Effects of Case Teaching Method in Chinese Course to Promote Critical Thinking Skills for Seventh-grade Students in Zhengzhou NO. 65 Middle School

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Abstract

Background and Aims: This experimental research aimed to 1) compare the critical thinking skills of the seventh-grade students before and after learning through the Case Teaching Method. 2) Compare the critical thinking skills of the seventh-grade students after learning through the case teaching method with the criterion determined of 70 Percent of the full score. 3) Assess the students' satisfaction after learning through the Case Teaching Method.

Materials and Methods: The population of this study is 120 seventh-grade students, all of whom participated in Chinese language courses. The sample was selected from seventh-grade students of Zhengzhou NO. 65 Middle School using the cluster random sampling method. Data on students' critical thinking abilities before and after the case-based teaching method were collected through questionnaires. SPSS software was used to analyze the collected data, including the mean value of samples, standard deviation, and single-sample t-test.

Result: The results showed that 1) Critical thinking skills test scores of the students after learning through the case teaching method (M= 22.87, S.D. =4.31) were higher than before Learning (M= 18.00, S.D. =3.01) at a statistically significant level of 0.00. 2) The critical thinking skills test scores of the students after learning through the case teaching method were higher than the determined criterion of 70% at the 0.05 statistical significance level (M= 22.87, S.D. =4.31). 3) After learning through a case teaching method, students' satisfaction was at a high level (M=4.03, S.D. = 0.76).

Conclusion: Knowledge gained from this research is that using the case teaching method in a Chinese course which consists of 4 steps of teaching, can effectively promote critical thinking skills and test scores of the students, stimulate students' interest in learning, develop students' critical thinking skills, and meets their personalized learning needs. It is a new trend in the future of education.

Keywords: Case Teaching Method in Chinese Course; Promote Critical Thinking Skills; Seventh-grade Students

Introduction

In the 21st century, middle school Chinese language education is facing a rapidly changing social and educational environment where students are required not only to master basic knowledge but also to develop the skills to solve complex problems. In this context, the case teaching method has become an inevitable choice, as it effectively promotes the development of students' critical thinking skills. Traditional teaching methods often focus on knowledge transmission, whereas case teaching encourages students to analyze real-world issues, propose different perspectives, and discuss solutions, enabling them to think from multiple angles. This method requires active participation from students, cultivating their logical reasoning and independent judgment skills, and helping them navigate the complexities and diversity of modern society (Lisenkova, 2023). Case teaching not only enhances students' deep understanding of texts in the Chinese language classroom but also strengthens their skills to address real-life challenges through the exploration of specific situations, ultimately fostering their overall development. With the changing demands for talent in the 21st century, critical thinking has become an essential core competency, and the case teaching method serves as an effective tool to cultivate these skills.

The study emphasizes that Chinese language teaching needs to develop a case teaching method that combines advanced Western educational concepts with China's local educational context, thereby enhancing the theoretical foundation and practical effectiveness of case teaching in middle school Chinese language classrooms.

1. Current Status and Challenges of Indigenous Education Research in China

Despite some progress in recent years, the development of Indigenous education research in China remains overall lagging. Many educational theories and practices continue to be dominated by Western educational concepts, lacking in-depth analysis and understanding of China's unique culture, history, and social context (Jiang et al, 2024). Researchers often reference successful cases from abroad when exploring local educational issues, failing to fully consider the specific educational environment and needs of Chinese students. This has led to policies and teaching methods that struggle to adapt effectively to the national context, resulting in a phenomenon of "copying and pasting." Additionally, the establishment of a systematic framework for indigenous education research and the training of specialized talent need urgent improvement, as there is a lack of sustainable development strategies and effective research frameworks. Therefore, promoting the in-depth development of indigenous education research in China and establishing an educational theory system that fits the national context has become an urgent task.

2. Current Status of 7th Grade Chinese Language Teaching Research

Recent research in 7th-grade Chinese language teaching has made some progress, but many challenges remain. First, the richness and diversity of the textbook content place higher demands on teachers' lesson design, requiring them to balance text comprehension, knowledge delivery, and student engagement. However, some teaching models remain traditional and rely on limited teaching methods, making it difficult to effectively stimulate students' interest in learning and their ability to learn independently. In addition, critical thinking, creative thinking, and other skills have not been sufficiently emphasized in classroom instruction, leading to delays in the development of students' core literacy in language studies.

From an evaluation perspective, the existing assessment system focuses more on students' exam-taking abilities, while lacking a comprehensive assessment of their overall competencies. Although modern teaching strategies such as case-based teaching and project-based learning have become topics of increasing discussion, their implementation in practice remains limited. There are also challenges in supporting teachers' professional development and access to adequate teaching resources. Furthermore, significant disparities in teaching quality persist across different regions and schools, raising concerns about educational equity.

In general, research on 7th-grade Chinese language teaching needs to further enhance innovation in teaching methods, improve students' overall literacy, and address the balanced distribution of educational resources.

