

Study on Middle School English Teaching Design

--Based on Deep Application of Whiteboard

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Abstract

Interactive electronic whiteboard has been gradually applied in English classroom teaching because of its interactive and generative characteristics. With the help of the Seewo whiteboard, this paper firstly sorts out the applicable functions of English subject in the whiteboard, and then analyzes the 470 teaching designs made by junior middle school English teachers in various provinces using the whiteboard function in the courseware database of the "Go for it!" textbook of "Seewo Whiteboard 5", in order to explore the application status of the whiteboard in the current junior high school English teaching design. The analysis draws the following conclusions: 1) At present, junior middle school English teachers are more basic in the application of whiteboard. They are mainly focused on the function of Power Point in teaching design rather than the function of whiteboard; 2) Most teaching designs lack interactivity, vividness, innovation, interest, aesthetics and other problems; 3) Lack of innovative application and integrated design of whiteboard function in English class. Finally, combining with the teaching design case and analysis, this paper expounds how to realize the deep application of the whiteboard function to junior high school English teaching design, so as to realize the deep integration of information technology and English teaching, promote digital education, and provide reference for junior high school English teachers to effectively use the whiteboard function for teaching design.

Keywords

ELT; English teaching design; information technology; Interactive electronic whiteboard.

1. Introduction

With the continuous innovation of information technology, interactive electronic whiteboard is also promoting the development of modern educational technology. As an important tool and means in current classroom teaching, interactive electronic whiteboard integrates the functions and characteristics of traditional blackboard, computer, projector and other devices. On the one hand, it opens up a broader space for classroom teaching and students' independent learning; on the other hand, it provides convenience for teachers' teaching and students' learning due to its rich teaching resources (Shi, Yang et al., 2012). Interactivity and generativity are the advantages of electronic whiteboard that have been successfully applied in classroom. Studies at home and abroad show that the interactivity of electronic whiteboard can create conditions for multiple interactive classrooms, and its generative function can greatly promote the development of generative teaching resources (Ma, Cai & Wang, 2013).

"The Compulsory Education English Curriculum Standards" (hereinafter referred to as the "The New Curriculum Standards") (2022) repeatedly mentions the application of information technology in English teaching, such as the curriculum concept of "promoting the deep integration of information technology and English teaching" and the teaching suggestions of "improving the efficiency of the use of information technology". "The New Curriculum Standards" further explains the auxiliary and promoting role of information technology in the

area of education, as well as the state's emphasis on educational information technology. In English teaching, interactive electronic whiteboard can provide a variety of teaching activities and create an English learning situation that is more in line with the learner-centered teaching concept, so as to make full use of English teaching advantages of "learning by doing and doing while learning" (Yin, 2012). However, the current electronic whiteboard does not give full play to its advantages. Studies show that in many schools the electronic whiteboard is only used as a projector (Chen & Chen, 2007). Meanwhile, in teaching design, some teachers lack the awareness of electronic whiteboard teaching design and pay more attention to the blackboard application function in whiteboard (Yang & Ren, 2014).

Therefore, this study intends to use "Seewo Whiteboard 5" to sort out the whiteboard functions that can be applied to English subject. In addition, it analyzes the English teaching designs made by teachers from different middle schools using the whiteboard function in the courseware database of the "Go for it" textbook of "Seewo Whiteboard 5" and summarizes the main problems existing in English teachers' teaching design based on interactive whiteboard. At the same time, based on the concept of the new curriculum standard, combined with the unit whole teaching concept and the view of English learning activities, this study will show how to better play the functions of the whiteboard in teaching design, so as to realize the efficient integration of junior high school English teaching design and the deep application of the whiteboard.

2. Functions of interactive electronic whiteboard

As a widely used interactive electronic whiteboard, "Seewo Whiteboard" takes the generative teaching concept as its core. In addition to traditional functions such as blackboard, projector and PowerPoint, it can also provide teachers with courseware database, subject tools and some unique interactive functions, so as to help teachers prepare, teach and reflect on lessons more flexibly and efficiently. This part will focus on sorting out the applicable functions in English subject and some common interactive functions of Seewo.

2.1. English subject functions

2.1.1. English-Chinese dictionary

The function of the English-Chinese dictionary can help teachers quickly search for the Chinese translation of the word or English translation of a certain Chinese word. Teachers only need to input English or Chinese words on the whiteboard, and then through a simple search, they can find the definition, part of speech, phonetic symbol, example sentences and synonyms of the word in the dictionary. At the same time, the function also provides the option of "generating word card", which provides convenience for teachers. These characteristics make the function of the English-Chinese dictionary become a powerful tool for English teaching.

