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A Quantitative Study on The Current Situation and Countermeasures of Teachers in Large Class Language Teaching Activities Based on Multivariate Statistics

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Abstract ***Asking questions is the most common teaching method used by teachers in activities, which runs through teaching activities from beginning to end and plays an important role in teaching activities. In this paper, the non-participatory observation method and the literature method are used to observe the teacher's questioning behavior in the language teaching activities of the large class, and it is found that the teacher has a large number of questions, the pre-preset of the question before the activity is insufficient and the quality is low, the type of question and the form of the question are single, the problem pointing object is not equal, and the waiting time is short. According to the current situation of teachers' questions, corresponding countermeasures are proposed to help teachers improve the status quo of questions, improve their ability to ask questions in language teaching activities, and better realize the value of questions in teaching activities.***

Keywords: kindergarten children; language teaching activities; early childhood teachers; ask questions

1 Introduction

The "Guide to Learning and Development of Children Aged 3-6" points out that language is a tool for communication and thinking, and children's language skills are gradually developed in communication and use [1]. Asking questions is not only a common way of interaction between teachers and children, but also the main teaching method in teaching activities. Foreign educator Gary put forward the views of effective questioning from the aspects of teaching content, problem assumptions, and questioning skills [2]. The role of questioning is to increase teacher-student communication and improve children's interest in learning [3]. Researchers note that teachers often select the same students to answer questions [4]. Researchers point out that the level of questions asked by the teacher determines the effectiveness of the questions [5]. It has been suggested that teachers can implement effective questioning by reasonably controlling the difficulty of questioning, clarifying the goal of asking questions, and correctly feedback students' answers [6] Researchers have conducted certain research on teachers' questions and discussed the importance of questions from different aspects. At present, the research on questions asked by kindergarten teachers is mainly concentrated in five areas of kindergarten activities, of which there are fewer studies on teachers' questions in large class language teaching activities. On this basis, the author went deep into the language teaching activities of the kindergarten, observed and recorded the current situation of the kindergarten teachers asking questions, and put forward some suggestions for improving the teachers' ability to ask questions.0[2][3][4][5][6]

2 Research design

(i) Definition of core concepts

1) Language teaching activities

The language teaching activities referred to in this article are the collective teaching activities carried out by preschool teachers mainly in the field of language with purpose and for collective children.

2) Preschool teachers ask questions

Asking questions is a method of using pedagogical dialogue between teachers and students to promote the continuous development of students' expression and thinking skills [7]. The early childhood teacher's questions in the text are based on the preschool teacher as the questioner, the young child as the question object, and the preschool teacher uses oral language to question the child's behavior.[7]

(ii) Research methodology

The author uses the observation method to observe and record the questioning behavior of kindergarten teachers in language activities.

1) Research objects

The author takes 6 teachers in a kindergarten class in Zunyi City and all the children in the class where 6 teachers are located as the research object, and in this article, the author distinguishes and describes these 6 teachers as A, B, C, D, E, and F. The 6 teachers are all majoring in preschool education, of which two teachers have bachelor's degrees, three teachers have college degrees, and 1 teacher has a secondary school degree. 18 language teaching activities by 6 teachers were randomly selected for on-site observation and recording.

2) Research tools

Before making observations, the author produced the "Classroom Question Record Table for Language Teaching Activities for Kindergarten Teachers" as the main research tool, and recorded the number of questions, type, targeting object, waiting time and form of questions as the main observation points. At the same time, in order to improve the collection of information and make the research data more realistic, the author used the mobile phone as an auxiliary tool to record the video in the teaching process after the consent of the kindergarten.

3) Research process

The author selected kindergarten teachers as the research object for a four-month observation. Before the observation, an observation table was made by consulting the relevant

literature with the teacher's questions, and the observation record was made by randomly selecting 18 language teaching activities of kindergarten teachers in the kindergarten.