3. The Current Status of Research on Case-Based Teaching Methods in 7th-Grade Chinese Language Instruction

In recent years, the use of case-based teaching methods in 7th-grade Chinese language instruction has increased, but research and practice still face limitations (Zeng, 2023). Current studies often focus on individual lessons or specific units, lacking systematic and coherent approaches. Many teachers do not have a deep understanding of case-based teaching theory, resulting in superficial implementation that fails to maximize its potential. Due to the unique nature of language studies, designing and selecting cases requires careful consideration of context and narrative, posing significant challenges for teachers.

Additionally, the promotion of case-based teaching faces issues of unequal access to resources. In some regions, teachers lack training and resource support, and the development of case libraries and sharing mechanisms remains incomplete, hindering wider application. Future research should focus on evaluating the effectiveness of case-based teaching, improving resource-sharing systems, and enhancing teacher professional development to better foster students' core literacy in Chinese language learning.

4. Current Research Status of Case-Based Teaching Methods in Enhancing Students' Critical Thinking Skills

Research on the role of case-based teaching methods in improving students' critical thinking skills has been increasing. This teaching method introduces real-life scenarios and case analysis, encouraging students to think independently, question, and make judgments, thus helping them develop critical thinking abilities. However, much of the existing research is focused on higher education and professional fields, with relatively few studies examining the relationship between

case-based teaching and the enhancement of critical thinking in primary and secondary education, particularly in 7th-grade Chinese language instruction.

Current research suggests that case-based teaching can effectively stimulate students' analytical and reflective thinking. However, in practice, teachers often face challenges in designing cases suitable for students' cognitive levels, guiding students in in-depth analysis, and managing classroom time efficiently. Additionally, some studies indicate that the successful implementation of case-based teaching requires teachers to possess a high level of professional expertise and a deep understanding of critical thinking, raising the bar for teacher training. Therefore, while case-based teaching theoretically supports the development of critical thinking, its practical effectiveness and implementation methods require further research and optimization.

Research questions

1) How are the critical thinking skills of the seventh-grade students after learning through the Case Teaching Method?

2) How are the critical thinking skills of the seventh-grade students compared with the criterion determined of 70 percent of a full score?

3) What is the student's satisfaction with the seventh-grade students after learning through the case teaching method?

Research objectives

1) To compare the critical thinking skills of the seventh-grade students before and after learning through the Case Teaching Method

2) To compare the critical thinking skills of the seventh-grade students after learning through the Case Teaching Method with the criterion determined of 70 Percent of the full score.

3) To assess the students' satisfaction after learning through the Case Teaching Method.

Literature Review

The literature review of this study is based on an analysis of the impact of using survey questionnaires on the cultivation of critical thinking abilities among 7th-grade students at Zhengzhou No. 65 Middle School. In this chapter, the researcher provides an in-depth discussion of the definition of critical thinking and explores the advantages, components, and teaching process of case-based teaching methods. Critical thinking abilities in Chinese language teaching include analytical skills, evaluative skills, creative thinking, reflective thinking, open-mindedness, and self-awareness. These skills not only help students better understand and interpret texts but also enhance their autonomy in learning and problem-solving abilities, thus laying a solid foundation for their future learning and life. Through case-based teaching methods, students can apply these thinking skills in real-life contexts, effectively promoting the development of their critical thinking abilities.

1. The History and Current Status of Case-Based Teaching Methods Abroad

Hawley et al. (2017) investigate the effectiveness of the Questioning Method in a college agricultural sales course, where students engaged in a semester-long sales project, developing a sales call plan and pitching an agricultural product or service to a potential customer. Following the project, a survey revealed that 53% of students recommended incorporating problem-based activities in future courses. On a five-point Likert scale, students reported that the project made the subject matter more realistic (mean: 4.22 ± 0.72) and improved their comprehension (mean: 4.06 ± 0.58). Additionally, the project helped develop preparation, presentation, and interpersonal skills (all with a mean of 4.06). The study suggests the need for further research on students' learning styles regarding the Questioning Method and comparisons with other teaching methods in agricultural sales education.

Lee and Kim (2021) provide a comprehensive review of recent studies on the application of case-based learning in higher education in their article published in the International Journal of Teaching and Learning in Higher Education. The review highlights that case-based learning not only enhances students' critical thinking skills but also fosters the development of collaborative learning and communication abilities. Additionally, the analysis of the literature indicates that the successful implementation of case-based learning requires professional training for instructors and appropriate

course design. This study underscores the importance of these factors in maximizing the effectiveness of case-based teaching methods in higher education settings.

Johnson and Wang (2022) assess the effectiveness of case-based learning in science education in their article published in the Journal of Science Education and Technology. The study finds that case-based learning significantly enhances students' understanding of scientific concepts and their application skills, particularly in areas such as experimental design and data analysis. Furthermore, the research emphasizes the importance of careful case selection and highlights the critical role that teachers play in facilitating student discussions and analyses. This study contributes to understanding how case-based learning can effectively improve educational outcomes in science.

2. The history and present situation of questioning methods in China

Professor Zheng (2018) defines the case teaching method as a pedagogical approach that selects appropriate real-life examples based on specific teaching objectives, compiles them into teaching cases, and uses these cases as a medium for instruction. This method is characterized by active student participation, emphasizing collaborative discussions between teachers and students about case materials and the writing of relevant case reports. The relationship between case teaching and case-based courses involves the interplay between content and form. In this article, the case teaching method in junior high school Chinese education is explored, focusing on its application by educational goals. This approach encourages teachers to utilize cases as teaching tools to immerse students in real-life situations where Chinese language skills are applied. Through methods such as classroom inspiration, in-depth discussions, cooperative inquiry, and multiple evaluations, the case teaching method aims to cultivate students' abilities to analyze complex Chinese language scenarios and develop problem-solving skills in both work and life contexts.

