

# The Case Study of Multimedia Technology-based Heuristic Story Teaching Method

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**Abstract.** This paper explains the connotation and basic characteristics of the heuristic story teaching method based on multimedia technology. In order to illustrate this way to this teaching method, the teaching plan takes students' railway traffic safety knowledge education as an example; besides, this paper points out that the rational and targeted utilization of "multimedia technology-based heuristic story teaching method" usually makes classroom teaching become efficient and effective in practical teaching.

**Keywords:** Multimedia; Heuristic; Story; Teaching method; Teaching plan.

## 1. Introduction

The so-called multimedia technology-based heuristic story teaching method refers to a teaching method based on multimedia, the modern education technology, which is carried out in a story-oriented teaching method and makes students actively learn by means of inspiration and induction. "Multimedia" is one of the basic characteristics of multimedia technology-based heuristic story teaching method. Using the modern education technology of multimedia, teachers can integrate text, graphics, images, sound, animation, video and other media materials based on their needs and innovation across time and space, make them harmonious as well as give them interactive features, so that they can produce a variety of colorful multimedia application software products, i.e. multimedia courseware. In fact, the emergence of multimedia technology and its application in teaching not only improve the expressiveness and interactivity of teaching media, but also promote the overall optimization of classroom teaching content, teaching methods and teaching process; hence improve the teaching efficiency and the teaching effect. "Inspiration and induction" is the second basic feature of the multimedia technology-based heuristic story teaching method. Enthusiasm for learning refers to the initiative or thirst for knowledge in learning, which is manifested as interest, belief, desire and anxiety. The main purpose of "inspiration and induction" is to arouse students' learning enthusiasm. Psychological research believes that interest is a powerful internal motivation for learning behavior and is the best teacher. Interest is the core of "story teaching method". "Story-telling" is the third basic feature of heuristic story-teaching method based on multimedia technology. Story-based teaching method refers to the way that teacher includes some related simply short stories in the classroom according to the teaching content as explanation or illustration on highlighted content, or even as substitute of lecture content. This is an attempt to attract students' attention, stimulate students' interest in lectures, inspire students to think about and let the students directly learn from the story that contain the truth. "Synergy" is the fourth basic feature of heuristic story teaching method based on multimedia technology. Synergy, in brief, refers to the process or ability of two or more different resources or individuals to achieve a certain goal in a coordinated way. Collaborative teaching advocates that all teachers and students should jointly establish a democratic, harmonious and warm teaching atmosphere so that students at different levels have opportunities to participate and develop. The following is a specific description of the application of the multimedia technology-based heuristic story teaching method in the format of case study.

## 2. Teaching Plan Display — Take Students' Railway Traffic Safety Knowledge Education as an Example

### 2.1 Teaching Plan Display.

Safety education is an important content of all kinds of schools and colleges in China, and traffic safety knowledge is one of the most important teaching contents of safety education. Due to various factors, it is usually not easy to deliver effect security education, but if we can smartly use multimedia technology, we will successfully conquer the task. In the following, the author will go through case study on the multimedia technology-based heuristic story teaching method.

Take a look at the following example (PPT format).

**Topic: Safety instructions for pedestrians and vehicles passing through railway crossings**

Fig. 1 p.1

**Part 1. Pictures of "the lion's giving a bite in the white fox's body"**  
**Part 2. Narrative of the real story**  
**Part 3. Think about it**  
**Part 4. Notices for Pedestrians and Vehicles Passing through Railway Crossing**  
**Part 5. Problem**  
**Part 6. Summary**

Fig. 2 p.2

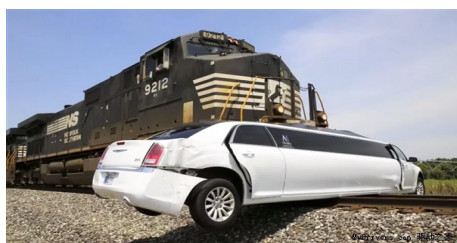
**Part 1 Pictures of "the lion's giving a bite in the white fox's body"**

1. First series of pictures: "The lion's giving a bite in the white fox's body."
2. Second series of pictures: Introduction of story

Fig. 3 p.3

1. First series of pictures: "The lion's giving a bite in the white fox's body."

Fig. 4 p.4



What happened?

