Effectiveness of Game Based Teaching in Topic of Human Resource Management for Vocational College Students

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Abstract

The research objectives are as follow: 1) to design a game-based teaching technology course suitable for students and verify the effectiveness of student learning outcomes after game-based learning, 2) to explore the methods and techniques for promoting student learning in human resource management classes, thereby quickly bringing human resource talents to enterprises and helping to achieve the enterprise's long-term development goals, and 3) to contribute to the popularization of game-based teaching. The sample in the study was 64 students in two classes of Guangxi Peixian International Vocational College, China. The research sample was selected by Simple random sampling method. The instruments consisted of a questionnaire survey form, Interviews, pre-test questionnaires for the human resource management major, and post-test questionnaires for the human resource management major. Statistics used for data analysis were Mean, Standard deviation, Difference in scores 4. Square of the difference in scores, and Effectiveness index. The results revealed that in the human resource management major, the score before and after game teaching assumes that the relevant samples are drawn from two normal distributions, and the overall difference is also normally distributed. The average of game-based teaching techniques in human resource management courses consisted of pre-test (76.68), post-test (80.85), difference value 142, difference value square 644.

Keywords: Human Resource Management, Game-Based Teaching, Vocational College Students

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Background and Statements of the Problem

In enterprise management, the traditional human resource management concept is backward, the enterprise management system is backward, the strategic planning is not clear, these problems seriously affect the operation efficiency and development speed of enterprises. In order to solve these problems, the Chinese government has issued a series of policy documents to encourage enterprises to strengthen human resource management and improve management efficiency. The Outline of the National Medium-and Long-term Talent Development Plan (2010-2020) puts forward a series of specific measures for talent training and use. Relevant personnel should respond to the call of the government and seek effective methods to improve the efficiency of enterprise human resource management. As a vocational university, there are some disadvantages in the traditional teaching mode in the knowledge transmission, such as standardized teaching leads to students'lack of initiative in learning traditional teaching modes often pay too much attention to standardized teaching, and teachers often regard students as containers to accept knowledge, rather than guiding them to actively explore and learn. This teaching method is easy to make students fall into a passive, lack of initiative and creativity. The programmed teaching is boring and simple. The traditional teaching mode often adopts fixed teaching procedures and methods, which may limit the students' innovative thinking and exploration spirit. For example, teachers will strictly follow the teaching plan and are unwilling to increase the scope of the teaching plan, which may make the teaching process become single and boring, the serious teaching atmosphere leads to a dull classroom. Also, too much attention is paid to the transmission of knowledge. The traditional teaching mode often pays too much attention to the transmission of knowledge but ignores the cultivation of students'ability and interpersonal skills. This will lead to students'lack of problem-solving skills despite having professional knowledge when faced with practical problems after graduation. in order to solve these problems, in the human resource management education course into the new teaching mode, such as personalized teaching, game teaching, can better meet the needs of students, improve the teaching effect, play the student is the main body of learners, let the student actively explore learning, practice, improve students' practical ability and problem solving ability, make learning more meaningful, can improve the student employment field ability, improve the efficiency of enterprise human resource management.

Objectives of the Study

1) To design a game-based teaching technology course suitable for students and verify the effectiveness of student learning outcomes after game-based learning.
2) To explore the methods and techniques for promoting student learning in human resource management classes, thereby quickly bringing human resource talents to enterprises and helping to achieve the enterprise's long-term development goals.
3) To contribute to the popularization of game-based teaching.

Research Question and Hypothesis

The study of the HRM course may have the following problems:
1) Disconnection between theory and practice some students may find that although they have learned a lot of human resource management theory, they are difficult to respond in practice need. This maybe because the curriculum does not have enough practical links, or the teachers lack practical work experience to effectively guide students on how to apply theoretical knowledge to practice.

