Exploration of Game-Based Teaching Method in Practice

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Abstract: Game-based teaching method focuses on students and their learning interests, which can be well applied in the teaching process of higher vocational students. In the process of game-based teaching, teachers should pay attention to the transformation of roles in each stage of teaching organization, focus on the changes in students after participating in the game, and timely summarize and evaluate the learning results of students.

1. Introduction

"Game-based teaching method," also known as "teaching games," was advocated and implemented in the classroom by Maria Montessori as early as the early 20th century. In Montessori's view, the "game-based teaching method" mainly includes four important elements: game tasks, game signals, game behavior, and game rules. The main idea is to combine the teaching content with lively and interesting games according to the curriculum outline. Game-based teaching method is a very effective way of learning, which can increase students' learning interest, gain psychological insights in the game process, and unconsciously improve students' quality. This article discusses the specific application strategies of the game-based teaching method in the teaching practice of "Quality Education" course[1-3].

2. Implementation of Game-Based Teaching Method

2.1 Teaching Design Based on Student Situation

The author's teaching object is five-year higher vocational students, and the course taught is "Quality Education." The characteristics of five-year higher vocational students are that they are subjectively unwilling to accept dogmatic reasoning, although they are young, they have a sense of adult self-esteem, and they have a firm belief in the recognized truth of themselves. In view of the characteristics of five-year higher vocational students, the "Quality Education" course group focuses on students' self-understanding in teaching design, combines students' learning characteristics, creates situational tasks, organizes social activities, and allows students to discover problems in practice. Based on students' self-needs, it connects with life and links to the workplace, allowing students to realize their needs in real situations. Based on students' self-study, it provides tool usage training, allowing students to improve their learning skills in the process of tool usage. Based on students' self-reflection, through dynamic evaluation, it enables students to have the ability to self-reflect and fully exert the positive role of peer supervision to solve problems in a timely manner. Game-based teaching method is a commonly used method in the teaching process[4-5].

2.2 Making Game Rules Interesting

This article explains the teaching process through the section of "Overcoming Frustration". The teaching goal of this class is to let students recognize that frustration is inevitable for everyone, it is normal to have a negative mentality when facing frustration, to learn methods to overcome frustration, and to cultivate students' ability to bear frustration. In order to enable students to face frustration directly, to better achieve teaching goals, the teacher introduced the game "Little Bird's Growth Diary" in the class and formulated game rules (See Figure 1):
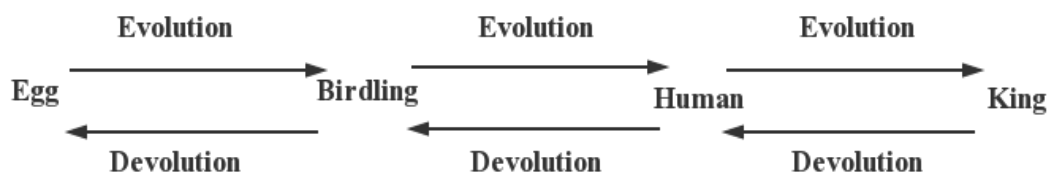
Fig.1 Game rules.

The teacher designated the game area, requiring students of the same level to enter the corresponding area, and only students with the same level can compete with each other. At the beginning of the game, each student received an egg card, and the evolution and degeneration were determined by rock-paper-scissors.

In this game, the victorious student can advance their status by trading their egg card for a small bird card, while the defeated student must retain their egg card. When a small bird card clashes with another, the triumphant student moves forward, switching their small bird card for a human card, while the losing student regresses, reverting their card back to an egg card.

If two human cards compete, the winner upgrades, trading their human card for a king card, while the defeated student downgrades, exchanging their human card for a small bird card. When a king card battles another, the victor maintains their king card. The frequency of victories for each king is tracked on the game scoreboard, while the losing king regresses and swaps their king card for a human card.

Simultaneously, a reward system is in place. When the game concludes, the student with the most victories recorded on the scoreboard earns additional points. The student holding the king card garners the highest points, followed by the student without a king card, who earns the second-highest points. Additionally, students who share their feelings on the mood board are awarded bonus points. Students who violated the game rules were also subject to corresponding punishment mechanisms, and all points in the game were cleared [6].

