ACHIEVEMENT LEARNING ON S-T TEACHING ANALYSIS TOOL OF PRESCHOOL CLASSROOM TEACHING IN CHONGQING VOCATIONAL COLLEGE IN CHINA

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ABSTRACT
The objectives of this study were 1) to study the current situation and problems in the use of case teaching method, and 2) to study the achievement learning on S-T teaching analysis of preschool education at Chongqing Vocational College in China. This study was a quantitative research. The conceptual framework of this research was applied from Cynthia Lung's study. The population consisted of 242 students from 10 classes of second-year preschool education majors in the second semester of the 2023 academic year at Chongqing Vocational College in China. The sample was drawn using judgmental sampling method and after analyzing the results and number of students in the midterm examination of the course Pre-school Education in 10 classes, it was decided to select 24 students from class 3 and 24 students from class 5, totaling 48 students. The instruments used in this research were 1) Through the questionnaire survey to get the current situation and problems, 2) S-T Teaching Analysis Tool Comparing Pre- and Post- classroom activities. The data analysis used mean, standard deviation and t-test. The research results revealed that 1) the overall situation and problems were at a high level. When considering each aspect from the highest to the lowest, including students didn't think independently, teachers in the case of teaching analysis and discussion of a single way, and some students did not participate in the case teaching method classroom at statistically level of .05. 2) The result of using the method of mind mapping based on the S-T Teaching analysis tool comparing pre- and post-improvement preschool classrooms found that the improved case teaching method classroom had higher efficiency.
Keywords: Labour, Labor Education, The New Era, Applied Undergraduate Universities

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INTRODUCTION

The development of information technology and the in-depth promotion of the reform of vocational education, the way and means of education and teaching have undergone great changes, and China's traditional teaching methods have been unable to meet the needs of modern teaching. At the same time, information technology is gradually applied to the education industry, and combining information technology with curriculum teaching practice to analyze the classroom teaching process and teaching behavior has become a hot research topic in the field of vocational education in China. Teachers are the organizers, guides and collaborators of education and teaching, and they should strengthen their understanding of the application of information technology, combine modern information technology with teaching, and use modern information technology to analyze classroom teaching, so as to realize modern education and the new curriculum reform. Data analysis is becoming increasingly valued, according to McKinsey & Company, a leading global consulting firm, "Data, which has permeated every industry and business function today, has become an important production factor." Therefore, applying data analysis methods to analyze and improve classroom teaching can theoretically enrich and develop classroom teaching evaluation methods, summarize the rules and characteristics of an excellent classroom, and also provide a theoretical basis and practical reference for teaching reflection, which ultimately promotes the common development of students and teachers. Case teaching method teachers according to the needs of classroom teaching objectives and teaching content, by setting up specific cases for understanding and analysis, guiding students to participate in, analyze, discuss, express and other activities, so that students in the specific problematic situations actively thinking initiative to explore, in order to improve the quality and effectiveness of learning. Case teaching is characterized by high interactivity and participation, and effectively combines knowledge with industry practice through the classroom, which responds to the needs of China's higher vocational teaching reform. Pre-school Education as a core curriculum for kindergarten teacher preparation, It plays an important role in the training of kindergarten teachers, but due to its own strong logical Thinking and Abstract thinking, teaching and learning is difficult. According to the existing research, some Chinese higher vocational colleges Pre-school Education course teaching mode, teaching methods there are many deficiencies. The main problems are the relative homogeneity of teaching methods, outdated content, and ineffective teaching. Therefore, it is necessary to study the case method of teaching in the preschool education course. On the one hand, based on S-T teaching analysis tools can be timely and effective evaluation of the teaching effectiveness of teachers, effective evaluation can stimulate teachers' enthusiasm for work and creativity, so that the teachers' teaching ability to be recognized, so as to further improve the level of teaching and teaching quality. On the other hand, teachers can also recognize the deficiencies in their own teaching process through teaching evaluation, adjust their teaching methods, increase effective teacher-student interaction, and make classroom teaching achieve the desired goals.