Fig. 5 p.5



Do you notice the traffic signal?

Fig. 6 p.6

The extended limousine was hit by the ten thousand ton of train.  
— The “lion” (train) gives a “bite” (hit) in the “white fox’s” (car’s) body.

Fig. 7 p.7

●It's so scary!

Fig. 8 p.8

## 2. Second series of pictures: Introduction of story

Fig. 9 p.7



Guess: What is this guy doing?

Fig. 10 p.8



What else do you see, except “bite”?

Fig. 11 p.9



Is this story made up?

Fig. 12 p.10

• It's real!

Fig. 13 p.11



We have evidence, look at the picture. —  
“The lion” is biting, at the crossing!

Fig. 14 p.12



The train did not stop when it crash on the car.

Fig. 15 p.13



“The lion” carried off “the white fox”. It pushed the car to move forward for almost a hundred meters.

Fig. 16 p.14

“The lion” is “tired”. Finally, it stopped. —“The bite”, but no one is killed.

Fig. 17 p.15

- Anyone could tell the complete story based on the pictures?

Fig. 18 p.16

- You can get 1 point if you guess it right.

Fig. 19 p.17

## Part 2. Narrative of the real story

Fig. 20 p.18

July 18, 2015 local time, a train collide with a luxurious car in Indiana, US. According to the witness, the extended limousine was stuck on the rail and crushed by a freight train with a weight of about 10,000 tons.

Fig. 21 p.21

The train did not stop when it collide with the car, instead it pushed the car forward for about 100 meters. Before the accident, a passenger noticed and warned the train driver by shaking a piece of red cloth.

Fig. 22 p.22

The train driver recalled afterwards that he noticed the signal, but it was impossible to stop instantly considering the freight train has a weight of 10,000 tons.

Fig. 23 p.23

As is reported, the limo was driven by a couple of teenagers planning to celebrate birthday for their friend, who had no idea about what would happen. Fortunately, they have escaped from the car before the accident.

Fig. 24 p.24

The train did not stop when it collide with the car, instead it pushed the car forward for about 100 meters. Some foreign Internet user posted a video about it on YouTube, you can take a look!

Fig. 25 p.25

●The cause: The train could not stop!

Fig. 26 p.26

### **Part 3: Think about it**

1. Is it a story or an accident?
2. If it's an accident, how to prevent it?

Fig. 27 p.27

### **Part 4. Notices for Pedestrians and Vehicles Passing through Railway Crossing**

1. When pedestrians and vehicles find or hear a train coming at railway crossings, pedestrian crossings and level crossings, they shall immediately evade to a distance of 2 meters from the rails of the railways, strictly prohibit staying on the railways, and strictly prohibit rushing to overtake the railways.

Fig. 28 p.28

2. Vehicles and pedestrians passing through railway crossings must obey the commands of crossing guards and crossing safety management personnel.

Fig. 29 p.29

3. Vehicles and pedestrians are strictly forbidden to rush when crossing railings (railings) are closed, sound alarms are issued, crossing signals show red lights, or when crossing guards signal that trains are about to pass, they must stop outside the stop line in turn. If there is no stop line, they must stop outside the outermost rail 5 meters (railings or alarms, etc.), and they must not affect the crossing railings. The closure of the railings shall not be allowed to bump, drill or climb over the railings at the entrance.

Fig. 30 p.30

4. Railway crossings equipped with signaling machines, when two red lights flashing alternately or when the red lights are stable, indicate that trains are near the crossings and that vehicles and pedestrians are forbidden to pass.

Fig. 31 p.31

5. When the red light is turned off and the white light is turned on, it means that the crossing is open and that vehicles and pedestrians are allowed to pass.

