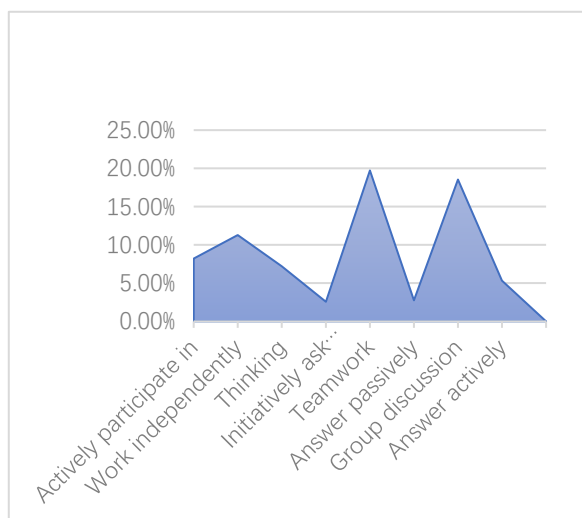
From the figure, it can be seen that the teacher's control time in the classroom accounts for the most part of the whole teacher's activities, accounting for 26.73%. Teachers' classroom guiding factors account for 16.32% of the whole teacher's activities. The knowledge structure of teachers accounts for 11.73% of the whole teachers' activities. The teacher's teaching factor only accounts for 11.28% of the entire teacher' activities. Other factors, such as teachers' questions, teachers' encouragement and praise, and teachers' acceptance of opinions, all account for less than 10% of the entire teacher's activities, especially the teacher's criticism in this example.



**Figure 3:** Frequency of more teacher activity in teacher factors

#### 4.2.4 Student factor analysis

From the frequency of student factors in figure 4, it can be seen that the largest proportion of student factors is student presentation with 24.42%. Students in the classroom answer or complete tasks and submit them to the teacher for evaluation by the whole class. Secondly, group collaboration activities account for 19.73% of student activities [12]. The group discussion factor accounts for 18.54% of student activities. The student operation factor accounts for 11.28% of student activities, and the remaining factors are less than 10%. From the above data, it is known that in student activities, group activities are the main activities. Group members conduct effective interactive learning through discussions and exchanges, not only the interaction between students and students, but also the interaction between students and machines, also account for some proportion. Students learn in this way can better understand the content of learning with a strong interest in learning.



**Figure 4:** Student factors analysis

### 4.3 Inspiration Analysis for Chinese Teaching

#### 4.3.1 Improve your information literacy

The effective application of information technology is inseparable from the provision of information resources. In order to cultivate students' ability of inquiry learning and searching for information, it is also necessary to recommend high-quality open teaching resources and relevant teaching materials for students [6]. Teachers should improve their own information literacy, design and produce teaching micro-videos, websites and multimedia teaching software, etc., and screen useless information for students, recommend websites where authoritative teaching resources are located, and provide relevant teaching materials for students, create conditions for students' independent inquiry and collaborative learning before and during the entire teaching process.

#### 4.3.2 Improve the ability of multimedia teaching design

Teachers play a very important role in Chinese teaching, so there are corresponding requirements for teachers in teaching activities. Teachers should learn the relevant knowledge and theories of multimedia teaching design, and use them to guide their own courseware design. Scientific and reasonable integration of teaching methods shows the teaching content to students in an easy-to-understand way, ensuring that the amount of information in classroom teaching is adapted to the overall needs of students, and making reasonable use of traditional blackboard writing, so that students can be able to better understand knowledge.

## 5 CONCLUSION

The extensive use of multimedia in Chinese teaching in high school has certain practical significance for improving its teaching effect. However, in the actual teaching activities, in addition to the rational use of new media teaching, it is also necessary to make the students' own leading position better highlighted [7]. Therefore, in the case of conforming to the content of the textbook, a better teaching situation is created for the students, and the students' leading position in the classroom is respected and brought into play. By actively encouraging students to communicate with each other to strengthen cognition, transfer shared communication. Finally, for multimedia teaching, it should not be in appearance, but should serve to realize the teaching goal of Chinese course.

## REFERENCES

- [1] Chen Ling. (2007). Using multimedia classroom interaction to create a new space for translation teaching [J]. *China Electronic Education*, (12):3.
- [2] Cong Li. (2020). Research on interactive teaching of primary school Chinese based on network environment [J]. *Chinese Journal of Multimedia and Network Teaching* (late issue), (10):108-109.
- [3] Guo Jirong. (2018). The innovative approach of multimedia interactive teaching mode in secondary vocational Chinese teaching [J]. *Audio-visual education in primary and secondary schools*: 2, (2):1.
- [4] Guo Xiaoguang. (2014). Re-understanding of multimedia teaching and blackboard writing teaching [J]. *Chinese Journal of Education*, 2014(2):4.
- [5] Huang Lingfang. (2009). Discussion on Interactive Multimedia Teaching Method [J]. *Educational Theory and Practice: Subject Edition*, (12):2.
- [6] Li Guangfeng. (2009). Optimizing the English Teaching Mode to Promote Students' Independent Development—A Discussion on the Interactive English Teaching Mode Based on Multimedia and Network [J]. *Educational Theory and Practice*, (12):3.
- [7] Li Zongshun. (2012). The application of multimedia interactive teaching mode in English teaching [J]. *China Press*, (08):240-241.
- [8] Xie Lanying. (2021). Practical Discussion on Using Multimedia to Realize Interactive Teaching Activities in Chinese Classrooms in Primary Schools [J]. *Women's Square*, .
- [9] Yan Libing. (2021). Research on innovative strategies of multimedia interactive teaching in secondary vocational Chinese teaching [A]. *Research Center for Basic Education Curriculum Reform of the Ministry of Education. Proceedings of the 2021 Basic Education Reform and Innovation in the Internet Environment Seminar Proceedings* [C]. *Research Center for Basic Education Curriculum Reform, Ministry of Education*: 2.
- [10] Yang Mingli, Chen Yihui. (2010). Analysis of the innovative mode of interactive multimedia network teaching [J]. *Teaching and Management*.
- [11] Yu Yan. (2019). Application Analysis of Multimedia Technology in Interactive Chinese Teaching in Primary Schools [J]. *Youth and Society*, (1):1.
- [12] Zhang Zhenyan. (2015). Analysis of multimedia interactive teaching design in art teaching [J]. *China Information Technology Education*, (S1):78.



**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

