

Analysis and Suggestions on the Challenges Faced by Kindergarten Teachers in Cooperative Learning Models from a Sociocultural Theory Perspective

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Abstract: The purpose of this empirical study is to identify and address the challenges faced by kindergarten teachers in guiding and implementing collaborative inquiry learning in early childhood group settings from a socio-cultural theoretical perspective. The research was conducted in kindergartens located in Chengxiang, Putian. This study employed interviews to explore teachers' understanding and perception of collaborative learning in groups, as well as the specific issues encountered during its implementation. The research methodology utilized semi-structured interviews with a small sample size of 9 participants, following qualitative research techniques. The main findings of this study offer solutions to the practical problems encountered by kindergarten teachers in organizing and implementing collaborative learning in early childhood groups in third-tier cities, based on Vygotsky's socio-cultural theory. It is important to note that the findings are derived from a limited sample size. Finally, this study concludes by providing practical educational recommendations from the perspective of Vygotsky's socio-cultural theory.

Keywords: Early Childhood Education, Cooperative Learning, Sociocultural Theory, Challenges, Preschool Children

1. Introduction

Studies over the past two decades have provided important information on how ECE (Early Childhood Education) has been widely concerned around the world. The Chinese government is implementing the strategy of "strategy for invigorating China through science and education" and vigorously promoting quality education. As the foundation of the national education system, ECE should be valued and given priority to development [1]. This trend has higher requirements for the quality development of ECE in China.

1.1. Sociocultural Theory and Cooperative Learning

The sociocultural theory has become an increasingly popular theoretical explanation for development and learning in early childhood education since the early 21st century. The articulation of sociocultural theory to practice by teachers used to a predominately developmental-constructivist theoretical perspective represents an area of emerging research interest [2,3].

Sociocultural theory is a theoretical framework based on social and cultural foundations, which focuses on the interaction and influence between individuals and their social environment. The sociocultural theory of development emphasizes the role of language, culture as well and social interaction in the child's development. And it seems that these three factors not only affect children's development at the same time but also interact with each other. Vygotsky believed that culture provides the context in which development occurs; we develop by internalizing the cognitive tools embedded within specific cultures. As the diversity of students continues to increase, they bring different cultures and the cognitive tools within these cultures to classrooms and children's learning.

According to the basic concepts of constructivism, the learning process of young children is not only an individual psychological process but also a social and cultural construction process. The William and Flora Hewlett Foundation, in the Deeper Learning Strategic Plan Summary Education Program, defines deeper learning as six closely related core competencies. These core competencies include mastery of core academic content knowledge, critical thinking and problem-solving, effective communication, collaboration skills, learning how to learn, and academic mindsets. Among these six core competencies of deeper learning, two abilities, namely "effective communication" and "collaboration skills," are related to the social and cultural aspects [4].

In conclusion, Sociocultural theory provides a significant theoretical foundation for the model of cooperative learning in early childhood education. Cooperative learning is an important embodiment of social-culturalism theory in educational practice.

1.2. Cooperative Learning in ECE

In today's world, as we step into the 21st century, education is witnessing a series of new transformative trends and innovative teaching methods and approaches. Media and modalities are appearing endlessly. Among them, the small group cooperative inquiry model emerged as a new form of instructional organization [5].

"Group cooperative inquiry learning mode" refers to the process of independent inquiry and cooperative learning, which the group members carry out for the same problem at the same time [6].

Cooperative learning began in the United States in the 1970s and was introduced to China in the early 1990s by Wang Tan [7,8]. Since the 21st century, cooperative learning has been introduced into various classroom practices in all stages of education, including basic education, secondary education, and higher education. Teachers from different disciplines have also actively implemented group cooperative learning models. Even in the field of kindergarten education, scholars have been actively exploring cooperative learning in the five major domains these years [9-19]. Teachers play a vital role in initiating and guiding collective teaching activities of group cooperative learning, considering the objectives and outcomes of cooperative learning, the modes of communicative learning, and the demands for role transition in flipped classrooms [20-22].

Research has often focused on how to improve quality in early childhood education (ECE) classrooms. Less research, however, has been carried out on projects to shed light on the problems that practicing early childhood educator meet in early childhood education for later academic and psychological development. Given the recent emphasis placed on sociocultural theory and early childhood education at the theoretical level, such problems may certainly be considered worthy of study.