Zhang and Li (2023) explored the application of case-based teaching methods in higher education, initially defining the concept and emphasizing its importance in promoting student engagement and critical thinking. The study analyzed the current state of case-based teaching in multiple universities, including aspects such as instructional design, case selection, and effectiveness evaluation, finding that this method significantly enhances students' critical thinking, practical skills, and teamwork abilities. Based on actual case teaching practices, the researchers proposed a series of implementation suggestions, such as professional training for teachers and the establishment of a case library, while also highlighting challenges faced in implementation, such as the complexity of case design and insufficient teacher involvement. Ultimately, the authors outlined future directions for improvement to further advance case-based teaching in higher education, providing significant support for educational reform and the enhancement of teaching quality.

Research Conceptual Framework

The Independent variable is the Case Teaching Method.

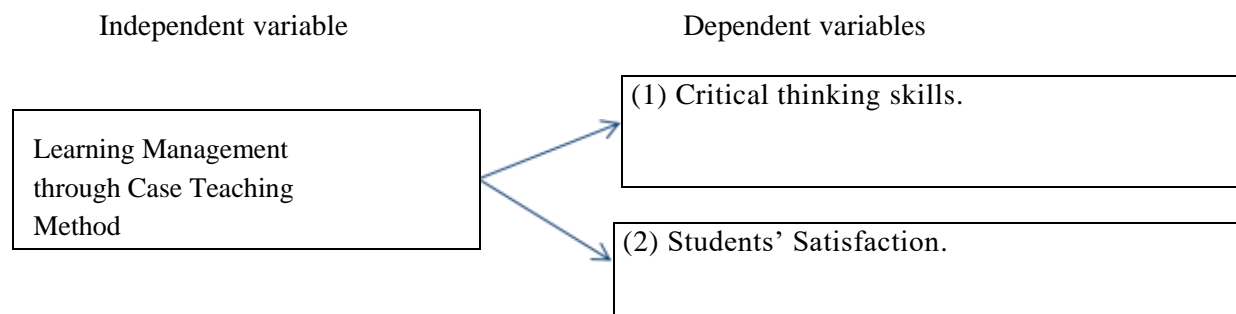The dependent variables are (1) Critical Thinking Skills, and (2) Students' Satisfaction.

Independent variable   Dependent variables

Figure 1 Conceptual Framework

Methodology

The significance of the case teaching method is mainly reflected in the following aspects:

Stimulate students' interest and motivation in learning: By introducing specific and real cases, students can be more directly exposed to actual problems and situations, thereby stimulating their interest

in knowledge and desire to explore. This method helps change passive learning into active learning and improves students' learning efficiency and effectiveness.

1. Population and sample

The population of this study consists of 120 seventh-grade students from four classes at Zhengzhou No. 65 Middle School. This study employs a cluster random sampling method, using a sample of 30 students from one first-year class at Zhengzhou No. 65 Middle School.

2. Research instruments:

Research instruments are the tools for collecting data. The research instruments which were used in this study are (1) Questioning Method Lesson plans. (2) The Critical Thinking Test. And (3) Questionnaire for students' satisfaction.

2.1 Case Teaching Method: Lesson Plans

The seventh-grade Chinese curriculum plan at Zhengzhou No. 65 Middle School consists of a total of 8 lessons, each lasting 2 class hours, for a total of 16 class hours. The specific arrangement is shown in the table below:

Table 1 Course content sheet

Lesson Plan	Topic	Time Duration
1	Sun Quan Advises Learning	2 hours
2	Ode to the Yellow River	2 hours
3	The Old Mountain Pass	2 hours
4	Who Are the Loveliest People	2 hours
5	The Ballad of Mulan	2 hours
6	Deng Jiaxian	2 hours
7	Words and Actions	2 hours
8	The Oil Seller	2 hours

The draft lesson plans mentioned earlier are assessed by 3 experiments regarding the appropriateness of each component of the draft lesson plans. The instrument used for evaluating appropriateness is a five-point rating scale that ranges the level of appropriateness from a very high level, high level, moderate level, low level, and very low level.

The appropriateness data collected from the evaluation form is analyzed by calculating mean scores and assigned the interpretation of appropriateness level as follows:

Table 2 Evaluating appropriateness was a points rating scale Instrument for collecting data

Mean Scores	Interpretation of Appropriateness Level
4.51-5.00	Very high level
3.51-4.50	High level
2.51-3.50	Moderate level
1.51-2.50	Low level
1.00-1.50	Very low level

2.2 The Critical Thinking Test

The steps of constructing the Critical Thinking Test;

Step 1: Exploring the literature on critical thinking and first-year students' abilities. This involves researching existing studies to understand the different definitions, characteristics, and applications of critical thinking, as well as the current research status and challenges related to the impact of critical thinking on first-year students' skills.