3 The status of teachers' questions in the language teaching activities of large classes

Through a semester-long internship in kindergarten, the author observed the language teaching activities of 6 teachers in three classes of kindergarten, and selected 3 activities of each teacher for observation. Records are made from the quantity and quality of questions, type, form, who to call and answer after the question, and the waiting time after the question. A total of 18 language teaching activities were recorded, and the number of questions asked was 464. From these aspects, the author will analyze the current situation of kindergarten teachers asking questions in language teaching activities.

(1) The number of questions asked by teachers is large

The most important thing in language teaching activities is to provide opportunities for children to express themselves and improve their expression skills. In the actual teaching activities, teachers' frequent questions fill the whole classroom, and some studies have pointed out that some teachers' questions account for 80% of the classroom teaching activities, which not only affects the thinking time of young children, but also does not have enough expression opportunities for children. The author recorded the number of questions asked by 6 kindergarten teachers, and recorded the time of one activity as 30 minutes according to the time regulations of the kindergarten teaching activities, and the average number of questions in each activity was an integer. This is shown in Table 1 below:

Table 1 Frequency of teachers' questions in language teaching activities (N=464)

project / teacher	A teacher	B Teacher	C Teacher	D Teacher	E Teacher	F Teacher
Total number of questions	79	88	73	78	70	76
The average number of questions per teaching activity	26	29	24	26	23	25
Number of questions per minute	0.87	0.97	0.80	0.87	0.77	0.83

According to Table 1, the number of questions asked by each teacher is more than 70, and the average number of questions per language teaching activity is concentrated in about 25 times, and teachers have to ask an average of one question every two minutes. Effective questioning can promote children's interest in activities and allow young children to actively participate in them. The language teaching activity is not only a questioning session, but also includes the teacher's narration and the participation of young children. On the one hand, the high frequency of questioning shows that children do not have enough time to think and observe, and on the other hand, it reflects the low quality of teachers' questions. Teachers can think about whether the question needs to be raised before asking a question.

(ii) Ask free questions and have fewer preset questions

According to the basic theory of personality psychology, the problem setting of the preschool teacher should be able to flexibly adapt to different types of children [8]. The preset problem is the problem that the teacher prepares before the teaching activity and has the characteristics of planning, while the generative problem is the problem that the teacher generates "temporarily" in the activity, which has the characteristic of unplanned. Through the preset and generation of questions[8], we can know whether the teacher has an effective question awareness attitude, and at the same time, we can know the teacher's understanding of the children in the class. Almost all teachers believe that "problems need to be designed", before organizing a teaching activity, teachers will make the core problem preset in the lesson plan, however, in teaching practice, there are also problems that are arbitrary, not well targeted, and not in place.

Table 2 Preset and generation statistics table of the problem (N=464)

The planning of the problem	Preset issues	Generate the problem
Number of questions(s).	163	301
Percentage (%)	35.1	64.9

From Table 2, it can be seen that in the total questions raised by teachers, there are 163 preset questions, accounting for 35.1% of the total, and there are 301 generated questions, accounting for 64.9% of the total, indicating that most of the questions in the kindergarten language teaching activities are randomly generated, and the questioning behavior shown by the teachers on the spot reflects that the teachers do not attach importance to the problems themselves, reflecting the arbitrariness of the classroom questions and the low quality of the problems.

(3) Teachers ask questions to all children

The distribution ratio from the problem to the object can reflect the issue of equity in education. As the leader of the question, the teacher has the right to give the answerer to the question, and the teacher has the right to choose the answerer of the question at will. However, not every young child has the opportunity to interact with teachers. The questions asked by the teachers in this study are divided into all young children and individual children, as shown in Table 3 below:

Table 3 Teacher Questions Point to Object Case Table (N=464)

The problem points to an object	Individual toddlers	All young children
Quantity (pcs).	146	318

Percentage (%)	31.5	68.5

According to Table 3, the number of teacher questions pointed to individual children was 146, accounting for 31.5% of the total; 318, 318 questions were asked to all children, accounting for 68.5%, and teachers asked more questions to all children. The implementation of collective teaching activities on the one hand, teachers to ask collective questions can enliven the classroom atmosphere, on the other hand can improve teaching efficiency. But at the same time, collective teaching activities are accompanied by the neglect of individuals. However, the use of group teaching is not the root of the problem, and the most important thing is that teachers do not pay attention to the specific situation of young children and the differences between young children.