2. Methods

2.1. Methodological Approach

This study attempts to use qualitative research methods to describe complex educational phenomena using non-quantitative data (text and images) as an alternative to quantitative research. The

abundance of data in quantitative research can shift the research focus from specific and concrete research problems to abstract research problems of general theories. This may hinder the ability to address the specific issues faced by frontline teachers, which is an area of concern for me. In contrast, qualitative research typically involves a smaller number of participants, allowing for in-depth interviews and interactive discussions. This enables the analysis of authentic and original data.

To collect data, semi-structured interviews will be conducted individually with each participant. Semi-structured interviews provide flexibility, allowing participants to freely express their experiences and emotions while ensuring the consistent addressing of research questions across all interviews. These interviews will take place in a private setting to ensure confidentiality and create a comfortable environment for participants to share their insights. The interviews will have a clear and specific theme, which can also stimulate participants' thinking, facilitating practical solutions to issues related to children's group collaboration.

2.2. Sampling & Participants

The interviews were conducted at Gou Tou Shi Yan Kindergarten, Di Er Shi Yan Kindergarten, and other public kindergartens in Putian, Fujian, China. The author established a social connection with these kindergartens. Five teachers were invited to participate voluntarily in the interview after providing their consent. All participants had successfully passed the Teacher Qualification Examination (TQE) in China and were currently employed at the kindergartens. The selection of participants was purposeful and aimed to ensure diversity in terms of age, gender, and seniority. The researcher aimed for an equal distribution of male and female participants across a range of seniority levels, spanning from 1 to 20 years.

2.3. Procedure

All interviews were conducted at kindergartens in Chengxiang, Putian. The interview questions primarily focused on three dimensions: teachers' understanding of the group cooperative learning mode, the adaptability of preschool children to this mode, and the difficulties encountered in implementing group cooperative learning activities, along with the underlying reasons. In order to explore feedback from teachers regarding their challenges in carrying out group cooperative learning activities, the interview questions were generated based on the theoretical framework of parental involvement during the early years of children in the Chinese context, as established by Lau et al. Interviews were conducted in Putonghua (Mandarin), the official spoken language in mainland China. Each interview lasted approximately 20 minutes. All interviews were recorded and transcribed for analysis. The quotes provided in the following section are translations of the transcriptions.

3. Findings

3.1. The Influence of Social and Theoretical Perspective on Kindergarten Teachers

In the interview, when asked, "What is the biggest challenge in guiding and carrying out the collaborative exploration of learning models by young children's groups? At that time, 4 out of 9 teachers believed that the differences in children's social environment, especially the family environment, caused by the differences in children's social communication ability, were the biggest challenge to carry out group cooperation activities.

In the daily curriculum, the teacher summarised the overall level of cooperation awareness and ability development of students of different ages. At the age of 3-4, the child's language development is limited, resulting in weak cooperation ability, and it is necessary to cooperate with two or three people under the guidance of the teacher. At the age of 5-6, the sense of cooperation of preschool

children has been greatly developed. They can spontaneously cooperate with their peers, and the number of cooperation groups ranges from 2 to 3 to 4. Children gradually have a sense of task after the age of 6, and can divide work, cooperate and understand each other in communication. Of course, teachers believe that the differences in the cooperation ability of children of different ages can be solved by class and grade, and the greater difficulty lies in the differences in the cooperation ability of children of the same age.

In group cooperative learning, I will observe the children's behaviour and progress between different groups. Due to the limited ability of children to work together, I often find that the distribution of work within the children's group is uneven. Children with strong thinking ability or hands-on ability will work more and participate more in the group. But for those timid and weak children, they may just be watching other children do things. They rarely participate, and may just help the more capable children in the group do some trivial things.

Similarly, not only one teacher has such a problem, but most of the teachers interviewed in this study mentioned the practical cooperation problems caused by differences in children's abilities.

In class, I often find that some children do not participate in group discussions and prefer to complete the tasks assigned by the teacher independently. Some people are not good enough to communicate and have little courage to participate in cooperative discussions. But some children are more capable than others. When they can independently complete the tasks we assign to them, they are unwilling to cooperate with their peers. Only a small number of children with strong cooperative ability can take care of the progress of others and make adjustments.

When asked what the reason for the difference in cooperation ability except for the personality and age characteristics of children is, all teachers emphasized the influence of the family.

The family is the child's first school. We will also try to understand the family environment of children with poor cooperation ability, and communicate with their parents by phone or home visit.

Teachers often find that for children with poor communication and cooperation skills, their parents work in some relatively developed out-of-town cities, and most of the time, their grandparents take care of these children. Grandparents generally use traditional education methods and do not pay much attention to cultivating children's communication and cooperation abilities. Parents usually take care of their children in person, and they usually spend a lot of time talking and getting along with their children. This kind of child usually not only have strong cooperative ability but also has outstanding personal thinking and hands-on ability.

