

# *A Study on Teachers' Observation Ability in Kindergarten Scientific Inquiry Activities*

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**Abstract:** In the preschool education stage, children are at the stage of being full of curiosity about the outside world, and scientific inquiry activity is an important activity to satisfy children's curiosity, and is also one of children's favorite activities. At the same time, it plays a great role in promoting children's cognitive, emotional, physical, social and other aspects of development. Observation, as an important professional ability of teachers, is an important means for teachers to obtain the level and characteristics of children's development. Therefore, preschool teachers need to innovate their observation methods, deeply understand the changes of children's psychology and needs in autonomous games, so as to gain more teaching experience, which is of great significance to improve teaching quality and promote children's development.

## **1. Introduction**

3-6 years old is the golden stage of individual development. The physiology and psychology of preschool children are developing rapidly. Children at this stage mainly gain experience through games and life, and thus develop rapidly. However, because young children are still young and their knowledge of the external environment and things is limited, teachers need to use appropriate ways to observe and understand the needs and interests of children when they carry out scientific inquiry activities, so as to better guide children's activities and promote their development.

## **2. The role of teachers in observing children's scientific inquiry activities**

### **2.1. Deeply understand children's interests and needs**

When children are carrying out scientific inquiry activities, teachers can observe children's activities as spectators, and can detect the changes of children's actions and interests from multiple angles and more carefully, so as to understand the interests of children of different ages in participating in independent games, and clarify the most basic needs of children at this stage, understand the favorite forms of game activities of children of different ages, so as to better grasp the interests of children's activities, To pave the way for the smooth and efficient development of the activities.

## **2.2. Ensure the safety of children's scientific inquiry activities**

When children conduct scientific inquiry activities, there are often uncertain factors that affect the normal development of the game, or there are potential safety hazards that affect children's safety. Then the teacher, as an observer, can make appropriate intervention to guide children to find solutions so that children can play independently in a safe environment. It can not only ensure the safety of children, but also help children to establish a correct sense of self-protection, so as to establish a correct concept of safety.

## **3. Existing problems of teachers' observation ability in kindergarten scientific inquiry activities**

### **3.1. The observation purpose is not clear and the observation plan is missing**

Detailed observation purpose and observation plan are the necessary premise for teachers to carry out observation activities in kindergarten scientific inquiry activities, and have specific guidance for the time, place and content of observation.[1] However, at present, most teachers are often in a disorderly and random state before carrying out observation activities, ignoring the formulation of objectives, which makes the selection of observation objects and focus points lack value and is more arbitrary. Therefore, sometimes some teachers want to obtain all the information of children in scientific inquiry activities through only one observation. This idea of once and for all is not advisable. They need to plan in advance and make clear the observation objectives.

### **3.2. The selection of observation content is arbitrary**

The observation content is the main focus of teachers in the actual observation. In the scientific inquiry activities, children's behavior, external environment, internal psychology and other aspects of information need to be observed by teachers, but in the actual observation activities, teachers have some randomness in the selection of observation content. For example, in some scientific exploration activities, there is a great deviation in the teacher's record of children's experimental results. Some teachers will use summary sentences to describe and observe the results of the experiment, such as "children are doing well", "children have been experimenting for a long time but have not succeeded". This results-based observation concept makes teachers ignore children's behavior process in scientific exploration and fail to carry out comprehensive and objective observation activities, This also has an impact on the subsequent analysis and interpretation[2].

### **3.3. Observation, analysis and interpretation**

It is also very important for teachers to analyze and interpret the observation information.[3] In scientific exploration activities, teachers can accurately grasp the actual situation of children in scientific exploration activities through reasonable analysis, so as to lay the foundation for the following response strategies and lay the groundwork and basis. However, in the process of actual observation and analysis, teachers' analysis and interpretation often stay on the surface, floating on the surface, paying too much attention to children's behavior, and cannot well excavate the deep meaning behind children's behavior. For example, when analyzing children's scientific inquiry activities, teachers should pay more attention to children's choice of materials, how to adjust strategies, overcome difficulties and so on, so as to excavate children's own potential, pay attention to the development of their internal quality, interpret children's development performance from a deep level, and lay the groundwork for future appropriate education strategies.

## **4. Strategies for improving teachers' observation ability in scientific inquiry activities in kindergartens**

### **4.1. Clarify the purpose of behavior observation**

Before observing children's scientific inquiry activities, teachers need to clarify the purpose of observation and make a detailed plan. Because children's various behaviors in the inquiry activities are highly uncertain, teachers need to clarify the purpose of observation in order to ensure more efficient observation. [4] First of all, teachers can divide children into different groups according to their age and observe in groups. In this way, teachers can observe the behavior of children of the same age and find out their interests and favorite game forms. Secondly, teachers can observe from different angles, such as children's language communication ability, hands-on operation ability, etc., and take this as the starting point to observe each child carefully, so that teachers can clearly know the development of each child's language, operation, communication and other aspects. In short, teachers should formulate detailed observation plans, set observation goals, observe children from different angles, analyze the results, and finally apply the conclusions to practical teaching activities to promote the comprehensive development of children. At the same time, teachers should adhere to the child-oriented education concept when setting observation goals, taking into account the development level of children of different ages in terms of physical functions, and more in line with the development needs of children from a practical point of view [5].