2.3 Emphasizing the Effectiveness of Game Organization:

When organizing the game, the author chose the indoor badminton hall at the school as the teaching environment, equipped with game cards, mobile whiteboards, colored pens, and white posters (scoreboards). The role of the teacher in the student's game process is a guide and observer of the game. The teacher uses text, photos, videos, and other forms to record students' performance in the game process as an observer. Students' teaching team completes the role of game supervisor, score recorder, and card distributor. Students are free to play as long as they do not violate the game rules. For example, when male students had more players in the class, some of them negotiated to use arm wrestling to determine the winner. During the game process, it is particularly important to guide students in the teaching team to encourage their peers to express their emotions on the mood board in a timely manner and distinguish the emotions of evolution and degeneration with different colored pens[7].

2.4 Sharing and Summarizing to Enhance Cognition:

This is the final touch of the game-based teaching method, and also an important stage for students' cognitive sublimation. This stage of teaching organization is divided into two stages: student sharing and teacher summarization and sublimation. The best time for students to share is when they are excited about the game. At this time, students urgently need to express their emotional state. The teacher's role is a listener and recorder. Using body language such as recording, nodding, and smiling to make students perceive recognition and empathy from the teacher, to encourage students to share more. When students' emotions tend to be calm, the teacher timely summarizes using the pictures, videos, and student sharing experience data recorded during the game process, shifting students' cognitive state from game emotions to rational cognition, and thus inspiring students to face frustration with courage and seriously consider the suggestions and

methods provided by the teacher for overcoming frustration. The last stroke is the filling of the student activity record card. The characteristics of five-year higher vocational students are weak expression ability, poor logic and organization, and most students in this school are students majoring in science and engineering. In response to this characteristic, the teacher designed an activity guide manual. Students use quantifiable standards to record the game activity process, analyze their own activity data, and write activity summaries.

3. Evaluation of the Effectiveness of Game-Based Teaching

3.1 Improving Students' Learning Motivation

Students in the five-year vocational college have poor academic foundation, have not developed good study habits, and lack of interest in learning. In most theoretical classes, it is common to see students sleeping or playing with their phones while the teacher is teaching. Game-based teaching turns the knowledge into games, which increases the students' participation. In the process of playing the game, students will coordinate and increase the interest of the game. They will take the initiative to come and communicate with the teacher about their gains and express their feelings on the mood board. Incorporating game-based teaching into the curriculum, based on students' character traits of loving to play games and their psychological characteristics of being competitive, encourages students to participate actively, focuses their attention, and makes them wholeheartedly involved, thereby improving the quality of teaching. With this teaching method, the teacher changed from a "one-man show" to a "hundred flowers bloom" approach, improving the boring classroom atmosphere. The students not only gained the pleasure of playing games but also enjoyed the satisfaction of acquiring knowledge.

3.2 Effective Achievement of Teaching Objectives

Motivation is the fundamental internal driving force that controls people's behavior, and learning motivation is the internal psychological force that actively promotes students to learn continuously. Motivation can enhance behavior and promote learning. When students realize the importance of learning for their future personal development and experience the pleasure that knowledge and skills bring to themselves, a virtuous cycle will be formed. Although students have some theoretical knowledge of the topic of frustration, their understanding of this knowledge remains at the cognitive level of rote memorization. In the past learning process, students were mostly passive learners, and the knowledge had not undergone internalization, so when facing frustration, the behavior and performance of the students were not satisfactory. Through game-based teaching, the teacher allowed the students to experience frustration and to recognize their own and others' emotions, behavioral performance, and outcomes when faced with frustration. These cause-and-effect relationships are not experienced through the teacher's imparting of experience, but from the students' own experience, which helps the students to better understand the knowledge and to have a more enduring memory of it, and they are willing to practice it. Through learning, students can effectively improve their ability to bear frustration.

3.3 Promoted Teacher's Professional Development

Learning is a two-way process in teaching, and it is not only the students who benefit from effective classroom instruction, but also the teacher. There are two main aspects to this, teaching and learning. Teachers also face setbacks and have their own knowledge and experience to deal with such issues. By observing students' participation in games, teachers can reflect on their own teaching and become more mature and wise in handling their own problems, setting a good example for their students. Additionally, the game-based teaching method also tests a teacher's ability to organize a classroom, including planning, monitoring, observation, analysis, and summarization. Through teaching, teachers can continue to improve their teaching quality and effectiveness.