Although the socialization and language expression abilities of preschool children continue to develop with age, the cooperative ability of kindergarten children is generally not high. Therefore, children are particularly prone to conflicts and conflicts in cooperation, and sometimes quarrels and fights. At this time, parents' attitudes and expectations have a great impact on the development of group cooperation, especially the doting grandparents of their children, who often consider the rights and interests of their children and put forward many requirements. For example, the two children cannot be divided into a group, or because the child's participation is not high, it is directly recommended not to carry out group cooperation activities. This has brought great difficulties and challenges to our teachers to carry out group cooperation activities.

3.2. The Ability and Experience of Teachers

In the interview, when asked, "What is the biggest challenge in guiding and carrying out the collaborative exploration of learning models by young children's groups? At that time, 3 out of 9 teachers believed that it was caused by their lack of professional ability or experience.

When asked about the definition of the group cooperative learning model, four of the six teachers did not have a deep and comprehensive understanding of the teaching theory of group cooperative learning. They just use the group cooperative learning model as a necessary way to carry out activities

according to kindergartens or regulations. Only the remaining two teachers mentioned "a model of changing the classroom teaching structure through groups, promoting mutual assistance and cooperation among peers, and promoting teaching activities" and "similar to PBL teaching methods", which made me feel that they understood the connotation of the group cooperative learning model.

With the consent of the teachers, I asked about the academic background of six of them. Of the six teachers, only two are from the Normal University, and the other four are college graduates. According to the requirements, the academic qualifications of kindergarten teachers are: kindergarten teacher training (technical secondary school) or above, and non-normal teachers require a college degree or above. If you apply for the qualification of a kindergarten teacher, normal graduates should have a kindergarten normal school or above, and non-normal graduates should have a college degree or above." (Teacher Qualification Examination)

Most of our kindergarten teachers are teachers who graduated from normal colleges and universities. Teachers who graduated from college are considered to have higher education here.

The lack of professional ability leads to unclear positioning of the role of preschool teachers. When asked, "How do teachers solve such problems?" All teachers' answers are direct oral education between behavioural intervention groups.

For example, in the "Primary School in My Mind" activity in the construction area, we adopted the method of group cooperation. One of the children named Chenchen has always been the leader of the group. Almost the entire design of the LEGO building was built according to his ideas, and the other children just helped find the corresponding block shape. At that moment, I immediately went to remind Chen, "This is a group activity. We should let other children build Lego blocks together." Maybe it's just that the child can follow my advice, but after a period of time, Chen may forget to continue to take on most of the work in the group cooperation.

In addition to the impact of academic background, due to the difference in the teaching age of the interviewees, there are also many different challenges to the cooperative learning mode.

As an old teacher, I prefer to teach in the traditional way. The traditional way of "take teachers as the main body and students absorb knowledge as the centre" is easier and more comfortable for me to carry out activities. On the other hand, sometimes I'm not used to learning through group cooperation. Therefore, I can't control my students' classroom performance, which will greatly reduce my classroom efficiency.

The older teachers in this interview have more experience. They have met more parents and students. They have rich natural samples to refer to, analyze and compare. They are more comfortable when dealing with students and classes. However, they are obviously not good at using new technologies and means to carry out classroom activities when talking about the degree of acceptance of fresh knowledge and theory. They are not good at using new technologies and means to carry out classroom activities, and their conceptual plasticity is not strong. The comprehensive application of group cooperation and other learning and teaching models is a difficult point for them to accept.

At the same time, another teacher also said that as a new teacher who had just graduated, she encountered some problems in implementing the group cooperative learning model.

This is my first year in kindergarten, although I learned how to integrate and use group cooperative learning in the curriculum plan in college class. However, in the process of actually carrying out the course, I often encounter the inconsistency between practical knowledge and preset knowledge and theoretical knowledge. Many problems cannot be solved by book knowledge. Sometimes the classroom problems I set are not in line with the actual group cooperative learning mode of students. For example, the questions I set are too simple and life-oriented, and their answers to the questions are very consistent, so there is no way to achieve the effect of interaction between students.

The practical problem of the new teacher application group cooperation model is that theory and practice cannot be well combined. Young teachers are good at applying new teaching methods to classroom activities, but the integration of group cooperation mode and classroom is not so smooth, and some empirical problems are more likely to occur.

3.3. The Special Environment of Public Kindergartens in Third-Tier City

In the interview, when asked about the biggest challenges in guiding and implementing the cooperative inquiry learning mode for preschoolers, two out of nine teachers mentioned the issues that are difficult for kindergarten teachers to solve due to the resources and social environment of the kindergarten.