Step 2: Study the relationship between critical thinking and the question method. Study the Management Science course and the measurement to assess critical thinking abilities.

Step 3: Studying the construction of the Critical Thinking test and the relevant documents. Consideration

of the test focuses on its purposes, types, and contents of the test. The construction of the test involves item analysis to clarify the item discrimination and item difficulty of the test, as well as the validity and reliability of the test.

Step 4: Analyzing the curriculum contents and the learning objectives by constructing the analysis table of the curriculum regarding the coverage of objectives and content of the curriculum. The test items consisted of four types of cognitive domains: 1) Knowledge, 2) Comprehension, 3) Application, and 4) Analysis.

Step 5: Constructing the Critical Thinking test. The test consists of 30 items of multiple-choice questions, each of which has four alternatives with one correct answer.

Step 6: The draft test is presented to thesis advisors for their advice on the appropriateness, precision, accuracy, ambiguity, and wording of the test. After that, the draft test is revised according to the thesis advisors' suggestions. The test and the test evaluation form were offered to the three experts for the content validity check and suggestions, such as the type of questions, accuracy of the test, and wording. The quality of the test was considered from the Index of Item Objective Congruence (IOC) obtained from the achievement test evaluation form.

Step 7: Analyzing the IOC index of the test items. The formula used to calculate the IOC index is:

$$IOC = \frac{\Sigma R}{N}$$

IOC means Index of Item Objective Congruence
ΣR means the Summation of the experts' opinion marks
N means several experts

If the Index of Item Objective Congruence (IOC) of each item of the test is higher than 0.5, that means it can be used in the test.

Step 8: Revise the test according to the experts' comments and suggestions.

Step 9: Measuring the item difficulty (p) and item discriminability (r), including reliability by trying out the test on students who had learned this content.

Step 10: Analyzing each item of the test to find out the item difficulty (p) and item discriminability (r), including reliability. Item difficulty (p) should range from 0.20-0.80, and item discriminability (r) should be more than 0.20. The reliability of the test was computed using the formula of Kuder and Richardson formula 20 and should be more than 0.7 (Kuder & Richardson, 1939: 681-687).

Researchers use exam papers to test students to get a set of data. This data was then used to measure the item difficulty (p=0.73 -- 0.80), the reliability of the achievement test 0.72, and item discriminability (r=0.55 -- 0.91) of the Critical Thinking Test.

To sum up, I have tested the quality of the test tool from four aspects: validity, reliability, project difficulty, and project discriminability, and the results all meet the requirements. Therefore, my test tool meets the requirements.

2.3 Questionnaire for students' satisfaction

The following are the steps for constructing the questionnaires:

Step 1: Studying documents related to constructing questionnaires.

Step 2: Constructing a questionnaire. There are 3 sections;

Section 1: Record the students' personal information.

Section 2: The five-point scale Likert questionnaire ranges from very high, high, moderate, low, and very low. This section of the questionnaire consisted of 16 questions or statements asking about students' opinions toward the instruction. The statements of the questionnaire in this section are adapted from the student opinion questionnaire developed by the Department of General Education, the Ministry of Education (2542: 45).

Section 3: Open-ended questions asking students' opinions toward instruction in terms of the content of the course, the learning activity through the Question method, the instructional materials, assessment, and evaluation. Also, space was provided for additional opinions or other suggestions.

Step 3: The draft questionnaire is presented to thesis advisors for advice on the appropriateness, precision, accuracy, ambiguity, and wording of the questionnaire. After that, the draft questionnaire was revised according to the thesis advisors' suggestions. The evaluation form was offered to the three experts for the content check and suggestions.

Step 4: Revise the questionnaire according to the experts' comments and suggestions.

As can be seen from the appendix, the Cronbach Alpha coefficient of the reliability of the student satisfaction questionnaire is 0.76, which is greater than 0.7. Therefore, the reliability of the student satisfaction questionnaire meets the requirements.

To sum up, I have tested the quality of the student satisfaction questionnaire from two aspects of validity and reliability, and the results meet the requirements, so my student satisfaction questionnaire tool meets the requirements.

3. Data collection

The procedures of data collection are as follows:

1. The sample tests are conducted before learning through the Case Teaching Method by using the critical thinking test.

2. The researcher records scores of pretesting.

3. The samples learn through the Case Teaching Method for 16 hours (8 lesson plans) in total.

4. After finishing 16 hours (8 lesson plans), the sample test by using the critical thinking test.

5. The researcher records scores of post-tests and analyzes scores before and after learning through the Case Teaching Method, following the research objectives.

6. The samples complete a satisfaction assessment.

4. Data analysis

In this study, data is analyzed by using the statistical program according to the research objectives: 1) Compare Critical Thinking before and after Learning through the Case Teaching Method by using a t-test for the dependent sample. 2) Compare Critical Thinking with the criterion determined of 70 Percent of the full score. And 3) Assess the student's satisfaction after Learning through the Questioning Method.

Results

Table 1 The result of comparing the different scores of critical thinking skills before and after learning through the questioning method.

Group	n	Pretest scores		Posttest scores		t	p
		M	S.D.	M	S.D.		
Experimental group	30	18.00	3.01	22.87	4.31	14.25	0.00

$p < .05$

As presented in Table 1, the mean score of the pretest of students' critical thinking skills was 18.00 (S.D. =3.01), and the post-test of students' critical thinking skills was 22.87 (S.D. =4.31).

