



Using software platform to simulate the application of "party role substitution" in law teaching

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Abstract. This article aims to explore the importance of using software platforms for simulation teaching in the context of technological innovation, and point out that this new teaching model can fully leverage the advantages of multimedia technology, enhance the modernization level and diversified characteristics of education. Through a survey questionnaire, we understand students' preferences for simulation training teaching methods, and analyze that the practical, interesting, and participatory characteristics of simulation training teaching methods are important reasons why students choose this method. Furthermore, this article proposes that with the in-depth application and expansion of simulation teaching methods in law teaching, the practical attributes of law teaching will be greatly improved, thereby changing the traditional law teaching mode. In other words, simulation teaching methods have brought new development directions to law teaching, increased practical content, enhanced students' interest and participation, and had a positive impact on traditional law teaching models.

Keywords: platform simulation; Role substitution; Law teaching

1 Introduction

With the rapid development of law education in colleges and universities in China, the competition among colleges and universities is becoming increasingly fierce. The common problem before us is how to cultivate applied legal talents who are oriented to social needs and combine knowledge and skills. This is reflected in strengthening practical teaching in the reform of law teaching content[1]. From the author's point of view, the reform of practical teaching content of law should be feasible and innovative according to the characteristics of specific law courses. Criminal Procedure Law is one of the 16 core courses stipulated by the Law Education Steering Committee of the Ministry of Education, which has the characteristics of strong applicability and shows the characteristics of procedural order. The traditional practical teaching methods of

criminal procedure mainly include trial observation teaching method, mock trial teaching method and law clinic teaching method, etc[2]. The application of these teaching methods plays a certain role in cultivating students' legal skills. However, these traditional criminal procedure practice teaching methods are usually completed outside the classroom, which is limited by the resources of the department of law and so on. So we need to reform and innovate, practice teaching and learning in the classroom, so as to highlight the position of students, guide students to learn more actively, and stimulate students' internal motivation for course learning, from "asking me to learn" to "I want to learn"[3].

2 Software platform simulation teaching methods in the teaching of criminal law application strategy analysis

First, schools should enhance their knowledge, understanding and introduction of multimedia teaching methods, and help teachers master the key usage and innovative usage of multimedia teaching methods more deeply and comprehensively through professional training of multimedia technology. Then let the application of multimedia teaching methods be implemented in the teaching of criminal law. Since the deepening of educational reform and innovation, a large number of new teaching concepts, teaching methods and teaching models have been introduced into the classroom teaching of criminal law, but in the actual teaching process, the adaptation between teachers and students is still in a gradual stage, especially in the technical training of teachers[4]. In order to better introduce and apply multimedia teaching methods in the teaching of criminal law, teachers need to pay attention to the innovative role of multimedia teaching methods, and enhance their knowledge, understanding and flexible use of multimedia teaching methods through school training and self-study, so that multimedia teaching methods can be more deeply integrated into teachers' teaching practice and bring more significant innovative changes to traditional classroom teaching of criminal law.

Second, the application of multimedia teaching means in the teaching of criminal law should actively introduce innovative multimedia technical means, equipment and systems, so that teachers can use multimedia technical means to optimize the preparation of courseware, the design of classroom teaching and the management of classroom teaching. The application of multimedia teaching means not only helps criminal law teaching to make a breakthrough in teaching content, but also effectively innovates the teaching means, teaching methods and teaching modes of criminal law teaching. As shown in Figure 1, as far as the innovation of multimedia teaching means in teaching mode is concerned, multimedia teaching has changed the traditional relationship between "teaching" and "learning", and the equal interactive relationship between teachers and students has been strengthened[5-6]. For students, students need to give full play to their initiative consciousness, take the initiative to obtain superior teaching resources suitable for them through multimedia courseware or platform, and then make their own learning get twice the result with half the effort; For teachers, teachers need to actively introduce new teaching forms such as mixed teaching, interactive teaching and

flip classroom teaching to make the classroom teaching of criminal law more vivid, vivid and effective. Moreover, the application of multimedia teaching means also strengthens the digital management of teachers' learning situation, comprehensively supervises and guarantees the smooth development of students' learning, enhances teachers' mastery of classroom teaching, fully understands students' needs and difficulties, and then makes teachers' classroom teaching design more targeted and scientific[7].