2.1.2. Dictation

The function of dictation can effectively help students practice their word listening and spelling skills. The teachers only need to select the grade, textbook and unit, and it will automatically generate the words. Teachers can choose these words or customize the words that students need to dictate. After the selection, the teacher can also set listening mode, listening sound, listening frequency and writing time, etc. Besides, the original listening sound provided by Seewo whiteboard is authentic foreign pronunciation, so this function can not only help students deepen their memory of words, but also improve their pure pronunciation of words. Teachers can use this function to create fun activities to attract students' attention, such as competitions to see who can understand and spell correctly the fastest. At the same time, teachers can also easily collect and evaluate students' dictation performance, so as to guide students' learning more pertinently.

2.1.3. Ruled paper

The function of “four-lined three-spacing grid” is similar to the exercise book used by primary school students, namely there are four lines in the horizontal and three grids in the vertical, each of which is the same size. This function can show students how to write words correctly, so as to help students better practice and standardize word writing.

2.2. Special interactive functions

2.2.1. Mask

The function of “mask” is to add a translucent layer to the whiteboard, which allows the teacher to draw and manipulate without affecting the original content and graphics. Teachers only need to erase the mask with the eraser tool to show the hidden content. Most importantly, this function can make classroom teaching more flexible and increase the interaction between teachers and students. For example, mask can be used to hide answers during presentations so that students can think and answer questions better. This function has good application value in teaching.

2.2.2. Shade

The function of mask is mainly used for the table. By using the mask function in the table, the content of the specified column, row and cell can be hidden. Teachers can use the function to hide the answers to questions in teaching and let students think and answer questions, so as to develop and promote students' thinking and problem-solving ability. Masks are also useful when teachers need to show something step-by-step. The teacher can use the mask function to gradually open certain cells to help students better understand what the teacher is teaching. Mask makes the teaching process more flexible and convenient than presenting content sequentially, improving the efficiency of teaching.

2.2.3. Classroom activities

One of the most interactive features is the “classroom activities”. The function of “classroom activity” allows teachers or students to quickly create and carry out various forms of interactive activities, such as group competition, knowledge matching, judging right or wrong, etc. This function supports the participation of multiple people, and has a certain game nature, which can help teachers to better stimulate the interest and participation of students, improve the classroom atmosphere and effect. The function also supports real-time monitoring and evaluation of students' activity results, which can help teachers better understand students' learning situation.

3. Problem analysis of English teachers' teaching design based on interactive whiteboard

Seewo whiteboard has a powerful courseware database, in which teachers can share courseware made by themselves or download courseware made by other teachers, so as to realize resource sharing and strengthen the cooperation between teachers in teaching design. The author analyzes 470 English teaching design in the courseware database. Although there is a large number of teaching design in the courseware database, the following problems still exist.

3.1. The aspect of whiteboard function application

At present, the application of whiteboard functions by junior high school English teachers is relatively basic, mainly focusing on the use of text boxes, pictures, videos, tables, shapes and animations, while the interactive functions of whiteboard are rarely used. For example, one teaching design has 55,000 views, but none of the whiteboard's special functions are applied. This shows that teachers mainly focus on the habit of using PowerPoint function in teaching design. Because teachers are more familiar with the functions of PowerPoint, it is easy to fall

into the mistake of thinking that the whiteboard and PowerPoint have the same functions when making teaching design. While whiteboard contains some of the basic features found in PowerPoint, the biggest difference between whiteboard and PowerPoint is its interactivity. When using PowerPoint, teachers need to arrange all the teaching stages in advance, such as the order of picture presentation and answer presentation, so PowerPoint has weak flexibility and interactive effects. The interactive functions of the whiteboard (as described above) enable teachers to freely present pictures, text, answers, etc., thus making teaching design full of flexibility.

3.2. The aspect of teaching design

Through analysis, it is found that, because of the low degree of application of whiteboard technology by English teachers, most teaching designs are lack of interactivity, vividness and interest. At the same time, most teaching designs have some problems such as lack of aesthetics. For example, one teacher wants to use multiple pictures for students to practice dialogues, but there are watermarks on the pictures (as shown in Fig. 1), which will affect the aesthetics of the courseware to some extent. Therefore, teachers can use the snipping tool of whiteboard to cut off the watermarked part. At the same time, in one teaching design, the teacher puts a picture with two characters in the part of oral communication (as shown in Fig. 2), but the background of the picture and the background of the teaching design are a little awkward (this is a problem in many teaching designs). In this case, the function of "background removing" of the whiteboard can be used to make the picture and the background of the teaching design more integrated and beautiful (as shown in Fig. 3).