Moreover, it aimed to examine the different scores before and after using the Case Teaching Method to enhance critical thinking skills. The result of this table showed that after learning through the questioning method in the classroom, posttest scores of students' critical thinking skills were greater than pretest scores at a .05 level of statistical significance ($t_{29} = 14.25$, $p=0.00 <.05$). The average scores of the study developed increasingly higher than pretest.

Table 2 The result of comparing the different scores of critical thinking skills after learning through the Case Teaching Method, with the criteria set at 70 percent.

Group	N	Full score	Criteria score	M	S. D	t	p
Experimental group	30	30	21	22.87	4.31	2.375	0.02

$p < .05$

As presented in Table 2, the mean scores of t students' critical thinking skills after learning through the Case Teaching Method was 22.87 from a full mark of 30 and the standard deviation was 4.31 which was statistically higher than the criterion of 70% at .05 level of statistical significance

(t_{29}=2.375, $p=0.02<.05$).

It can be seen that the critical thinking skills of the students who accept the Case Teaching Method are higher than 70%.

According to the research results, we can draw the following conclusions:

Based on the research results, we can draw the following conclusions: The average scores and standard deviations of students who used the Case Teaching Method in Chinese curriculum instruction were both higher than the 70% criterion, with statistical significance at the 0.05 level. The Case Teaching Method can enhance students' critical thinking skills.

To assess students' satisfaction with the case teaching method.

Comparison of the average satisfaction scores after learning through the case teaching method. The table below presents descriptive statistics and t-test results analyzed using a statistical software package. This table aims to address the research objective of whether the case teaching method can enhance satisfaction.

Table 3 The results of students' satisfaction after learning through the case teaching method.

NO.		ITEM	M	S.D.	Level of satisfaction
Learning aspect	1	The case-based teaching method makes me more interested in the content of the Chinese language classes.	3.80	0.71	High
	2	The case-based teaching method helps me better understand the key points of the Chinese language lessons.	3.87	0.73	High
	3	Through the case-based teaching method, my critical thinking and analytical skills have improved.	4.10	0.71	High
	4	The case-based teaching method makes it easier for me to remember the content learned in Chinese language classes.	3.97	0.85	High
Instructional strategy	5	I have sufficient opportunities to express my opinions in the case-based teaching method.	3.97	0.76	High
	6	Group collaboration is effectively utilized in the case-based teaching method.	4.00	0.83	High
	7	The case tasks in the classroom are challenging for me and stimulate my interest in learning.	4.03	0.76	High
Teaching efficiency	8	The time spent on the case-based teaching method in the classroom is appropriate.	3.90	0.84	High
	9	The case-based teaching method helps me improve the efficiency of my Chinese language learning.	4.20	0.71	High
	10	The case-based teaching method contributes to enhancing my Chinese language performance.	4.00	0.64	High
	11	Through learning with the case-based teaching method, my confidence has increased.	4.10	0.76	High
Instructional evaluation	12	I am willing to continue using the case-based teaching method in future Chinese language classes.	4.20	0.76	High

NO.	ITEM	M	S.D.	Level of satisfaction
13	The teacher provides timely feedback and evaluation on our performance when using the case-based teaching method.	4.20	0.76	High
14	The teacher's guidance and summaries in the case-based teaching method are very helpful to my learning.	4.03	0.81	High
15	I believe the case-based teaching method improves my problem-solving skills in practical situations.	4.03	0.76	High
	Overall Total	4.03	0.76	High

Based on the results, we can state the following:

From Table 3, it can be seen that the overall student satisfaction is at a high level (M=4.03, S.D =0.76). This indicates that students are generally highly satisfied with the case teaching method.

Therefore, the case teaching method is feasible for 7th-grade Chinese language courses and helps improve students' learning efficiency and critical thinking abilities. The experimental results validate the research hypothesis. This study used mathematical analysis software to evaluate the satisfaction with the case teaching method in teaching. The results indicate that students are most satisfied with the instructional strategy. During the implementation of the case teaching method, students' personalized learning needs were met, their interest in learning was stimulated, learning efficiency was enhanced, and their engagement in learning was increased, all of which contributed to improving their critical thinking abilities and gaining students' favor.

Discussion

1. Enhancing Critical Thinking through Case-Based Teaching in 7th-Grade Chinese Language Classes

In the 7th-grade Chinese language teaching process, utilizing the case-based teaching method can effectively help students improve their critical thinking skills. First, through case analysis, students are required to deeply reflect on and interpret details in the text, which cultivates their analytical skills. They learn to uncover implicit information, understand the author's intent, and distinguish between different viewpoints, fostering the skills to think from multiple perspectives. Secondly, the case-based teaching method encourages students to evaluate different solutions or approaches, which enhances their evaluation skills. By judging characters' actions and plot developments in the case, students gradually learn to weigh various factors and reach reasonable conclusions. Additionally, the case-based method also fosters creative thinking. When exploring literary works, students are encouraged to think imaginatively and propose interpretations and solutions that may differ from conventional understanding, stimulating their creativity. Moreover, by encouraging students to reflect on their reasoning and performance in case analyses, the method enhances reflective thinking. As they review their case analysis, students can identify strengths and weaknesses in their thinking, thus gradually expanding the depth and breadth of their critical thinking. This teaching method not only enhances students' cognitive flexibility but also, by encouraging them to ask questions and explore answers, cultivates their open-mindedness, allowing them to accept different opinions and viewpoints, thereby comprehensively improving their critical thinking skills.