Compared with some developed cities or private kindergartens, we have a large number of students in one class. When implementing the cooperative learning mode in small groups, teachers cannot attend to every group and every student, so it is impossible to provide personalized development plans for them.

China, as a country with a large population, has a huge population base and a large number of kindergarten children. In most cases, with a ratio of 2+1 teacher to student, it is impossible to provide personalized training for each child. Even in the form of group cooperation, it is difficult to consider the behaviour and performance of every child at all times.

In terms of educational resources, teachers generally believe that public kindergartens follow the principles of "Entering School Nearby," which leads to a reduction in the source and diversity of educational resources in kindergartens. Most resources come from the surrounding community and government support, making it difficult to implement group cooperation activities that achieve the goal of "all child" or distinctive PBL courses.

4. Discussion

In order to provide effective suggestions for front-line workers in kindergartens, the researchers classified and analyzed the challenges mentioned in the interviews from the perspective of social and cultural theories and found that they could be analyzed and solved through the distinction of subjects, such as teachers, families, and system makers. Almost all the teachers who participated in the interview mentioned that the interactive environment of family members, especially the participation of parents, has a significant impact on children's performance in group cooperation activities [23]. The role construction and orientation of parents in the family are very important for children's learning and social interaction. Parents who are more involved in family interactions can help their children gain more self-efficacy and have children who are more cooperative and willing to participate in group learning [24]. Teachers play a professional and irreplaceable role as an important part of the social environment in kindergartens. For children with unbalanced cooperative ability and weak cooperative ability, the participation of teachers is to help children build a positive, cooperative learning environment by using professional knowledge so that they can gradually increase their cooperative consciousness and enhance their cooperative ability in the social culture [25]. Life is education. Society is a school [26]. Education results are ultimately returned to life. Therefore, for the social environment, the macro-control of the government and system makers also plays a crucial role [27].

However, due to insufficient samples and the particularity of the geographical environment, the results of the research survey can only show the common difficulties in a small range and are not universally applicable and representative. In the future, more information collection and field investigation are needed to increase the reliability and representativeness of this study and to solve the dilemma of more front-line kindergarten teachers with professional knowledge.

The paper considers these findings in relation to Vygotsky's and Bronfenbrenner's theory of development and considers the implications this particular perspective holds for the field of early childhood education when considered in relation to the more traditional cognitive constructivist perspective. In doing so, we shed light on the practical difficulties that the teachers in the kindergartens met. Extending these models, our research unpacked not only focuses on the theoretical concept but reports a small sample of findings from this larger study and examines 9 practicing early childhood educators. The nonsignificant effects of the factors of teachers, family and society in the presence of the difficulties in group cooperative mode further highlighted the importance of sociocultural theory. Our research demonstrated that these practical difficulties came from a lack of teachers' comprehensive abilities, gaps in the development of children and factors of family, society and policy, which proved useful in solving these problems that teachers put forward.

5. Conclusion

The results of this study can provide a reference for schools and policymakers from the perspective of sociocultural theory and cultivate children's classroom cooperation ability through the promotion of teachers, families and society.

First of all, for kindergarten teachers themselves they should pay attention to improving their comprehensive quality and professional ability. Teachers can enrich their professional knowledge by participating in more competency training programs and reading relevant journal articles, and actively applying it into practice so as to accelerate the transformation of teachers' role in group cooperation activities from manager to instructor, supporter and promoter. Teachers can also communicate with each other. New teachers can consult old teachers, gain relevant experience, and promote the development of group cooperation activities.

Secondly, the quality of communication between parents and teachers must be improved to create a better environment for the cultivation of children's cooperation ability. Parents are currently in a position to accommodate the school, while in a more ideal world, the school and parents will struggle to meet each other's expectations. That is, they discuss and agree on a common set of goals and expectations for the child, the parents and the school. To achieve this level of interaction, teachers' skills in communicating and working with parents need to be improved. For example, existing teacher education programs could be modified to produce teachers who are more capable of working with parents in third-tier cities like Putian. In addition, more parent-teacher meetings and seminars can be held to create more opportunities for kindergartens to interact with families. In future work, teachers and kindergartens will analyze the feedback of principals in more detail for a more detailed analysis.

Finally, due to the gradual decline in China's fertility rate in recent years, the number of children in kindergartens will continue to decrease, as will the ratio of students to teachers [28]. By reducing the number of students in each class, policymakers can promote the implementation of small-class teaching and improve the quality of kindergarten education so that every student can get personalized training. It can also be passed between cities and regions.

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