2) Low learning enthusiasm some students may not be highly motivated to learn the human resource management course, which maybe because they lack interest in this field or feel that the content of the course is more difficult and difficult to understand and master.
3) Teachers strength in some schools, teachers of HRM courses may be engaged in theoretical research work and lack practical work experience, which may make it difficult for them to combine theoretical knowledge with practical experience in teaching and cannot guide students to carry out practical operation well. in order to solve these problems, the game-style teaching starts from the following aspects:
   a. The orientation of practical teaching is clearly defined, taken as an important part of the human resource management course and integrated into the teaching content and learning objectives of the course and combined with theoretical teaching.
   b. Optimize the teaching content, update the teaching material content, increase the training of practical cases and practical operations, and improve the students' understanding and application ability of the whole process of human resource management.
   c. Innovate teaching methods, and use case teaching, group discussion, role-playing and other game teaching methods in the teaching process to stimulate students' interest in learning and increase the opportunities for interactive and experiential learning.

The Scope and Limitations of This Study

The sample in the study was 64 students in two classes of Guangxi Peixian International Vocational College, China. Choose by the simple random sampling from the two classes who learning in subject of human resource management. The first class is 34 students in the first semester of grade 2022, and the second class is 30 students in the first semester of grade 2023. The study was conducted in the first semester of 2023 and exploration of the study was limited to the HM specialty. The study method are as following:
   1) Investigation method, to study by talk, the way of questionnaire research.
   2) Field investigation and observation method, field investigation, direct observation of the research objects.
   3) Literature research method, through the investigation of the literature to fully and correctly understand the study.
   4) Quantitative analysis: the empirical data will be collected for statistical analysis to reveal the relationship between the data. Data analysis was performed using the t-test.

Conceptual Framework

Human resource management is a process of managing relevant human resources inside and outside the organization through recruitment, selection, training, remuneration and other management forms under the guidance of economics and people-oriented thought.

The six modules of human resource management refer to the following parts:
   1) Enterprise human resource planning: this stage is mainly a process of clarifying the goals, clarifying the status quo, and formulating policies and plans. In order to achieve the development goals, enterprises predict the demand and supply of human resources and try to balance them.

2) Talent recruitment and allocation: According to the job requirements, to attract, select and employ talents scientifically and reasonably, and to allocate the appropriate people to the appropriate positions at the appropriate time, and to arrange the appropriate work tasks.
3) Staff training and development: The key to enterprise management is human management, and the key to human management is to constantly tap human potential, turn human resources into human capital, and constantly appreciate human capital. It is crucial to realize the development of potential through training.
4) Performance management: Develop performance evaluation standards, regularly evaluate employee performance, and provide feedback, guidance, rewards or corrective measures accordingly.
5) Salary management: Design and implement a competitive salary system, including fixed salaries, bonuses, benefits and retirement plans.
6) Labor relationship management: manage the relationship between the organization and employees, ensure the harmony and compliance of the working environment, and solve labor disputes.

There are close links between these modules, which together constitute an organic whole and affect the balance of the system.

Contribution to Knowledge

1) Effectiveness of game-based teaching technology course suitable for students, to help them into the classroom and reality situation, better content deep impression and understanding, and through the teaching technology and innovative.
2) To improve students' classroom participation such as to simplify for learning and memory, reduce the rigidity of teacher knowledge infusion, deepen the understanding of learning content, improve students' learning efficiency and academic performance.
3) To a certain extent, the innovation of teaching mode can improve students' interest in learning and save the teaching resources needed by this subject.

After forming a good relationship between teachers and students through the interaction of game mode, teachers will be more skilled in the application of game-style teaching mode,which can eventually form a benign teaching ecological cycle, and even can function in the learning of other subjects. After graduation, students majoring in human resource management can have comprehensive basic knowledge of economics, management, psychology, law and other disciplines, as well as theoretical knowledge and practical ability of human resource management, labor laws and regulations, interpersonal communication and organizational coordination. Graduates can be engaged in human resources management and administrative management related work in various enterprises and government departments and can also enter human resources consulting and service companies to engage in talent recruitment, management consulting work, or further study, or start their own businesses. Therefore, this study can help the students studying in this major to apply their knowledge to practical work faster.