Because when the question is directed at all young children, it is inevitable that there will be children who follow the trend or only some children answer, and the teacher naturally thinks that all the children have accepted and understood, thus ignoring the differences between individual children. At the same time, due to the psychological cues of young children and the characteristics of love impulses, teachers are ready to choose individual children to answer, but other children often preemptively answer, which translates into a collective answer

(iv) The types of questions asked are not abundant

1) Closed questions are the mainstay, and open questions are fewer

Davis divides the question into closed and open questions based on the criterion of "whether the answer is certain". The answer to the open-ended question is not fixed and unique, and young children can use their imagination to answer differently; on the contrary, closed-ended questions usually have a more fixed answer, and young children can quickly answer but also limit their thinking and imagination, and closed questions are easily limited for young children.[9]

Table 4 Distribution of problems of different natures (N=464)

The nature of the problem	Open-ended questions	Closed issues
Quantity (pcs).	178	286
Percentage (%)	38.4	61.6

As can be seen from Table 4, closed questions accounted for the largest proportion of the total number of questions, accounting for 61.6%, and open questions totaled 178, accounting for 38.4% of the total number of questions. It shows that in language teaching, teachers are more likely to ask closed questions and less open questions. Open questioning requires young children to have a certain amount of time to think, if the results of the children's answers deviate from the content of the teaching activities, it will not only affect the process of teaching activities, but also require teachers to be able to seize the educational wit to "pull" the deviated content back to the right track in time. Closed questions are less difficult for young children, children do not need to think more, and teachers use closed questions more in the classroom.

2) There are more questions asked about low cognitive level questions, and fewer questions about high cognitive and non-cognitive level questions

According to the "Bloom-Tenet Teaching Questioning Model", the cognitive level of the problem is divided into six levels from low level to high level, and the low cognitive level problems include knowledge and understanding, and the high cognitive level includes application, analysis, synthesis and evaluation [10]. In practical teaching activities, in addition to asking cognitive questions, teachers also include non-cognitive questions about children's emotional attitudes and children's discipline. According to the three types of problems of high cognitive level, low cognitive level and non-cognitive, the author summarizes the total number of questions of the six teachers and makes the following table 5:[10]

Table 5 Distribution of problems at different cognitive levels (N=464)

Low cognitive level problems				High level of cognition problems			Non-cognitive issues	
	Knowledge class	Understand classes	Apply classes	Analysis classes	Synthesis class	Evaluation class	Discipline class	Emotional attitude class
Quantity (pcs)	260	99	30	13	10	16	12	24
Percentage (%)	56.0	21.3	6.5	2.8	2.2	3.4	2.6	5.2

According to Table 5, the number of knowledge problems is 260, accounting for 56.0%, and the number of comprehension problems is 99, accounting for 21.3%, that is, the total number of teachers' low cognitive level problems is 359, accounting for 71.3% of the total problems. In particular, the questions in the field of knowledge account for half of the total questions, indicating that teachers are more inclined to instill knowledge in young children. High-level questions accounted for only 14.9%; for non-cognitive level questions, it was the least, accounting for only 7.8%. Teachers lack questions about young children's emotional attitudes and discipline. The content of the kindergarten is comprehensive and enlightening, and it is necessary to promote the development of children's emotions, attitudes, abilities, skills and other aspects at the same time. Apparently, teachers did not meet these requirements.