2. After learning through the case-based teaching method, students' critical thinking skills exceed 70%. This is because the case-based teaching method organizes both online and face-to-face teaching activities in six steps:

2.1 Select the appropriate case and ensure that the case has a clear teaching purpose and a story based on certain facts, for class discussion and analysis. Teachers need to do a good job of preparation before the display of cases, to understand the teaching materials and cases, design the way of case display, and determine the focus or theme of the case. Before class, teachers should set

up questions that can reflect the importance and difficulty of teaching according to the cases and the content of the textbook (Wu, 2004). Students should explore the theoretical knowledge of the textbook with the case questions and try to solve the case problems with the theoretical knowledge. Or let students in a vivid teaching situation understand, explore, find problems, ask questions, and find ways to solve problems. The set of questions should be in line with the student's cognitive level and thinking skills. The problem is set from simple to deep, from easy to difficult, from class to extracurricular, and from case to textbook content. The difficulty is moderate and targeted, and the "reason" is in the "problem" and the "reason" is in the "situation".

2.2 Introducing the Case in Class and Understanding the Background, Context, and Problems of the Case. When introducing a case, teachers need to help students fully understand the background, context, and specific problems presented in the case, which is crucial for facilitating student participation and in-depth discussion. Educators can utilize various methods to present the case, such as directly explaining the main content, using multimedia tools to showcase relevant information, or posing guiding questions to stimulate students' interest. Regardless of the method chosen, teachers should ensure that students have a clear understanding of the background and context of the case, including clarifying specialized terminology or complex concepts to ensure all students can keep pace with the discussion. Once the case has been successfully introduced, students should be encouraged to maintain an open mind and actively participate in subsequent discussions. This can take place through group discussions, whole-class debates, or individual presentations, allowing students to share their perspectives, questions, and unique insights on the case. Such interaction not only enriches classroom discussions but also fosters critical thinking, communication skills, and teamwork, deepening students' understanding of the case and preparing them to tackle future real-world challenges.

2.3 Organizing Discussions: Engaging in Dialogue or Debate to Foster Repeated Interaction and Communication. Teachers need to guide students in conducting an in-depth analysis of cases, which includes understanding the information, knowledge, and viewpoints presented in the cases, as well as identifying and exploring potential problems and solutions. Educators should provide necessary background information and relevant theories to help students gain a comprehensive understanding of the case content. During discussions, students should be encouraged to actively participate, express their opinions and viewpoints, and also listen to others' perspectives while engaging in constructive rebuttal and questioning. Teachers can design discussion rules to promote mutual respect and positive interaction, making discussions more effective. Additionally, educators can enhance the engagement and depth of discussions through various formats such as role-playing, group discussions, and whole-class debates. This discussion environment allows students to freely explore different viewpoints and solutions, deepening their understanding of the case and improving their problem-solving abilities in real-life contexts. Through repeated interaction and communication, students not only better comprehend the case itself but also develop stronger communication and collaboration skills, laying a solid foundation for their future learning and professional careers.

2.4 Summarizing the Class Discussion: Emphasizing Key Points and Difficulties to Reflect on the Thinking Process and Methods. At the end of the class, teachers should carefully summarize the discussion content, highlighting the key points and difficulties to help students clarify their thinking and reflect on their learning processes and methods. Teachers should guide students to ask questions related to the teaching objectives and encourage them to express their insights while actively participating in classroom interactions. This approach not only helps students consolidate their knowledge but also enhances their critical thinking skills. Furthermore, teachers can encourage students to draw from their own experiences and observations to propose valuable questions. These questions can guide classmates in deeper discussions, sharing diverse viewpoints and insights, thereby fostering communication and collaboration among peers. In such interactions, students can gain a more comprehensive understanding from various perspectives, igniting their enthusiasm for learning and increasing their interest in knowledge, ultimately leading to better academic performance.

3. The case-based teaching method in Chinese language learning significantly enhances students' satisfaction for several reasons. First, it emphasizes classroom interactivity and student engagement, encouraging active participation and collaboration among peers, which fosters a sense