Research Methodology

Research Design

In the game teaching, the role of our teachers has also changed, not only the teacher of knowledge, but also the director and participant of the game. Teachers should integrate the elements and methods of the game into the teaching process to improve the interest, participation and effect of learning. This requires integrating points, badges, and leaderboards into the game design. We also need to apply the game model to the course design, such as the following ARCS model. It is a motivation theory model in gamified learning proposed by John Keller, which is widely used in traditional teaching courses and online teaching classes. The ARCS model includes four elements: Attention (attention), Relevance (correlation), Confidence (confidence), and Satisfaction (satisfaction). This model can help teachers to design gamified learning activities to consider how to attract and maintain students' attention, how to ensure the relevance of learning content, how to build students' confidence, and how to make students gain satisfaction in the learning process.

After determining the research content and object, the author consulted the relevant knowledge of game-style teaching from the library and searched the literature materials of game-style teaching in the CNKI academic journal database and dissertation database. We compared, classified and filed the found literature data, sorted out the useful data of this study and put them into the file package, which provided strong literature data support for the subsequent implementation of game teaching in this study. Questionnaire survey method: design the research questions into a number of specific questions, design the question form, give it to the respondent to fill in the answer, and then withdraw the sorting, analysis, so as to draw a conclusion.

Through the student questionnaire survey, the students 'learning situation was investigated from the aspects of students' gender and the skills of teachers' class. At the sometime questionnaire survey and interview were conducted on the teachers of this major to further understand the ideas of the learning subjects and the classroom guides.

Use the observation method: immersive, the observation object, the scene experience. The author went to the students to observe the teaching situation. This game-based teaching technology is taught in human resource management, using literature, observation, interview, questionnaire, action research and quantitative analysis method.

The first round of action research used data from pre-test, post-test and classroom performance to determine whether students 'performance has improved?

The second round of action research will be conducted as a semester of game teaching after the pre-test, with a total of 34 students, role playing according to the game teaching.

Quantitative analysis: the empirical data collected is statistically analyzed to reveal the relationship between the data. Data analysis was performed using the t-test.

Population and Sample

The study sample is 64 students from two classes of human resource management in Guangxi Peixian International Vocational College. The first class is 34 students in the first semester

of grade 2022, and the second class is 30 students in the first semester of grade 2023. Selected by simple random sampling. This sample is only part of students in one of the 33 majors in the school.

According to the game-based teaching technology enables the participants to learn effectively, which helps to achieve their learning goals. According to the learning results of game-based teaching technology, to improve the academic performance of students in Guangxi Peixian International Vocational College, China. Helps to achieve your learning goals.

Research Tools

1) Questionnaire survey form
   In this study, the measurement instruments included educational questionnaires, pretest, posttest, and faculty interviews. Prior to the study, take the test, pretest, and complete the test within the prescribed 45 minutes to understand the students before the test. Collect students' test data; test students after a semester of game teaching, complete the test within 45 minutes, and then compa.re the pre-test with the post-test data. Game teaching is helpful to improve students' performance.
2) Interview
   In order to improve the validity and reliability of this study, on the basis of testing and questionnaire survey of students, the class teachers who also use the game trial teaching use the interview method to further understand the students' learning situation, and the interview results have been input into the paper, in the paper case.
3) Human resource management professional pre-test and post-test paper
4) Satisfaction form to collect an opinion from students who are learn in topic of human resource management.

Relevant data were obtained by mean and difference values for statistics and analysis.

Steps of Game Design

1) Before testing: Do the performance test before the test. Determine the game goals, follow the game model design principles,
2) Classification and selection of games. There are many kinds of game teaching, according to the implementation of games, which can be divided into intellectual games, knowledge games, physical games, competitive games, roleplaying, etc. Teaching game for each stage of teaching and various types of teaching most are applicable, just form, content, difficulty and requirements are different, teachers can according to the needs of the teaching task and students age, knowledge level, appropriately selected different difficulty of game material, as long as the student's learning enthusiasm is fully mobilize, game teaching will achieve good results. The author's common classroom games can be roughly divided into the following two categories: "cooperative competition" teaching games, sitcom performance game mode, etc. Specifically, they are role-playing, more than memory, etc. The first is the "cooperative competition-style" teaching game. This kind of game can help complete the teaching while also establish students' sense of teamwork and sense of honor and disgrace. Let the students imperceptibly experience the strength of the collective, deepen the friendly feelings between the students, cultivate the spirit of cooperation and mutual assistance. For example: class election class dry.