(5) The form of questioning is single, and most of them are mainly direct questions

There are four common forms of questioning that teachers ask in teaching activities. They are direct questions, questions, questions, and counter-questions. The effect of the interaction between the teacher and the child can be seen in the form of questions. According to these four question forms, the author

analyzes and sorts out the number of questions raised by 6 teachers.

Table 6 Distribution table of teacher question forms (N=464)

Question format	Ask straight	Ask	Ask	rhetorical question
Quantity (pcs)	326	97	21	20
Percentage (%)	70.3	20.9	4.5	4.3

From the data in Table 6, it can be seen that in the language teaching activities of the large class, preschool teachers dominate the form of direct questions, accounting for 70.3% of the total number of questions, 20.9% of the questions, and 4.5% and 4.3% of the questions and counter-questions, respectively. The results show that teachers prefer to use the form of direct questioning in teaching activities, while the forms of questioning, rhetorical questioning and asking questions are less, and the direct question form is convenient and easy for teachers to operate when presetting the question, and the children are also clear and easy to understand for such a question form, but too much use of the direct question form will make the children lack interest in the problem, and the lack of the other three questioning forms cannot fully tap the inner thoughts and views of the children. Many problems are superficial, and without exploring deeply, we cannot delve into the real thoughts of young children.

(vi) Young children have a short waiting time and lack time to think

Waiting time is the waiting time for the teacher to answer the child's question after the question is asked. Some research results have pointed out that the teacher's question is asked to leave at least 2-3 seconds for the child to answer. The author divides the waiting time into: immediate answer, 1-3 seconds, 3-5 seconds, 5-8 seconds, and more than 8 seconds. A statistical analysis of the total number of questions posed by 6 teachers and the time left for the children's answers is made in Table 7:

Table 7 Distribution of waiting times for questions

Waiting time(s)	Immediately call an answer	1-3	3-5	5-8	≥8
Quantity (pcs)	131	242	46	32	13
Percentage (%)	28.2	52.1	9.9	6.9	2.8

From Table 7 above, it can be seen that 28.2% of the questions after the teacher asked questions were answered immediately by the children, the number of questions was 131, and the number of questions for young children in 1-3 seconds was the largest, with 242, accounting for 52.1% of the total, relatively speaking, the waiting time was more than 8 seconds, and in the 464 questions, only 13 questions gave the children more than 8 seconds. There is a shortage of waiting time for answers: first, the teacher will subconsciously ask the child to answer immediately after asking the question; secondly, when the time before the child gives the answer stops at more than 3 seconds, the teacher will give the child the relevant hints about the answer There are cases of waiting for young children to think independently and then answer; finally, the quality of the question itself is not high, which is too simple for young children. After the teacher asks the question, the toddler answers it immediately.

4. Measures to improve the questioning ability of kindergarten teachers

(1) Kindergarten teachers should establish a correct teaching concept

The teaching concept is the premise and foundation of the teaching behavior, and any teaching activity is carried out under the guidance of a certain teaching concept [11]. Teachers should have basically the same teaching ideas as actual teaching behaviors, so as to avoid the emergence of a kind of teaching ideology in thought, but another teaching concept in the actual teaching process. As the initiators and guides of children's learning, teachers should establish a correct view of children. Children are the main body of activities, and teaching activities should be carried out around young children. As the leader of the activity, teachers should establish an effective sense of questioning. Positively think about the effectiveness of each question asked by teachers in teaching activities, and correctly understand the role of effective questioning in promoting the development of children's thinking ability.[11]