Fig. 32 p.32

6. When red and white lights at the crossing are extinguished at the same time, stop and look. Only after the safety is confirmed, can the crossing be allowed to pass.

Fig. 33 p.33

7. When vehicles and pedestrians pass through unmanned guarded crossings and pedestrian crossings equipped with crossing signaling machines, they must stop or stop to look at them. Only when there are no trains at both ends can they pass through.

Fig. 34 p.34

#### **Part 5: Problem**

- If our car got stuck to the rail, how to deal with it?

Fig. 35 p.35

2. If our car got stuck to the rail, how to deal with it?  
 ● Answer: (1) First of all, escape from the car.  
 (2) Then, use red sign is used to warn the train to brake stop in time; the person holding the red sign should be far enough from the outer rail of the railway, generally more than 2 meters (see the first requirement in "Notice for Pedestrians and Vehicles when Passing through the Railway Crossing").

Fig. 36 p.36

(3) Third, report to the police as soon as possible. If you confirm that there is no danger and there is enough time, you can push the car stuck in the rails off the railroad by yourself. When pushing off, you should pay close attention to the changes of the situation to ensure your safety!

Fig. 37 p.37

#### **Part 6: Summary**

1. A story: "the lion's giving a bite in the white fox's body". Apparently, this is not only a story, but also an accident.
2. Seven requirements for passengers and vehicles that pass railway crossings.
3. Take precautions for unexpected situation. In case it happens, stay calm and be careful. Take appropriate action to stay safe.

Fig. 38 p.38

Tell the story, avoid the traffic accidents! Goodbye!

Fig. 39 p.39

## **2.2 Teaching Plan Review**

This teaching plan is not only a multimedia-teaching plan, but also a heuristic story-based teaching plan with a lot of pictures. A large number of realistic pictures will make the teaching of this teaching plan intuitive, easy to learn and vivid, which is unmatched by traditional blackboard teaching. The



teaching plan skillfully allows students to outline the story content of "the lion's giving a bite in the white fox's body" according to the picture, which not only enlivenes the teaching, but also perfectly implements the educational thought of "student-oriented" and greatly improves the learning effect and efficiency. The multiple problems in this teaching plan not only lead students' thinking and attract their attention, but also help students to improve their learning enthusiasm and the emergence and formation of collaborative teaching process. The virtual story of "the lion's giving a bite in the white fox's body" in this teaching plan is not only interesting but also suspense, which not only arouses the enthusiasm of students, but also increases the learning effect and efficiency. It is obvious that multimedia courseware, intuition, story, coordination and vividness are the basic features of this teaching plan. Among them, courseware is an important basis for the teaching plan to be intuitive, story-telling, collaborative and vivid. In fact, it is precisely because the teaching plan is multimedia courseware that its visualization, story, coordination and vividness can be perfectly realized. In conclusion, the teaching effect of this teaching plan is bound to be very satisfactory because it successfully uses the "heuristic story teaching method based on multimedia technology".

### 3. Summary

As is known to all, the teaching effect and the teaching efficiency mainly depend on whether the teachers and scholars work hard, whether they are careful or dedicated, and whether the teaching and learning methods are appropriate and other factors. The process, complexity and human factors of teaching activities determine the effectiveness and efficiency of teaching activities can hardly be predicted. That is to say, before the actual teaching activity starts and ends, whether the actual teaching activity is based on modern education technology, traditional education technology, or both, its actual effect and efficiency in teaching and learning are difficult to be forecasted. Admittedly, there are countless teaching forms or models based on modern education technology that are highly efficient in teaching and learning and have excellent performance. But is all form or mode of teaching based on modern education technology efficient or excellent in teaching and learning? The answer is, not necessarily! So, what kind of teaching form or mode based on modern education technology is highly effective or efficient in teaching and learning? This is a big problem worth thinking about.

In fact, the appropriate and targeted application of "multimedia technology-based heuristic story teaching method" usually makes classroom teaching become effective and efficient in practical teaching.

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