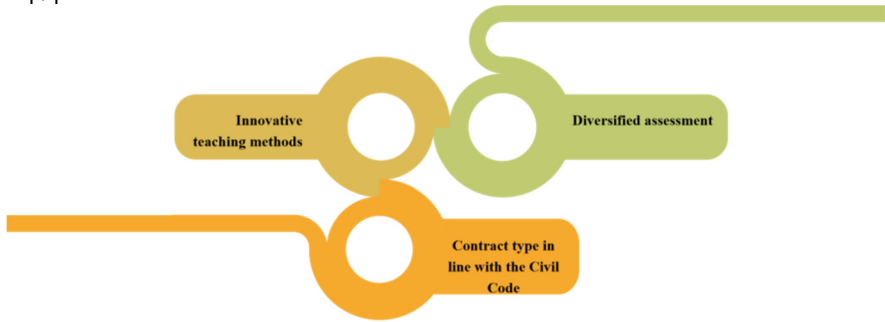


Fig. 1. Innovative teaching methods

3 "Role Substitution" Classroom Practice Program

Facing the "changing world" such as social development, the Internet entering the classroom, the enhancement of students' self-study ability and the improvement of teaching requirements, new problems, new phenomena and new challenges have emerged in classroom teaching in colleges and universities under the new situation. Therefore, teachers should consciously change the unchangeable teaching routines, strengthen their responsibilities for students' learning navigation based on the above-mentioned learning theory, actively explore the "role substitution" classroom exercise scheme, pay attention to "results-oriented, ability-based, sustainable development", adopt AIDAS①, 6W1H teaching methods and mind map induction framework to improve students' learning interest; Using the diversified and interactive teaching mode of "taking the goal and task as the center" and with the help of the new network teaching platform, the flip teaching mode is implemented to cultivate students' questioning ability, critical thinking ability, innovation ability and cooperation ability[8].

The scheme of "role substitution" classroom exercise has been enriched and perfected in the teaching practice in the past five years, showing the characteristics of flexibility, compatibility, increasing innovation and adapting to local conditions. In the process of full-time undergraduate teaching of law major in colleges and universities, undergraduate teaching of law major in Sino-foreign cooperative education and post-graduate teaching of law, the effective and gradually mature "role substitution" classroom exercise schemes mainly include: first, mock trial teaching in the situation of legal conflict, which better shows students' multi-angle understanding of the case through "role substitution" exercise; The second is to create Chinese and English legal

dramas, combining them with professional activities such as mock trial or law enforcement hearings, legislative deliberation meetings and pre-litigation mediation meetings, so as to inspire students to think about the feelings and laws in the drama; The third is to advocate students to act as "teaching partners" in groups and take the role of teachers that students are more familiar with. Each group of students discuss around a knowledge point of interest, or interpret it as a sketch, make a video and broadcast it in class, or exchange their thoughts and feelings with you by recording the audio of legal topics personally.

(1) The Simulation System of "Party Role Substitution"

The platform simulation "party role substitution" simulation system adopts integrated modeling (RSG) to complete the modeling and design of the line area. The system uses basic interpolation algorithms to model the constrained height measurement point or ground contour data, using a triangle, and then convert it into a data network, such as a digital upgrade model (DEM). Using local interpolation algorithms, it can convert altitude sampling or contour line data to modern network DEM data. After a simple change of the calculation result and the accuracy of the result, the proposed return weight is finally used in the calculation to create a 3D network environment. The accuracy of the location simulation depends on the accuracy of the natural model, which is the reality of the original location in 3D model based on the ground data, which can make the designer focus data analysis. In order to avoid sampling point accuracy and various factors affected by modeling, the system uses manual sampling point control, which achieves the desired results. The application of the DEM model in the design space can not only be site-based, but also complete the analysis, site-level and refinement [9].