The case teaching method is designed to cater to the specific objectives and content of classroom teaching. It involves presenting students with particular cases for them to understand and analyze. This method allows students to participate actively in analysis, discussion, and expression activities. The aim is to encourage students to think critically and explore solutions to specific problems, thereby enhancing the quality and effectiveness of their learning. Case teaching is distinguished by its elevated engagement and active involvement, integrating theoretical knowledge with practical industrial experience in the classroom. This approach aptly addresses the requirements of China's higher vocational education reform. Preschool education is fundamental to kindergarten teacher preparation and crucial to their training. However, the complex nature of logical and abstract thinking makes teaching and learning in this area challenging. Current research has shown areas for improvement in preschool

education courses' teaching styles and procedures at certain Chinese higher vocational institutions. The primary issues are the notable uniformity of instructional approaches, obsolete subject matter, and inefficacious pedagogy. Hence, examining the case method of instruction in the preschool education curriculum is imperative.

On the one hand, utilizing S-T teaching analysis tools can provide a timely and efficient evaluation of teachers' effectiveness. This practical evaluation can enhance teachers' motivation and creativity, leading to the recognition of their teaching abilities and ultimately improving the overall level and quality of teaching. Alternatively, instructors can identify the shortcomings in their teaching process through teaching assessment, adapt their teaching approaches, enhance productive teacher-student engagement, and attain the intended objectives in classroom instruction. Objectives of the research were to analyze the present state and challenges associated with using the case teaching approach, and to investigate the effectiveness of using the S-T teaching analysis method to enhance accomplishment in preschool classroom teaching at Chongqing Vocational College in China.

LITERATURE REVIEWS

Based on the literature, we conclude that a good case must have the following characteristics.

Authenticity

Case must be a real-life events that really happen, the time, place and data involved must be cited Real, accurate, not based on personal imagination and creativity made up.

Reflective

The selection of cases must be closely related to the teaching objectives, but also can trigger people to think, reflective events, which requires the case must contain difficult problems, but also can contain the solution to the problem. Only a simple description of a phenomenon, does not involve the problem within the event does not belong to the case.

Completeness

Case is a description of a real situation, the description of the content of the story to include the emergence, development of the course and the development of the results of things or phenomena as a whole, dynamic grasp.

Typicality

Cases should be carefully selected to have a certain degree of representative examples, to represent a certain phenomenon or a certain type of things or the essential attributes, it is best to summarize the knowledge related to the teaching objectives and have a greater impact on the event.

Melodramatic

A good case should tell a story. Like all good storytelling standards, there must be an interesting plot. To be able to put the events of the time, characters, location and so on according to a certain structure to show out. At the same time also contains a narrative and comment on the event, there is a strong readability and infectious.

Relevance

Case selection and design must take full account of the actual teaching (student interest, cognitive level and objective teaching environment), and the need for the actual teaching, combined with the teaching objectives, the preparation of a targeted and practical teaching cases, both to achieve the requirements of the teaching objectives and can stimulate student interest.

Timeliness

A good case should be up to date, the choice of cases should reflect the last five years of events. Such cases can focus on the latest developments in social development is also easy to mobilize students' interest, resonance.