3) Plot design of the game: combine the teaching knowledge points with the game content, and combine the cases for role-playing.
4) After testing: feedback and reflection summary after the game, data collection and sorting.

Application of the Game Design Model

The ARCS model is a motivation theory model in gamified learning proposed by John Keller, which is widely used in traditional teaching courses and online teaching classes. The ARCS model includes four elements:
1) Note: Be interested in a certain knowledge point, want to explore its principle, but also want to understand it in various ways. So, there's perceptual activation, inquiry activation, and variability. (Seeing that it is interesting, I want to learn it.)
2) Association: How to make the knowledge and the usual practical experience related, let me know that it is very useful tome? Through goal orientation, motivation matching and familiarity, I know the value of learning it and make corresponding learning goals, and I can integrate my knowledge through the correlation of practical experience. (Knowing that it is useful will stimulate my learning motivation.)
3) Confidence: give yourself some heart hints, let some stage of success to enhance their confidence in learning. In the teaching process, express expectations, create opportunities for success and let everyone know that the achievements of learning are inseparable from their own efforts and ability.
4) Satisfaction: Are you satisfied with your academic performance, and whether the knowledge or skills you have learned can be applied? Did you get some feedback, and do you feel fair? Through the practical operation of motivation stimulation, through others praise to maintain motivation and maintain good study habits, through equal evaluation to let people feel that efforts will gain.

Data Collection

Step 1: Divide into two groups of students to teach related courses, one group is students who implement research strategies, and the other group is students who do not intervene.
Step 2: Create a pretest for students to obtain data.
Step 3: Conduct learning activities with students based on the pre prepared lesson plan.
Step 4: After two groups of students have completed the relevant courses, they will be tested, and their scores will be statistically analyzed.

Statistical Analysis

1) The steps for researchers to conduct data analysis are as follows:
   1. Three content experts and three media experts evaluate the relevant strategies of this study through mean and standard deviation to enhance students' engagement in learning.
   2. Comparing the performance tests of two groups of students before and after, obtaining relevant data for statistics and analysis, in order to improve students' learning with game-based teaching.
   3. Research students' satisfaction with teaching through means and standard deviations, obtain relevant data for statistics and analysis, and thus improve students' learning with game-based teaching.

3. Result

Analysis Results of Pre-test and Post-test

Table 1: Students Learning Results of Pre-test and Post-test

Source management, and the paired group	X2 before detection	X1 after detection	Difference value D=X1-X2	Difference value square D²
1	80	85	5	25
2	73	78	5	25
3	73	77	4	16
4	80	83	3	9
5	81	86	5	25
6	74	78	4	16
7	81	85	4	16
8	75	78	3	9
9	74	77	3	9
10	79	83	4	16
11	79	85	6	36
12	76	80	4	16
13	77	81	4	16
14	80	86	6	36
15	72	74	2	4
16	70	72	2	4
17	71	74	3	9
18	78	82	4	16
19	81	87	6	36
20	77	82	5	25
21	77	83	6	36
22	77	81	4	16
23	81	86	5	25
24	73	76	3	9
25	79	84	5	25
26	80	87	7	49
27	73	77	4	16
28	81	84	3	9
29	74	76	2	4
30	75	78	3	9
31	72	76	4	16
32	76	81	5	25
33	80	85	5	25
34	78	82	4	16
amount to	26.07	27.49	142	644

In the human resource management major, the score before and after game teaching assumes that the relevant samples are drawn from two normal distributions, and the overall difference is also normally distributed. Average pre-test (76.68), post-test (80.85), difference value 142, difference value square 644,

Taking the significance level of α =0.05, d f =34-1=33. The critical value is 2.035, which can be obtained from the critical value, t=19.608> 2.035, p <0.05, so the game- style teaching has a significant impact on students' performance, and the students have improved significantly.