Fig. 1

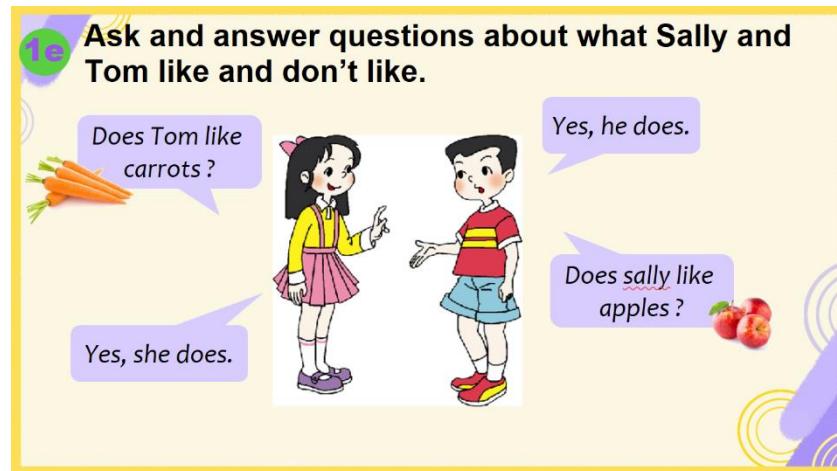


Fig. 2

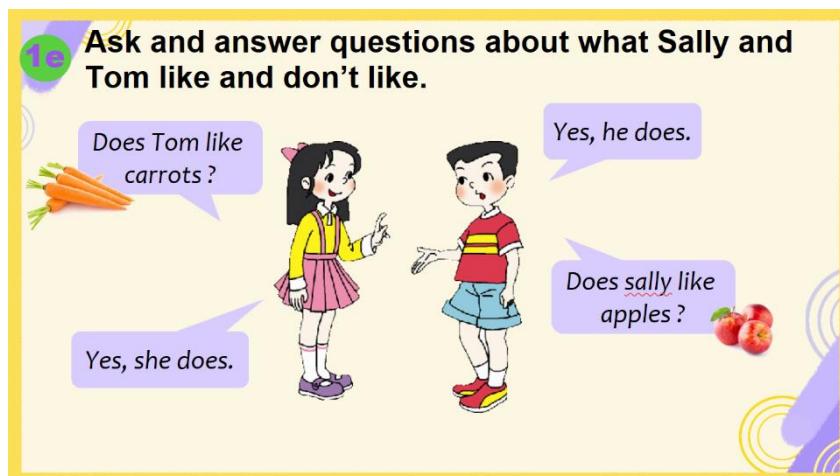


Fig. 3

3.3. The aspect of innovation and integration

The present teaching designs lack the innovative application and integration design of whiteboard function in English classroom, and the advantages of whiteboard technology have not been fully utilized. Although some teachers can use the subject function or interactive function of the whiteboard to carry out teaching design, the application of the whiteboard function is too simple or inappropriate. Through the analysis, it is found that the functions of mask and classroom activities are used most by teachers. However, most teachers mask the text, but do not apply the mask function to the picture according to the teaching needs. For example, when asking students to guess animals, teachers can not only use words, but also add a mask on the picture, and then use an eraser to continuously erase the mask to arouse students' enthusiasm. At the same time, some teachers ignore that the function of classroom activities can also change the original elements according to the actual needs. For example, when teachers apply the "knowledge matching activity" in the function of classroom activity to test students' word memorization ability, they can transform the Chinese words into corresponding pictures, which makes the teaching design more attractive and innovative. In the aspect of improper use of whiteboard function, for example, a teacher intentionally uses the mask function (as shown in Fig. 4, the red marked box is the mask area), but does not apply the function to the teaching content related to the topic, but to the background picture that is unrelated to the teaching content. Fig. 5 shows the image after erasing the mask with an eraser. On the one hand, this phenomenon of inappropriate use indicates that teachers need to be more

familiar with and flexible in the application of whiteboard functions. On the other hand, it also indicates that the integration of teaching design and educational technology still needs to be improved.