Case-based teaching

Definition of case-based pedagogy Based on a variety of theories as well as related practices, the concept of case-based pedagogy has been defined in different ways.
According to Kowalski, "The case method is a case-based approach to seminar teaching. The case method can be used to teach information, concepts, and theories, but it can also be used to train students in reasoning, critical thinking, and problem-solving skills." According to Shulman, "the case method is a teaching method that utilizes cases as a medium of instruction". They mainly emphasized the role and importance of the status of cases.
1) Transport theory
The important feature of Levin's theory of transfer assumptions is that when we encounter a difficulty and want to use our original knowledge to solve it we first have to make assumptions about the type and scope of the difficulty. If the first assumption is proved wrong, he has to make the second assumption, and so on. This pattern of thinking through assumptions is conducive to dealing with similar difficulties encountered in reality later. Levin calls his theory "hypothesis theory".
In the case teaching process, after the teacher assigns the case material, he or she usually asks what to do if he or she encounters such a problem. Students integrate textbook knowledge with the actual occurrence of the problem, analyze the case, group discussion and cooperation, class discussion and other methods to find a solution, so as to generate their own experience. In the case teaching process to form their own understanding and mastery of the general steps and thinking order of problem solving. And we hope to effectively apply such results to similar situations. This process is the use of the original theoretical knowledge, the formation of the case of the assumption of the solution to the problem, the experience of these students in the mind of the knowledge into a set of procedures for solving similar problems, which is the transfer of learning.
In the classroom of Preschool Education with case teaching method, the teacher should first choose cases that match the students' original experience, and the cases should not only be real, but more importantly, contain issues that can be explored. Because with the experience of dealing with similar problems, students can easily extract from their minds the ways of thinking and strategies for solving similar problems.
2) Humanistic learning theory originated
Humanistic learning theory originated in the United States in the 1950s and 1960s, and its main representatives were Maslow and Rogers. Maslow believed that learning is an internal motivation rather than an externally imposed behavior, and his main point of view is rooted in his Hierarchy of Needs Theory. Teaching and learning activities involve both teachers and students, and to improve the quality of teaching and learning, it is necessary to focus on both teacher and student participation.
Rogers humanistic theory attaches importance to the student's subjective position, he put forward in the Freedom of Learning: "Each student has his or her own talents; learning occurs when the materials are in line with the student's interests; effective learning occurs in less threatening environments; active learning produces good results, and the teacher only needs to provide a variety of learning resources, and it is up to the students to set their own learning goals and explore and discover the results; and that learning of life skills is emphasized." It is advocated that teaching should be oriented to all students, requiring teachers to respect students, give the initiative of learning to students, give full play to students' self-consciousness, do everything for the sake of students, develop students, encourage students to actively participate in teaching activities, and at the same time advocate cooperative learning in the classroom, cultivate students' sense of cooperation and provide students with the opportunity to think independently, and improve their problem-solving ability. In terms of evaluation, the humanistic view of evaluation advocates developmental teaching evaluation, and classroom teaching evaluation, as an important means of measuring the quality of

classroom teaching and improving the level of classroom teaching, provides a clear direction for the development of classroom teaching.

Constructivism Learning Theory

An early proponent of constructionist learning theory was Jean Piaget. He proposed that "the four elements of a learning environment are context, collaboration, conversation, and the construction of meaning". He believed that: "Knowledge is not something objective (empiricism) or subjective (dynamism), but is the result of gradual construction by the individual in the process of interaction with the environment."

Constructivism emphasizes the need to give full play to the subjective initiative of students, in the learning process, learning is not the transmission of knowledge from teacher to student, but the process of students constructing their own knowledge, students are not passive absorbers of information, but meaningful and active constructors, and this construction can not be replaced by others.

Constructivism believes that the teacher is the helper and collaborator of student learning, knowledge is not simply taught by the teacher to obtain, but in the joint activities of teachers and students, the lecturer through a variety of types of cases, the problem created by the situation, so that students enter the role of constantly stimulate students to expand their thinking, dare to innovate the practice of space, from the original knowledge and experience of the expansion of the new knowledge and experience. Help students to form independent thinking, rational analysis of the problem of ideas, inspire them to reflect on their own learning, and gradually let the students of their own learning can be self-management, self-responsibility, the creation of real learning situations conducive to communication and cooperation to encourage and guide students to learn through independent thinking, experimental research, discussion and cooperation.

RESEARCH METHODOLOGY

Population and Sampling: The population totals were based on 10 classes of second-year preschool education majors (242 students) and 9 preschool education teachers in the second semester of the 2023 academic year at Chongqing Vocational College of Transportation in China. The sample was drawn using judgmental sampling method and after analyzing the results and number of students in the midterm examination of the course Pre-school Education in 10 classes, it was decided to select class 3 (24 students) and class 5 (24 students) for the study. It was stipulated that class 3 would be the experimental class and class 5 would be the control class.

Research instrument: Questionnaire Designs the purpose of the questionnaire survey was to find out the status of the use of the case method of teaching Preschool Education to teachers and students. The student's questionnaire contains gender and class, with 12 single-choice questions, mainly to understand the students' perception of the teacher's status of using case teaching method, the number of students participating in the case teaching method class, and the teacher's perception of the effect produced when using case teaching method to teach.