(2) Correctly grasp the generation and preset of the problem

The quality of the problem design directly affects the performance of the children in the activity and the achievement of the activity goals, carefully design the problem, stimulate the child's thinking, problem-oriented, to achieve the purpose of the activity. In the questioning session of the actual teaching activities, the teacher's preset of the problem is obviously insufficient. The preset of the problem requires the teacher to pay attention to the following points: First, fully grasp the age characteristics of young children, the existing knowledge level of young children and the individual differences of young children. For children at different levels of development, teachers should have a clear idea of what questions should be asked for children with higher levels of development and children with lower levels of development. Second, teachers should presuppose questions from the child's perspective. The so-called child's perspective, that is, teachers should imagine themselves and childishness as a transposition of children's thinking. Explore your child's ideas, design questions based on your child's interests, knowledge, and experience, and subtly design questions based on your child's curious and positive developmental characteristics. At the same time, the teacher's problem preset should be hierarchical and gradient, and the preset should be based on the goals of the teaching activities. The premise of the final question should be purposeful. A large number of questions does not mean that the quality of teaching is good, and teachers should first think about whether the problem is purposeful before creating a problem. Why ask? What will be the effect of this question when it is asked? Will it promote young children's thinking? With such questions, we will preset quality questions and ask questions with the awareness of "asking questions with purpose". Thus, balancing the quantity and quality of the problem.

In addition to presupposed questions, generative problems arise in the teaching process on a case-by-case basis. For generated questions, the teacher asks effective questions to promote the purpose of children's thinking, and generates questions in the direction of effectively achieving the goal of the activity. Then, through the preset and generation of questions, the interaction between teachers and children is

improved, and the important role of effectiveness questioning in the teaching process is promoted.

(3) Pay attention to the level of questioning, taking into account the questions of all children and individual children

The teacher is confronted with all the children in the class. The development of young children has individual differences, children's intelligence and knowledge level are high and low, and their observation and reaction ability are different. When teachers face children with different levels of development, they should ask questions with different levels of difficulty. For children with higher intelligence and better cognitive development in the class, ask relatively difficult questions, and leave relatively simple and less difficult questions to children who need encouragement and do not actively answer questions. This requires teachers to have a certain grasp of the hierarchy and comprehensiveness of the problem. Here, let the children with a higher level of development have no "satisfaction" with the acquisition of knowledge, that is, children think that more learning is needed to acquire knowledge, so as to have more interest in learning; children who do not have a sense of self-confidence and a slightly slower development will become more and more confident and slowly have a strong interest in learning. Not only that, but the teacher's questions should take into account the balance of the children. Teachers should pay attention to the distribution of question answers to all children and individual children in the answers to questions. According to survey data, the vast majority of questions asked by teachers are directed at all young children, and fewer questions are asked about individuals. Usually, teachers mistakenly think that the individual children with larger answers represent the level of understanding of the problem by the collective children in the answers of all the children, and the teachers who do not know much about the smaller and different answering teachers will be blinded by the sound of this brush. Therefore, teachers should grasp the degree of questioning objects in the distribution of question objects, do not blindly ask questions to all, and should pay attention to the distribution frequency of the number of questions in individual children and all children.

(iv) Flexibly adjust the types of problems and pay attention to the overall development of young children

1) Reasonable allocation of closed and open issues

Closed questions have a fixed answer to the question and are most used in the teaching classroom. For young children, it is less difficult and easy to answer, which can improve children's enthusiasm for learning. However, closed questions have a low level of questioning, and most of the questions are simply repeated, which is not conducive to the development of children's cognitive ability and thinking ability. Open-ended questions focus on the word "open", and the answers are diversified and open-ended, and children can give different answers through their own experience and understanding of the problem, which is conducive to diverging children's thinking. But at the same time, the issue of openness also has its limitations. Due to the different ways of thinking and existing experience of young children, the different answers to young children require teachers to quickly judge whether they deviate from the content of teaching activities, which is challenging for teachers; for open questions, focusing on their thinking process, it takes a certain amount of thinking time, so it will affect the process of teaching activities.

In summary, the problems of closure and openness have their own characteristics. In the classroom questioning, the teacher should combine the two types of questions for a reasonable distribution, and cannot ignore one or the other, preferring one of the two. It is necessary to improve children's learning enthusiasm through closed questions, and also to open questions to expand children's thinking.