of ownership in their learning and makes them feel more invested in the material. This involvement leads to a deeper connection with the subject, as students share insights and challenge each other's viewpoints, cultivating critical thinking and nurturing interpersonal skills vital for their future academic and professional lives. Second, applying knowledge to real-life situations enhances the practicality and utility of the learning process; when students see how theoretical concepts relate to everyday scenarios, they appreciate their studies' relevance, reducing the monotony often associated with traditional rote learning methods. Moreover, the method allows teachers to design personalized cases and questions tailored to students' varying abilities and interests, meeting diverse learning needs and increasing engagement by making content more relatable. Additionally, case-based teaching fosters critical thinking and problem-solving skills, as students analyze and discuss cases, challenging them to think critically about information, identify key issues, and propose solutions, equipping them with skills for real-world challenges. Furthermore, group collaboration strengthens student interaction, enhancing teamwork and communication skills while fostering a sense of community among peers; working together encourages students to articulate their thoughts, listen to differing viewpoints, and build consensus, enriching their understanding of the material. Finally, this method provides teachers with opportunities to offer timely feedback and encouragement, allowing students to see their strengths and areas for improvement. This ongoing feedback loop significantly boosts students' motivation and satisfaction, as they feel supported in their learning journey and recognize tangible evidence of their progress. In conclusion, the case-based teaching method not only enhances students' satisfaction but also equips them with essential skills for their academic and personal development, creating an enriching learning environment that prepares students for success both inside and outside the classroom and cultivates lifelong learners ready to tackle the complexities of the modern world.

In addition to enhancing satisfaction and fostering essential skills, the case-based teaching method also promotes a deeper understanding of cultural contexts within the Chinese language curriculum. By utilizing real-world cases that reflect various aspects of Chinese culture, society, and history, students gain insights that transcend mere language learning. For instance, analyzing literary works or historical events through case studies allows students to explore the nuances of cultural expressions, societal norms, and historical developments, thereby enriching their appreciation of the language. This contextual learning not only helps students grasp the significance of cultural references in the language but also equips them with a broader perspective that is essential for effective communication in diverse settings. As they engage with culturally relevant content, students develop intercultural competence, making them more adept at navigating global interactions and enhancing their overall educational experience.

Moreover, the implementation of case-based teaching encourages a continuous improvement mindset among both students and teachers. For students, the iterative nature of discussing and analyzing different cases fosters resilience and adaptability; they learn to view challenges as opportunities for growth, embracing a proactive approach to their education. Teachers, in turn, benefit from the dynamic feedback provided by students during case discussions, allowing them to refine their teaching strategies and adapt their approaches to better meet students' needs. This reciprocal relationship enhances the overall educational environment, promoting a culture of reflection and continuous learning. As both students and teachers engage in this cycle of improvement, they contribute to a vibrant learning community that values curiosity, critical inquiry, and collaboration, ultimately leading to a more enriching and fulfilling educational experience for all involved.

Based on the results of this study, the use of the case-based teaching method has significantly improved students' grades and satisfaction, leading to notable enhancements in teaching effectiveness. One study found that after implementing the case-based teaching method, participants' average post-test scores increased by over 20% compared to their pre-test scores, indicating that the method can effectively enhance learners' academic performance and outcomes. The research also demonstrates that the case-based teaching method has a significant positive impact on students' learning achievements. This personalized learning approach tailors learning pathways and resources according to learners' characteristics and needs, thereby better meeting their learning requirements and increasing motivation. Furthermore, the case-based teaching method promotes students' critical thinking and problem-solving skills, encouraging them to be more proactive and engaged in the learning process, which in turn enhances their overall learning experience. By integrating theory with

practice, students can apply knowledge in real-world situations, further deepening their understanding and mastery of the content. This teaching model not only improves students' academic performance but also lays a solid foundation for their future learning and career development.

Conclusion

By comparing and analyzing the pre-test and post-test results of 30 students from Class 1, Grade 7 at Zhengzhou No. 65 Middle School who underwent the "case teaching method" intervention in their Chinese language course, the impact of the case teaching method on students was assessed. The conclusions are as follows:

1) The use of the "case teaching method" in the "Chinese language course" predicts the critical thinking abilities of the 30 students. The pre-test average score for students' critical thinking skills was 18.00 (S.D. = 3.01), while the post-test average score was 22.87 (S.D. = 4.31). The statistical significance level is 0.05 (t 29=14.25, p=0.00 < 0.05).

2) After applying the "case teaching method" to the critical thinking skills of the 30 students from Class 1, Grade 7 at Zhengzhou No.65 Middle School were higher than the 70% benchmark, with a statistically significant difference (M=22.87, S.D =4.31, t=2.375, p=0.024< 0.05).

3) The overall evaluation of the case teaching method by students is at a high level (M=4.02, S.D. =0.76). This indicates that students have a high level of satisfaction with the case teaching method.

Therefore, the case-based teaching method is feasible in the teaching of the 7th-grade Chinese language curriculum, contributing to improved student learning effectiveness and critical thinking skills. The experimental results validate the research hypothesis.

This study utilized mathematical analysis software to evaluate student satisfaction with the case-based teaching method. The results indicated that students expressed the highest satisfaction with this approach. Throughout the implementation of the case method, students' individualized learning needs were met, stimulating their interest in learning and enhancing learning efficiency. This approach also increased students' engagement in the learning process, positively impacting their critical thinking abilities and earning their appreciation.

Recommendation

1. Recommendation for implementation

Case-based teaching, as an effective instructional strategy, can significantly enhance students' academic performance. Here are some specific recommendations for improving student outcomes using case-based teaching:

1.1 Set Clear Learning Objectives: During the implementation of case-based teaching, teachers should establish clear learning objectives, specifying the expected outcomes students should achieve after completing the case analysis (Yohannes et al, 2021). This helps students understand the focus of their learning, ensuring they can concentrate on solving key issues and mastering necessary knowledge and skills.