The teacher's questionnaire contained information on gender, teaching experience, education, and specialty, with 10 single-choice questions, with the main purpose of grasping the teachers' perceptions of the status of their use of the case-based approach, the number of students participating in the case-based approach classroom, and the effect they produce when teaching with the case-based approach. S-T Teaching Analysis Tool, classifying teacher and student behavior classification into two dimensions students' behavior(S): speaking, discussing, thinking, taking notes, doing exercises teachers' behavior(T):roll call, questions, explanations, board writing, multimedia presentation, evaluation and feedback The evaluation subject samples the classroom at fixed intervals through field observation, using the origin to represent the beginning of a lesson, the horizontal axis to represent the teacher's behavior, the vertical

axis to represent the student's behavior, and the length of the axis to be set as the actual time of a lesson, and then draws out the S and T data on the graph with a short line in a sequence, and the length of the line is determined by the duration of a certain behavior, and then finally obtains the S-T graph. The interaction between the teacher and the students during the whole lesson can be obtained by observing the S-T graph refers to the occupancy rate of the teacher's behavior during the whole teaching and learning process, and Ch refers to the rate of teacher-student behavioral transitions. Based on Rt and Ch an Rt-Ch graph can be drawn. Based on the Rt and Ch data the teaching mode of the lesson can be determined.

Data collection: The teacher's questionnaire was distributed to nine preschool education teachers in the school, and since these nine preschool teachers have taught all the courses of Preschool Education, the results of the teacher's questionnaire are true and reliable. The students of 10 classes (242) of the second year preschool education program of the school were also taken as the target of the students' questionnaire.

RESEARCH RESULTS

Divided into 2 parts

Part 1 S-T Teaching Analysis Tool to collect s and t data from 2 classes of classroom instruction These 9 preschool teachers sampled my lessons in 10-second intervals using field listening and other methods. Sampling points where the type of behavior could not be determined were identified after a joint deliberation. The lessons were all about kindergarten classroom management. The length of each of the 4 sessions was 40 minutes, and with a sampling interval of 10 seconds, 240 S-T data were recorded. Where g denotes the continuity of the data: T D D T T T T S S T T T g=5

Table 1 class 5 control class

	10s	20s	30s	40s	50s	60s	10s	20s	30s	40s	50s	60s	g
1-2min	T	D	D	T	T	T	T	S	S	T	T	T	5
3-4min	T	T	D	D	D	T	T	T	D	D	T	T	4
5-6min	T	T	T	S	S	S	S	S	S	S	S	S	1
7-8min	S	S	S	S	S	S	S	S	S	T	S	S	2
9-10min	S	D	D	S	T	S	T	T	T	T	T	S	6
11-12min	S	T	T	T	D	T	T	S	T	S	T	T	7
13-14min	S	T	T	S	T	T	T	T	T	T	S	S	5
15-16min	T	T	T	T	T	D	D	S	S	S	S	S	3
17-18min	S	S	S	S	T	S	T	T	D	D	T	T	5
19-20min	T	T	D	D	T	T	T	S	S	T	T	T	4
21-22min	S	S	T	T	T	T	T	T	S	S	S	S	3
23-24min	T	T	T	D	D	T	T	D	D	T	S	T	7
25-26min	T	D	T	T	T	T	T	T	D	T	T	T	4
27-28min	T	S	S	T	T	T	T	S	S	T	T	S	5
29-30min	T	T	T	S	T	S	T	T	S	T	S	S	8
31-32min	T	T	S	S	S	D	D	T	T	D	T	T	6
33-34min	S	S	T	S	T	S	T	T	S	T	T	T	8
35-36min	T	S	S	T	S	T	T	S	T	T	T	T	6
37-38min	T	T	T	S	T	T	T	D	D	T	T	T	4
39-40min	T	T	D	T	T	T	T	T	T	T	T	T	2

The teaching process is digitally decomposed into teacher behavior (T), student behavior (S) and teacher-student interaction behavior (D) for statistical purposes. There are two other important parameters here, Rt and Ch, which represent the teacher behavior occupancy rate and teacher-student behavior conversion rate, respectively.

Rt= (Nt + 0.5Nd) /N Ch = (g - 1) /N

After observation, it can be obtained that there are 137 teacher behaviors, 75 student behaviors, and 28 teacher-student interaction behaviors, and in calculating the S-T correlation parameter we regarded half of the teacher-student interaction behaviors (D) as teacher behaviors and half of them as student behaviors, and the total number of samples was N.

The teacher's behavioral rate Rt is 62.9%. Student behavior occupancy Rs is 37.1%. The teacher-student behavior conversion rate Ch = (g-1) /N = 103/240 = 39. 2%.