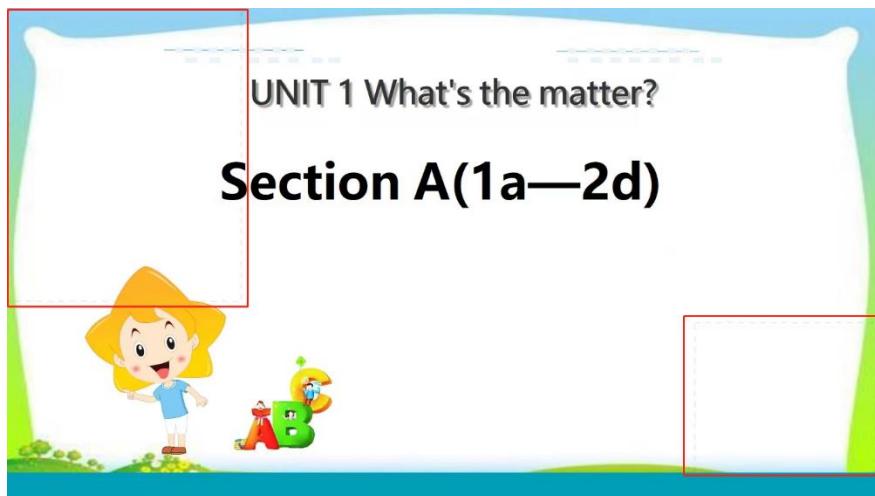


Fig. 4

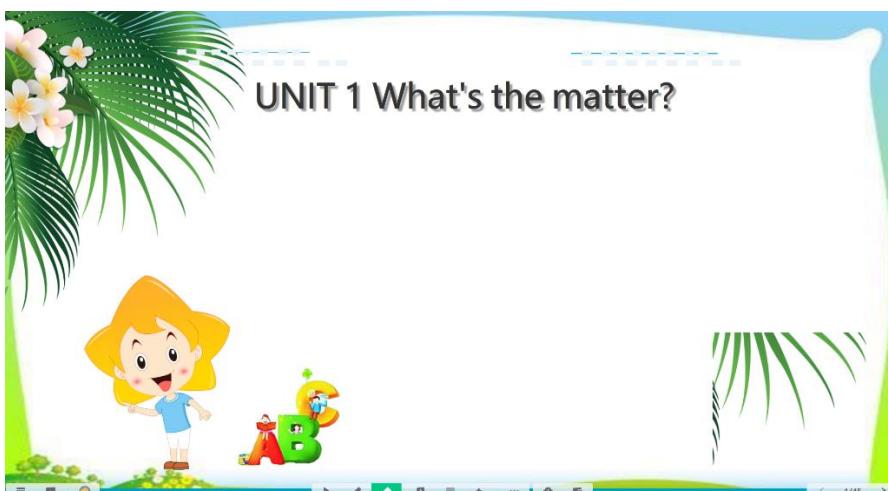


Fig. 5

4. Case analysis of middle school English teaching design based on deep application of whiteboard

This paper takes the listening and speaking part Section A 1a-2d of Unit 13 We're trying to save the earth!, Grade 9 of "Go for it!" as an example. It actively practices the concept of the new curriculum standard and further discusses how to deeply apply whiteboard to teaching design on the basis of unit whole teaching and English learning activities, so as to realize the deep integration of information technology and English teaching. 1a-2d mainly talks about environmental pollution and environmental protection from the types of pollution, the causes of pollution and the ways to solve pollution, which allows students to grasp the main idea and capture details in the listening and speaking tasks and activities, so as to enhance students' environmental awareness.

Based on the deep application of the whiteboard, the following innovative functions are applied in this teaching design to achieve technology integration (as shown in Table 1).

Table 1 The use of whiteboard depth application function in this teaching design

Teaching Part	Innovative Function Application	Purpose
Part 1	subject tool, snipping tool, magnifier, spotlight	Introduce the unit topic and activate students' knowledge
Part 2	classroom activities, board-in-board, mind map, audio cue points, mask, animation	Complete listening and speaking tasks
Part 3	audio cue points, animation, mask, board-in-board, shade, color difference, mobile screen mirroring	Complete listening and speaking tasks
Part 4	hyperlink, animation, English-Chinese dictionary, ruled paper	Summarize the teaching content and conduct emotional education
Part 5		

4.1. Teaching objectives

Setting teaching objectives is the first step of teaching design (Wei, 2021). Teachers should first make a comprehensive analysis of the text and assess the class level, and then develop achievable teaching objectives. Through analysis, the teaching objectives of this teaching design are finally determined as follows.