1.2 Select Relevant and Challenging Cases: Teachers should choose cases that are closely related to the course content and can stimulate students' thinking. These cases should have a certain level of complexity to encourage in-depth analysis and discussion, thereby enhancing students' critical thinking and problem-solving abilities.

1.3 Guide Students in In-Depth Analysis: During the case analysis process, teachers should encourage students to analyze from multiple perspectives, including identifying issues, evaluating different solutions, and predicting possible outcomes (Zulfa R N,2020). By guiding students through systematic analysis, teachers help them improve their logical reasoning and decision-making skills.

1.4 Facilitate Group Collaboration and Discussion: Organize students into groups for collaboration and discussion to foster collective intelligence. In group discussions, students can exchange viewpoints, present different insights, and deepen their understanding of the case through collaboration. Teachers should actively participate in discussions, providing guidance and feedback.

1.5 Implement Dynamic Assessment and Feedback: During case-based teaching, teachers should regularly conduct dynamic assessments to monitor students' progress and understanding. By providing detailed feedback, teachers help students identify and correct mistakes, thereby enhancing their learning effectiveness.

1.6 Integrate Practical Application: Combine case-based teaching with practical applications, allowing students to apply their knowledge to real-world situations. This not only increases the relevance of learning but also improves students' skills to solve real-life problems.

2. Recommendation for further research

As an important teaching method in the field of education, the case-based teaching method has been widely recognized for its ability to enhance students' learning capabilities. However, with the evolution of educational philosophies and advancements in teaching technologies, the research and practice of questioning methods also face new challenges and opportunities. The following are prospects for future research on case-based teaching methods:

2.1 Integration of Technology

Future studies could explore integrating modern technologies, such as artificial intelligence (AI) and online collaborative platforms, into case-based teaching. AI can create adaptive learning experiences with tailored case studies, while online platforms enable real-time collaboration, enhancing teamwork and communication skills (Liping et al. 2017). This integration boosts student engagement and facilitates immediate feedback, allowing teachers to monitor progress and adjust instruction, ultimately fostering deeper understanding and critical thinking skills.

2.2 Personalized Learning

Research could focus on developing personalized case-based learning experiences tailored to students' individual needs and learning styles. By utilizing data analytics, educators can identify specific areas where students struggle and provide targeted case studies that address these gaps. For instance, if a student has difficulty with economic principles, a customized case study involving a local business's pricing strategy could enhance understanding by connecting theory to real-world scenarios. This personalized approach improves academic performance and increases student engagement by catering to diverse learning preferences.

2.3 Assessment Methods

There is a need for innovative assessment methods to evaluate the effectiveness of case-based teaching. Future research can develop standardized tools to measure academic performance, critical thinking, problem-solving skills, and student satisfaction. These tools could include presentation rubrics, engagement surveys, and peer assessments. By capturing a broader range of competencies, these methods can improve our understanding of how case-based teaching impacts student outcomes and inform future strategies.

2.4 Cross-Disciplinary Applications

Investigating case-based teaching methods across different subject areas could yield insights into their effectiveness and adaptability. Tailoring these methods for various disciplines may lead to broader implementation and collaboration among educators (Bakri et al, 2021). For instance, applying case-based teaching in science, social studies, and the arts can enhance student engagement. Sharing successful adaptations can foster collaboration among teachers, enriching the educational experience and promoting critical thinking and problem-solving skills across disciplines.

2.5 Teacher Training and Development

Future research should also consider the professional development of educators in effectively employing case-based teaching methods. This includes designing targeted workshops and training programs that cater specifically to teachers' needs. Such initiatives can enhance their instructional strategies, providing them with practical tools and techniques to implement case-based learning successfully. Additionally, developing resources tailored for educators, such as instructional guides and case study databases, can significantly boost their confidence and competence in using this approach. By investing in professional development, we can empower educators to create more engaging and effective learning environments for their students.

2.6 Longitudinal Studies

Conducting longitudinal studies could provide deeper insights into the long-term effects of case-based teaching on students' learning outcomes and career readiness. Such research would allow educators and researchers to track the same group of students over time, assessing how their engagement with case-based teaching influences their academic success and professional skills. By understanding the sustained impact of this pedagogical approach, we can better evaluate its effectiveness in fostering critical thinking, problem-solving abilities, and the practical application of

knowledge. Ultimately, these insights will guide improvements in teaching practices, ensuring that case-based methods effectively prepare students for their future careers.

Based on the outlined areas for future research, it is evident that case-based teaching holds significant potential for enhancing student learning outcomes and engagement across various disciplines. Integrating modern technologies like AI and online collaborative platforms can create adaptive and interactive learning environments, while personalized learning experiences address individual student needs, fostering deeper connections to real-world applications. Innovative assessment methods are crucial for accurately measuring the effectiveness of case-based teaching, capturing a broad range of competencies that reflect student progress. Additionally, exploring cross-disciplinary applications can promote collaboration among educators, enriching the educational experience. Finally, investing in the professional development of teachers will equip them with the necessary skills and confidence to implement these strategies effectively. Collectively, these research directions will contribute to a comprehensive understanding of case-based teaching's impact, ultimately preparing students for successful careers in a dynamic and complex world.

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