Table 2 class 3（experimental class）

	10s	20s	30s	40s	50s	60s	10s	20s	30s	40s	50s	60s	g
1-2min	S	S	T	D	D	T	T	D	D	T	T	T	6
3-4min	T	T	T	T	S	T	D	D	D	T	T	T	4
5-6min	D	T	D	D	S	S	T	D	D	T	S	S	8
7-8min	T	T	S	S	T	T	S	T	T	T	S	T	7
9-10min	S	S	T	S	D	D	D	T	T	T	T	S	6
11-12min	S	T	D	D	D	T	T	S	T	S	T	T	7
13-14min	S	T	T	S	T	D	T	T	T	T	D	D	7
15-16min	T	T	S	S	S	S	S	S	S	S	S	S	2
17-18min	S	S	S	S	S	T	S	S	D	D	D	T	4
19-20min	T	D	T	T	D	T	T	D	T	T	T	T	6
21-22min	S	S	T	S	T	S	T	T	S	T	S	S	9
23-24min	T	T	T	T	T	T	D	D	D	T	S	T	5
25-26min	S	S	T	D	D	D	T	T	D	T	T	S	7
27-28min	T	S	T	T	D	T	T	D	T	S	T	T	9
29-30min	S	T	T	S	T	T	T	T	S	T	S	S	7
31-32min	T	T	S	S	T	T	S	T	T	T	S	T	7
33-34min	S	S	T	S	S	S	T	T	D	D	T	T	6
35-36min	T	S	D	D	S	T	T	S	T	S	T	T	8
37-38min	T	T	D	D	T	T	T	D	D	T	T	T	5
39-40min	T	T	S	D	D	T	T	T	T	T	T	T	3

There were 125 teacher behaviors, 69 student behaviors, and 46 teacher-student interaction behaviors, which was calculated to give a teacher behavior occupancy rate Rt of 61.7%. Student behavior occupancy Rs is 38.3%. The teacher-student behavior conversion rate Ch = (g - 1)/N = 122/240 = 50.8%.

Teacher behavior occupancy rate are about 60%, which indicates that in these two sections of mathematics classroom teaching, teacher behavior is more frequent than student behavior, and the teacher occupies a dominant position in the teaching and learning process; teacher-student behavior conversion rate is 39.2% and 50.8%, respectively, both above 30%, indicating that the teacher-student behavior conversion is more frequent, reflecting that the teacher in the classroom is aware of the student's subjective position, focusing on stimulating the This shows

that teachers realize the students' subjective status in the classroom and pay attention to stimulating students' enthusiasm, so that the teacher-student interaction in the classroom maintains a high percentage. In the experimental class (class 3), the teacher-student behavior change rate is 50.8%, which is more frequent than that of the control class (class 5), and the classroom atmosphere is more active.

DISCUSSION & CONCLUSION

After the results of the questionnaire on Chongqing Vocational College of Transportation, it was found that 1) the teacher in the case of teaching did not give students the time to think independently, 2) case teaching classroom order more chaotic, 3) teachers in the case of teaching analysis and discussion of a single way, 4)Some students did not participate in the case teaching method classroom, 5)the school using case teaching method to teach the results produced when the effect is not balanced.

Suggestions for improving the problems found in the questionnaire results 1) teachers in the case of teaching to give students some independent thinking time, 2) Use a variety of instructional media when presenting cases, 3) Increase the frequency of group discussions when analyzing cases, 4) Summarize the case using the method of mind mapping.

Based on S-T Teaching Analysis Tool Comparing Pre- and Post-Improvement Preschool Classrooms, found that the improved case teaching method classroom higher efficiency.

S-T Teaching Analysis is a quantitative analysis method, although it is fair and objective compared with some qualitative analysis methods, the observed educational phenomena are inevitably one-sided, because teaching is a highly socialized and contextualized activity process, and any quantitative analysis method cannot be absolutely scientific and objective, so S-T analysis is more suitable as a method to support teaching reflection and research. As a matter of fact, qualitative and quantitative research are interdependent, interpenetrating and complementary, and only through the comprehensive use of quantitative and qualitative research, and mutual comparison and verification, can we find out the rules in classroom teaching.

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At present, S-T Teaching Analysis in higher vocational education is not common and needs to be promoted. When teachers master this method of reflection and research, they can have a frame of reference to improve their teaching and promote their educational and pedagogical growth to become a real research-oriented and professional teacher.

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