Table 2: Evaluation Results of Course Satisfaction for Students Participating in the Class of Human Resource Management With Game-Based Teaching Performance

Assessment	$\overline{X}$	S.D.	Result
1. In game-based teaching, I often participate in discussions and exchanges on topics in the classroom or platform.	4.59	0.26	Strongly Agree
2. I proactively check the learning resources on the game-based teaching.	4.88	0.11	Strongly Agree
3. After class, I will reflect on my classroom learning effectiveness and makeup for any shortcomings.	4.24	0.19	Agree
4. In game-based teaching,I often answer questions raised by teachers.	4.88	0.11	Strongly Agree
5. In game-based teaching,I have developed a learning plan for myself.	4.88	0.11	Strongly Agree
6. I often supervise my learning process and once distracted,I immediately shift my attention to learning.	4.59	0.26	Strongly Agree
7.I am able to carefully analyze the reasons for any errors that occur in assignments or exams and solve them.	4.94	0.06	Strongly Agree
8. I feel very happy during the learning process of this course.	5	0	Strongly Agree
9. I have a strong sense of achievement in the process of game-based teaching.	5	0	Strongly Agree
10. I am very satisfied with the learning resources and environment provided by this course.	5	0	Strongly Agree
Integral	4.8	0.11	Strongly Agree

From Table 2. it can be seen that through the class of the human resource management with game-based teaching overall score show that strongly agree average score ($\overline{X}$) 4.8 and standard deviation (S.D.) 0.11.

4. Conclusion

The game-based teaching is scheme quickly brings students into the professional field. The practical game of human resource management theory in college class management requires teachers to study more before class, and how to integrate into the classroom and life. Human resource management professional knowledge can only be transformed into ability in practice, so to strengthen the experimental practice teaching, need the school in university-enterprise cooperation, at the same time of promoting the human resources construction, and human resources service industry enterprise construction more high quality practice base, let students have more opportunities into the work scene, face to face with industry real problems, to improve professional knowledge, skills and vision.

The professional experience of the teaching staff plays a very important leading role in the career development of students. Human resource management is a major with strong application. Whether full-time teachers have rich professional experience will directly affect their cognition of the industry, profession and position, and then indirectly affect the cultivation of students' relevant knowledge and skills. If full-time teachers lack practical experience in the human resource service industry and enterprises, and do not have the digital skills of human resource service, their students will be difficult to adapt to the challenges brought by the digital transformation and upgrading of the industry to their career development.

Through the theoretical research and practical effect discussion of game-style teaching, we can understand that this model can not only innovate teaching forms and promote teaching innovation, but also significantly improve students' learning ability and academic performance, which can play a great role in the teaching application of human resource management professional classroom. But at the same time, we should also pay attention to the application limits and methods of this mode to ensure the application effect and avoid adverse reverse effects.

This research mainly analyzes and expounds the application feasibility of game teaching in human resource management, In view of their own difficulties encountered in the actual teaching activities, Try to adopt the game-style teaching mode for classroom teaching, And found that this class style can really stimulate students' interest in learning, Improve the classroom atmosphere, And through the game-based teaching, Improve the students' academic performance, at the same time, Also developed their communication and organization skills, Game-based teaching improves the classroom teaching atmosphere, This teaching model introduces students into established game scenarios, Put it into the role, Students truly become active participants in classroom teaching, compere, And not just the passive recipients, executant, At the same time, teachers can also timely correct the knowledge mistakes in the activities, teach through lively activities, To achieve a win-win teaching effect. Of course, in the teaching classroom, the teacher should see the classroom situation flexible use of the game for teaching. Classroom game teaching is an effective teaching means of human resource management teaching. Human resource management takes the principles of practicality and fun, and combines the knowledge points with practical operation.

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