3.4 Tested the School's Teaching Management and Service Capabilities

The implementation of game-based teaching requires hardware and software support. Hardware

includes the facilities and equipment required for the game, while software refers not only to the teacher's teaching ability, but also to the school's teaching management and service capabilities. For example, as mentioned in this article, game organization requires various facilities and equipment. The teaching departments of different faculties actively assisted in coordinating this, and even when certain equipment was not available, they helped to source all the necessary resources through various channels. Furthermore, any necessary adjustments to class schedules or teaching venues were made without hesitation or opposition, and the teaching departments provided effective guidance for the implementation of teaching activities. The effective implementation of teaching activities is not only the result of individual teacher behaviors but also a reflection of the school's teaching management and service capabilities.

4. Suggestions for Game-Based Teaching

4.1 Effective Creation of Game Scenarios

The effective creation of game scenarios can enhance the realism and three-dimensionality of game activities, helping students to quickly immerse themselves in the game atmosphere. The creation of game scenarios includes two aspects. First, the design of game activities, including game design and the formulation of game rules, should be fully integrated with the teaching content. Teachers should actively seek breakthroughs in the game that can reflect the key points of knowledge, so as to organically combine the game with relevant knowledge, fundamentally improving the teaching atmosphere and enhancing the overall quality of teaching. Second, the construction of game scenes, including the venue, props, and atmosphere of the game activities, can make the gaming experience more realistic and effective. For example, in the game-based teaching organization mentioned in this paper, the teacher selected the school's indoor badminton hall as the game activity venue and set up four activity areas based on different roles. Each activity area was decorated according to the corresponding role, with the King's area being particularly eye-catching. Different materials and colors were used to make identity cards, arousing students' desire to become the king and actively participate in the game, strengthening their sense of frustration in the process of evolution and degradation.

4.2 Flexible Transformation of the Teacher's Role

To guide students to develop to a higher level through participation in game activities, teachers need to have a clear understanding of student-centered game concepts, find their own role positioning, and flexibly transform their roles in different game organizations and stages. In the game-based teaching organization in this paper, the teacher played the role of game advocate and rule maker at the beginning of the game, making students aware of the game rules, guiding them to actively participate in the game and abide by the rules, and quickly integrating them into the game activities. During the game, the role was transformed into a game observer and guide, recording students' activity process, guiding the direction and pace of the game. After the game, the role was transformed into a listener and mentor, listening to students' activity experience sharing, evaluating and summarizing their participation, and helping them achieve spiritual sublimation. In another course with stronger competitiveness, the author played the role of game participant, competing with the most skilled student in the class to guide students to establish a learning attitude of pursuing excellence.

4.3 Concise and Accurate Analysis and Summary

During the analysis and summary phase, students can achieve the sublimation of knowledge and ideas. After the game activity, student sharing and teacher analysis and summary are important parts of effective teaching. Unlike the knowledge and skill induction, summary, and transformation sublimation of the lecture method, game teaching method should leave room for students to conduct self-analysis. Teachers' summarization should avoid explanation and deduction and be concise and accurate. In this teaching game activity, the teacher designed a quantifiable activity manual based

on the characteristics of weak text expression ability and poor summarization ability of five-year higher vocational students. The manual used an experimental report to design the process of student participation in the activity. Students filled in their performance in each step and answered questions to describe their psychological changes at each stage. During analysis and summary, the teacher combined individual and common problems of students, raised questions, gave precise suggestions, and enhanced students' sense of conviction. The transformation of theoretical knowledge into summary analysis allows students to acquire knowledge recognition and internalization subconsciously.

4.4 Timely Evaluation of Activity Results

Teaching activities are also a process of communication between teachers and students. Communication without feedback is incomplete, and efficient communication must have a feedback mechanism. Timely evaluation and feedback from teachers on students' learning effectiveness can enhance the absorption of students' learning effectiveness. Game teaching method should pay particular attention to timely, accurate, and personalized evaluation of students' performance, which can better help students recognize themselves, establish confidence, and develop comprehensively. In this article, the teacher used an information technology teaching platform to send students' learning effectiveness charts to students. Students can see their growth curve, class growth curve, and the difference between their individual growth curve and the class growth curve through the score list and mini chart. At the same time, the teacher also provides students with individual performance analysis reports and suggestions.

Game teaching method is not just a teaching behavior that teachers use to raise students' interest and liven up the classroom atmosphere. It requires an analysis of elements such as students, learning situations, and teaching objectives, analyzing the correlation between knowledge and games, and conducting detailed teaching design, careful preparation before class, meticulous organization during class, and attention to students' learning effectiveness after class.

Acknowledgement

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