After learning in this lesson, students are able to:

- (1) Identify pollution types, analyze causes of environmental pollution and propose solutions;
- (2) Understand the general ideas of the two listening texts, and use the strategies of background, picture prediction and question prompt to complete the listening task;
- (3) Use the language knowledge and topic knowledge learned in this course to discuss the relationship between people and the environment and establish the awareness of environmental protection.

4.2. Teaching design

This teaching design is divided into five parts. Each part actively carries out relevant teaching activities around the unit theme, the view of English learning activity and the application of whiteboard function.

4.2.1. Lead-in: perception and attention

① Activity 1:

At the beginning of the class, “the planet” (see Fig. 6) in the “Subject Tool” is used to ask students how much they know about the Earth and activate their knowledge so as to introduce themes and achieve subject integration.



Fig. 6

② Activity 2:

Then the teacher will play two videos about the Earth and ask the students to answer the following two questions (see Fig. 7). The first video mainly reflects the beauty of the earth, and the second video shows the destruction of the earth. Through the two videos with obvious contrast, students' awareness of environmental protection is stimulated. When the video is playing, the teacher can use the snipping tool to take screenshots of some contrasting parts between the two videos, so that students can have emotional resonance again.

Fig. 7

4.2.2. The part of 1a-1c

① Activity 1: description and interpretation

In activity 1, four theme pictures are presented. Using the magnifier function (see Fig. 8), students are asked to describe what they see in the pictures and tell what impact these pollution will have on the environment, which lays the foundation for the next activity of pollution classification.



Fig. 8

② Activity 2: analysis and judgment

Activity 2 uses “super classification” of “classroom activities” to ask students to classify the types of pollution (see Fig. 9), and then inserts the prepared mind map with board-in-board (see Fig. 10) to sort out the three types of pollution and their pollution sources. The teacher also can guide students to think about other pollution sources that will cause noise, air and water pollution.



Fig. 9

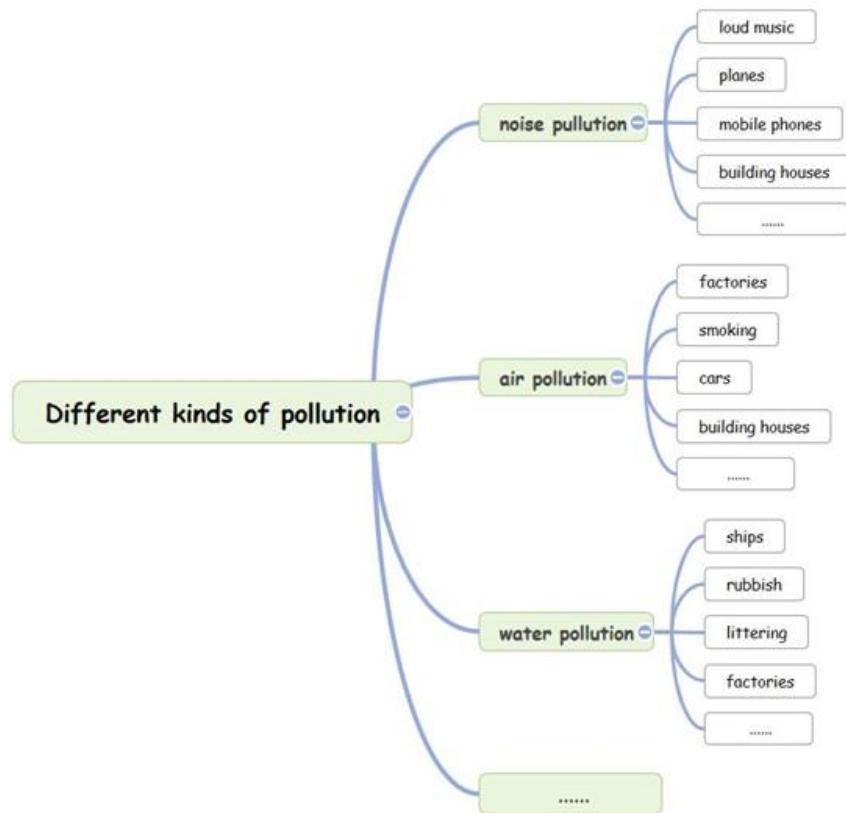


Fig. 10

③ Activity 3: analysis and judgment; acquisition and combing

After activating what students already know and laying the groundwork for the background knowledge, the next step is to enter the formal listening stage.