(2) Discrete point terrain elevation calculation principle and formula

The system adopts the principle of inverse distance weight method elevation interpolation calculation to realize the elevation calculation of discrete point terrain.

Shepard's method is the simplest "inverse distance weight" interpolation method.

$$F(x, y) = \sum_{i=1}^n w_i f_i \tag{1}$$

n: The number of points around (x,y) to define its z value.

$$w_i = \frac{h_i^{-p}}{\sum_{j=1}^n h_j^{-p}} \tag{2}$$

$$Z = \frac{\sum_{i=1}^n \frac{1}{(D_i)^p} Z_i}{\sum_{i=1}^n \frac{1}{(D_i)^p}} \tag{3}$$

P: Exponent, usually set to 2.

h_i: The distance between the interpolation point and the known point i.

$$h_i = \sqrt{(x - x_i)^2 + (y - y_i)^2} \quad \text{or}$$

$$h_i = \sqrt{(x - x_i)^2 + (y - y_i)^2 + (z - z_i)^2} \tag{4}$$

The U.S. Department of Defense Groundwater Model (GMS) uses the following weighting formula.

$$W_i = \frac{\left[\frac{R-h_i}{Rh_i}\right]^2}{\sum_{j=1}^n \left[\frac{R-h_j}{Rh_j}\right]^2} \quad (5)$$

h_i : The distance between the interpolation point and the known point i .

R : The distance between the interpolation point and the farthest point.

4 Students' preference for simulation training teaching methods.

After the simulation training, the author conducted a survey on the students who took the course of criminal procedure law (see Table 1), sent out 150 questionnaires and recovered 147 valid ones. Among them, 124 students like simulated teaching methods, accounting for 83.8% of the total number of respondents.

Table 1. Students' Preference for Simulated Teaching Methods of Interrogation (Inquiry)

Student preference	Proportion (%)
Like	87.8 (124 people)
Dislike	9.5 (114 people)
Not selected	2.7 (4 people)

The results of an open questionnaire survey on students show that students like the simulated training teaching method not only because of perceptual reasons for their preference for teaching forms and teaching contents, but also because they can rationally analyze and think about the benefits brought by this teaching method. The reasons why students agree with this teaching method are shown in Table 2.

Table 2. Reasons why students prefer interrogation (inquiry) simulation training methods

cause	Proportion (%)
practicalness	53.1 (78 people)
Firmness of knowledge mastery	50.3 (74 people)
interesting	30.6 (45 people)
Participatory	27.2 (40 people)
Comprehensive application of knowledge	25.9 (38 people)
Improve learning initiative	17 (25 people)
Intuitive image	13.6 (20 people)
Promotion of teamwork spirit	8.2 (12 people)

As can be seen from Table 2, the reason why the simulation training teaching method is favored by students is the practicality of the teaching method on the one hand

and the firmness of knowledge mastery on the other hand, and the recognition ratio of these two items exceeds 50%. It shows that this teaching method can meet the learning needs of students who want to practice and practice more, and can achieve better teaching results in the teaching process. Students think that the simulation training teaching method adapts to the practical characteristics of the teaching content of criminal procedure law itself, and can express the abstract teaching content in an image and intuitive way, which is full of interest. In the whole teaching process, students participate personally, closely link theory with practice, and apply what they have learned. In this process, students actively use various methods and explore and think about the application skills and methods of knowledge through various channels, and integrate relevant knowledge to promote students' mastery of knowledge. In the training process, teamwork is needed, and the cultivation of teamwork spirit is also strengthened[10].

5 Conclusion

The application of simulation teaching method creates a more practical and targeted law teaching atmosphere and highlights the practical characteristics of law teaching. It can not only give full play to the leading role of teachers, but also reflect students' subjectivity, fully mobilize students' enthusiasm and initiative for knowledge, return the fun and right of finding and discovering practical problem-solving methods to students, and promote the symbiotic sharing of teaching resources and students' creativity.

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