### **4.2. Grasp the right time for guidance**

In scientific inquiry activities, children can exert their autonomy and enjoy the joy of being the leader of game activities. However, because children are young and lack knowledge and experience, they are difficult to cope with emergencies in scientific inquiry activities, so they need teachers' intervention and guidance. However, as an observer, teachers need to grasp the right time to guide children and ensure their dominant position in game activities. First of all, when children have difficulties in operation and exploration and it is difficult to continue, teachers can guide children in the role of activity participants to help them find solutions to problems, so as to cultivate children's will to actively explore and not afraid of difficulties. Secondly, when children make dangerous behaviors or quarrel in the inquiry activities, teachers need to intervene and stop them in time, and clearly tell children that this behavior is incorrect in the inquiry activities, so as to help children establish safety awareness and know how to protect themselves [6]. At the same time, teachers should also take into account children's cognitive development level and interest needs from the choice of activity forms, and use the form of games to stimulate children's enthusiasm and initiative for scientific inquiry activities, so that they can grow and develop in a pleasant atmosphere; In the arrangement of the activity content, it is based on the current development level of children, gradually increasing the difficulty, allowing them to make breakthroughs within their own capabilities, so as to maximize the participation of children's various senses, so that they can gain skills in the actual operation. In short, when observing children's autonomous play activities, teachers need to intervene in appropriate ways according to different situations to promote the smooth development of play activities.

### **4.3. Grasp the basic requirements of observation**

When observing children, teachers should establish correct observation consciousness, observe according to the requirements, and obtain accurate information, so as to give objective evaluation to children's performance in independent play activities. First, teachers should ensure the objectivity of

observation records. In the process of observation, teachers should look at children from the perspective of bystanders and understand the real situation. They should not take subjective assumptions and bring personal feelings into it. At the same time, teachers can record the process of children's game activities in the form of video, photos, and other forms, and finally observe to ensure the objectivity and authenticity of the recorded content. Secondly, teachers should ensure the comprehensiveness of observation and catch the key points at the same time. Teachers should take into account all children in the observation process, record and analyze their behavior in time, and focus on the activities that children are interested in. In addition, teachers' observation should comply with the educational requirements of the Guide and the Rules, and the activity content created according to children's interests and needs from the perspective of children can greatly mobilize children's interest in activities, and teachers should also observe the points that children care about in order to better understand children's behavior. Finally, when observing children's play activities, teachers should watch and listen with their eyes and ears in a bystander manner, try not to interfere with children's normal activities, and ensure that children can enjoy the joy brought by the game.

#### **4.4. Grasp the intervention mode of scientific inquiry activities**

Scientific inquiry activities are the process of children's independent participation and active acquisition of scientific knowledge. As teachers, they should grasp the intervention methods on the basis of observation. The intervention methods are also different for different situations. Teachers should accurately judge whether direct intervention or indirect intervention is adopted. If problems such as material safety and children's personal safety arise in scientific inquiry activities, teachers should intervene directly in time to block potential safety hazards. When children lack interaction with materials in scientific inquiry activities, teachers can use indirect guidance to enhance children's interest in scientific inquiry by changing the environment or providing materials. Teachers can also guide children to record activities in scientific inquiry activities. Teachers can find problems in the process of observing children's activity records, timely guide children to conduct scientific inquiry activities by using a variety of inquiry methods and means, encourage large classes of children to carry out group cooperative inquiry, and enhance children's scientific inquiry ability. In addition, teachers can also strengthen the use of different guidance methods. For example, for small class children, parallel intervention is more important. When children cannot complete the activity tasks in scientific inquiry activities, teachers can demonstrate and guide beside them. For children in large and medium-sized classes, teachers often guide them in a cross way, for example, teachers play an active role in children's activities. When there are serious violations of rules and aggressive behaviors, teachers should take vertical intervention. No matter what kind of guidance method is used, its purpose is to create a good environment for children's scientific inquiry activities and support children to carry out scientific inquiry activities in depth.

#### **4.5. Use observation records skillfully to provide instructive value content for teaching activities**

Authenticity and objectivity should be the primary premise of recording. When observing children's behavior, teachers should conduct comprehensive record analysis and obtain effective value from different perspectives. In the process of recording, teachers should dig deeply and remember not to point to the end. They should dig deeply into the behavior of every child, analyze the reasons behind this phenomenon in detail, explore feasible solutions for the reasons, and gradually improve in the process of scientific inquiry activities to develop a teaching plan suitable for children. Teachers should actively reflect and summarize after the activity, reserve the useful ways in time, and correct or discard the plans that are not feasible in time. According to children's personality characteristics, develop a game model suitable for children's development, and carry out continuous innovation.

Secondly, when observing children's behavior in scientific inquiry activities, teachers should first make clear the observation plan, and carefully observe children with a clear purpose, so as to obtain effective information and improve the observation efficiency, and ensure that the information collected from observation is of more educational research value, which is conducive to improving teachers' teaching skills and teaching level. At the same time, in the process of observation, teachers also need to grasp the appropriate opportunity of intervention to ensure that children are spontaneously and voluntarily involved in the exploration activities. Only when children carry out free scientific exploration activities according to their own interests and needs can they stimulate their internal development needs. This is the significance of scientific exploration in kindergartens, so that they can face the world, embrace the world and understand the world with hands-on operation. Therefore, teachers should timely innovate the methods of observing teachers' behavior in the scientific inquiry activity mode of children, and ensure to promote the comprehensive development of every child while improving the teaching efficiency.

## 5. Conclusion

Scientific inquiry activity is one of the most popular forms of activity for children. Children can obtain physical, cognitive, emotional, social and other development in inquiry activities. By grasping the basic requirements of observation, arranging observation objectives and tasks, and clarifying the focus of different types of games, teachers can observe children's autonomous games with pertinence, and comprehensively analyze the information obtained, so as to enrich teachers' teaching experience, make full use of the value of games in the organization of activities in the subsequent stage, and promote the comprehensive and healthy development of children.

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