First of all, students are guided to predict the listening content, and analyze the content and parts of speech to be filled in the blank according to the content before and after. This step can exercise students' ability of prediction, observation and analysis, eliminate students' nervous psychology before listening, so as to complete the teaching task.

Then the tape is played and students can check with their partners. Then play the recording a second time, using the function of "audio cue points" and erasing the mask (see Fig. 11), and check the answers together.

What was the problem?	The river was _____. Even the bottom of the river was full of _____. There were no more _____ for fishermen to catch.
What caused the problem?	People are throwing _____ into the river. Factories are putting _____ into the river.
How should the problem be solved?	We should write to the _____ and ask them to _____ the factories. Everyone should help to _____ the river.

Fig. 11

④ Activity 4: acquisition and combining; generalization and integration

Listen to the tape a third time and ask the students to think and answer the following three questions. Erasing the mask with an eraser reveals the answer (see Fig. 12). Questions and answers can guide students to be more familiar with the text and prepare for the oral output.

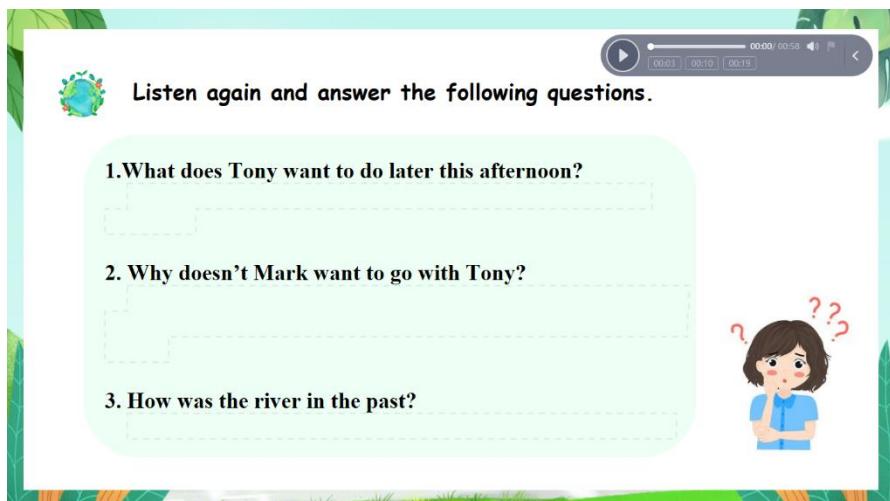


Fig. 12]

⑤ Activity 5: internalization and application

Firstly, students read the dialogue in 1c. Then they practice the dialogue in different roles. Besides, teachers will provide students with a demonstration of oral dialogue and provide necessary guidance. When students are practicing speaking, the teacher can use the “timer” tool (see Figure 13) to control the time.

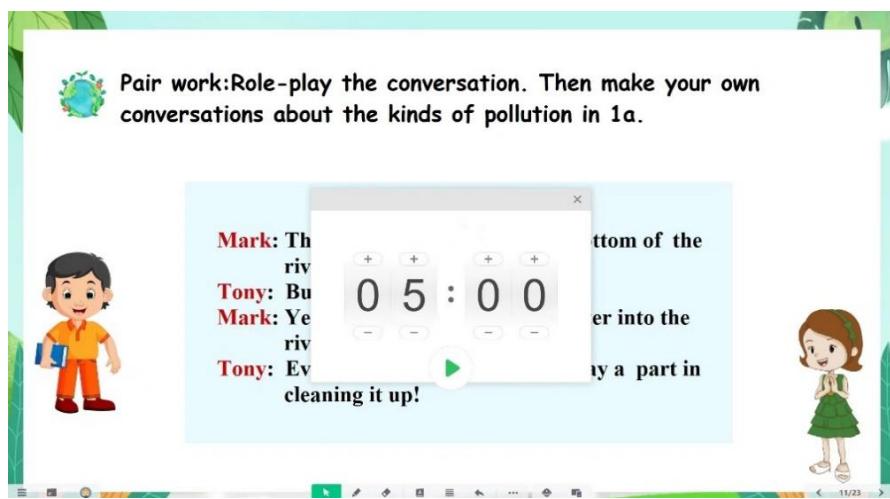


Fig. 13

4.2.3. The part of 2a-2d

① Activity 1: perception and attention

The teacher will play the tape and students need to choose the pollution types that people talk about in the interview according to what they hear (see Fig. 14).