2) Focus on asking questions about children's low cognition, high cognition and non-cognitive problems

Young children are in the most active stage of thinking, and teachers should seize this feature to ask questions in many ways. The basic characteristics of language activity are instrumental and humanistic.[12] Instrumentality focuses on the development of children's language communication and thinking, and humanistic emphasis is on the subtle dyeing of children's thoughts and emotions, both of which are equally important for learners in language activities. While asking questions about low-level problems such as knowledge and understanding for young children, it is also necessary to ask questions on the use of classes, analysis classes, evaluations and comprehensive questions, so that children can express their ideas freely and stimulate their creativity. At the same time, in order to achieve the goal of humanity in language activities and cultivate children's emotional attitudes and discipline, teachers should not ignore the frequency of non-cognitive level questions in questions.[12]

(5) A variety of questioning methods to promote children's thinking

There are four common ways to ask questions in teaching, including direct questions, questions, questions, and counter-questions. The change of things can attract the attention of young children, and teachers should use a variety of question forms in classroom questions. Teachers should appropriately apply the four commonly used questioning methods of direct questioning, questioning, questioning and counter-questioning to classroom teaching questions. One of the most common ways for teachers to ask questions is to ask directly, and teachers directly throw questions for young children to answer. In addition to asking questions directly, there are three other ways to ask questions to young children in real time, which can make children think further about the problem.

(6) Teachers should adjust the waiting time according to the specific situation

Generally speaking, kindergarten teachers give children a certain amount of time after asking questions for children to think and answer in depth. The teacher's subconscious answer immediately after asking questions, the type of question, the difficulty of the question, and the developmental differences between young children will have an impact on the waiting time of young children. In practical activities, teachers should make flexible adjustments according to different situations.

Teachers change their personal habits and extend the thinking time of young children

Usually, teachers should give young children 3-5 seconds after asking questions for children to think about the questions and organize discourse to answer. It turns out that some teachers ask questions and let young children answer questions immediately after they ask questions, without taking into account the process of thinking and organizing answers before answering questions. The teacher's immediate answer to a question is due to the teacher's personal habits, and the occurrence of this situation should be minimized in teaching activities. After asking a question, the teacher can alleviate the impatience during the answer waiting period by silently counting the numbers in their minds. In the long run,

reduce the number of cases of answering questions immediately after asking questions, thereby prolonging the waiting time for young children to answer.

In the teacher's questioning, not all questions need to give the child a long time to think. Teachers should extend and shorten the response time of young children according to different types of questions. For example, if the question has a fixed answer, the child can accurately say the answer of the closed question; or the child simply answers the "yes" and "no" and other similar answers of the yes and wrong questions, the teacher can shorten the waiting time for such questions accordingly. For cognitive or open-ended questions, young children need a certain amount of time to use their imagination to think, and teachers should appropriately extend the waiting time.

Since the level of development of young children is not the same, when teachers ask the same question, the time required by children with different levels of development to answer is also different. Children with a higher level of development and good understanding of problems can think for a moment and answer immediately, while children with a relatively low level of development need to think longer. Then teachers need to grasp the thinking and answering time they need for different children.

5. Conclusion

This paper takes the language teaching activities of the large class as the observation point, and focuses on the observation and recording of the current situation of the teachers' questions in the process of language teaching activities. From the three aspects of presetting, proposing and waiting for answers to the questions, it is found that teachers have some problems in all aspects: fewer presets for the problems, low quality, more questions, single question types, and insufficient waiting time. In view of the various problems, the author proposes corresponding and effective questioning countermeasures to improve the questioning ability of preschool teachers.

Due to the lack of theoretical knowledge and the low level of research, the lack of research experience on the problem led to many deficiencies in the paper. Since this study focuses on the observation and recording of the teacher's questioning process, only a few teachers in one kindergarten are selected as observation objects, and the sample is small and the scope of the study is limited. The above deficiencies are the author's future efforts, and if there are sufficient conditions in the future, we will continue to improve the missing parts.

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