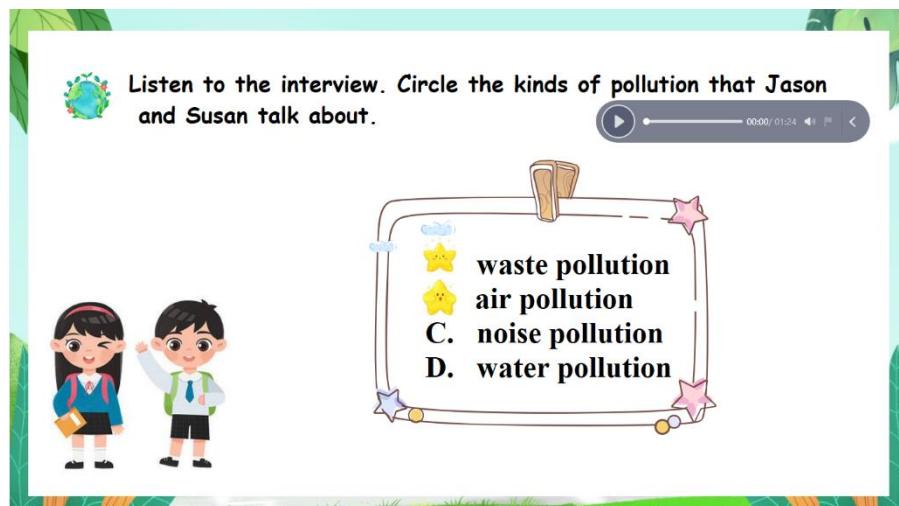


Fig. 14

② Activity 2: acquisition and combining; generalization and integration

Before listening to the tape again, the teacher will guide the students to observe the sentences in activity 2b and predict the content to be filled in. Then they will complete the listening activity.

Then the teacher will play the tape for the third time. The students correct their answers by themselves first and then check with their partners. Finally, erase the mask and check the answers with the class.

At the same time, since this part is mainly about the causes of air pollution and waste pollution, teachers can guide students to summarize this part of content (see Fig. 15), and then move on to the next step of solving the problem.

Fig. 15

③ Activity 3: internalization and application

Students work in groups to think about how to solve the problems of air pollution and waste pollution (see Fig. 16). Then, the whole class should interact and communicate with each other. The teacher will use "board in board" to record students' ideas.



Fig. 16

④ Activity 4: internalization and application

Students will read the text in 2d, find out the measures mentioned in the passage to solve air pollution and waste pollution, and then fill in the blanks. Here, the teacher will use the function of shade to hide the answer (see Fig. 17).

Pollution	Ways to solve the problem
air pollution	[Shaded area with a pattern of small green shapes]
waste pollution	[Shaded area with a pattern of small green shapes]

Fig. 17

⑤ Activity 5: analysis and judgment; internalization and application

After the students are familiar with the dialogue in 2d, the teacher will play the video of this dialogue and guide the students to find out some important expressions and sentence patterns from the dialogue, so as to prepare for the students' oral output. The functions of color difference and mask are used here to show students key sentence patterns and phrases (see Fig. 18). For example, when we want to ask someone how to solve a problem, we can say: What are your ideas for solving these problems? We can use "make a difference" to represent the impact and effect on.

Students will work in groups to practice this oral dialogue. The dialogue content is not limited to 2d part. The teacher can encourage students to practice from the problem analysis, cause analysis, problem solving. After that, some students will be invited to perform on stage. Teachers can use the function of mobile screen mirroring in Seewo whiteboard to save the video about students' performance, so as to help students find their strengths and weaknesses in the dialogue after class.



Fig. 18

4.2.4. Conclusion: criticism and evaluation; imagination and creation

① Activity 1:

After finishing the listening and speaking tasks, the teacher can supplement students with encyclopedia knowledge. The teacher can use the function of hyperlink to go to the webpage (see Fig. 19), to introduce “The World Earth Day” and The World Environment Day to students. Then, the teacher will present the topic of “Every day is Earth Day and Environment Day” to help students put the concept of environmental protection into practice every day.



Fig. 19

② Activity 2:

After that, a propaganda video about pseudo ethics of environmental protection will be played to students, so that students could further understand, reflect on and evaluate environmental protection.

③ Activity 3:

Finally, the teacher will divide and interpret each letter of “EARTH” as the end of this class (see Fig. 20). For example, E stands for earnest, A stands for active, R stands for rethink\reuse\recycle, and T stands for tenacious. Students may not be familiar with the word: tenacious, so teachers can use English-Chinese dictionaries to explain it. Finally, H can stand for helpful. These words can be summed up in this sentence: we must have an earnest heart, as well as active, tenacious, helpful actions to protect environment, and constantly rethink, reuse

and recycle resources, so as to practice the concept of environmental protection. The function of “four-lined three-spacing grid” can be applied in this part to standardize word writing.

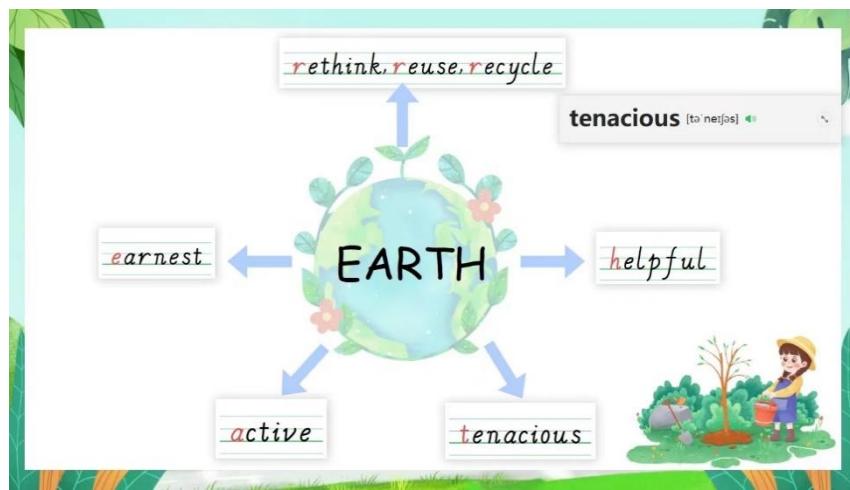


Fig. 20

4.2.5. Homework: imagination and creation

For the homework, students will make a poster with the theme of “environmental protection” (see Fig. 21) in order to cultivate students’ imagination and creativity. Teachers can use the projection function of the whiteboard to show excellent works to the class.

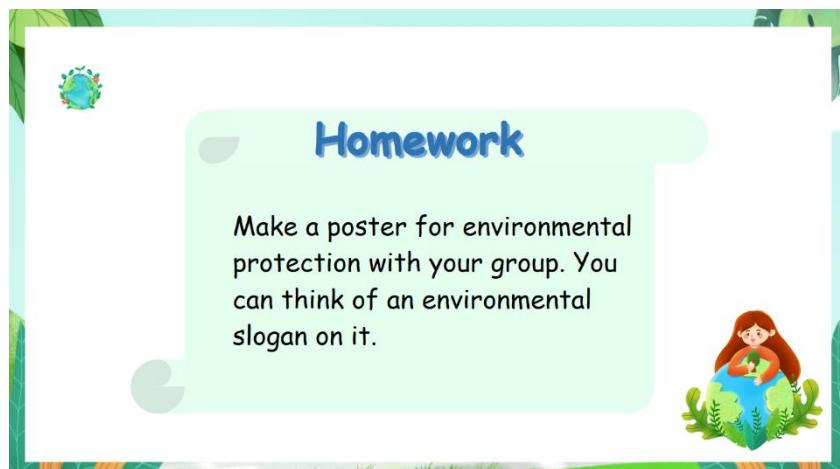


Fig. 21

5. Conclusion

Interactive electronic whiteboard can give full play to its advantages in classroom teaching, so as to improve the integration of information technology and subject teaching and promote the informatization of basic education (Yang, 2012). As an electronic teaching equipment, interactive electronic whiteboard has a variety of teaching auxiliary functions (Xing, 2020), such as English-Chinese dictionary, dictation, four-lined three-spacing grid and other English subject applicable functions, as well as interactive functions such as mask, shade, classroom activities, etc. However, through the analysis, it is found that most teachers still have some problems in the aspects of whiteboard function application, teaching design, and innovation and integration. Numerous studies have shown that the interactive electronic whiteboard itself

cannot bring about the reform of foreign language teaching and promote the development of students, but what really brings about changes is foreign language teachers' understanding of the new technologies and their ability to apply new technologies (Wu, 2011; Jiang, 2016). Therefore, under the current information education background, how to better use the interactive electronic whiteboard function to achieve the deep application of junior high school English teaching design, still requires further exploration and improvement by more English teachers.

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