

Research on the Strategies of Children's Inquiry Learning in Science Corner Activities

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Abstract

With the progress and deepening of the reform of the preschool education curriculum, inquiry learning has gradually become one of the essential learning methods for children. Especially in early childhood science, the inquiry is the goal of early childhood science learning and how young children learn science. Inquiry is the inquiry of young children, but the role of teachers should be emphasized. Teachers should clarify their position in inquiry learning. They are providers, guides, and participants. They guide children to communicate and cooperate with peers in specific Science Corner activities, pay attention to children's inquiry learning, and let children learn to explore independently, boldly express, in-depth exploration, and better promote the development of science corner activities.

Keywords

Inquiry learning; District corner; Activities strategy.

1. Introduction

The term "inquiry learning" was first proposed by Schwab, a professor at the University of Chicago. He believes that inquiry learning is a learning activity where students independently participate and acquire knowledge, ability, and attitude. China's "Guidelines for Kindergarten Education" and "Guidelines for Learning and Development of Children aged 3-6" (from now on referred to as "Guidelines") point out that kindergarten education should be based on the development of children. And that children's learning and development is a process of active construction, kindergarten education should pay attention to the exertion and development of children's autonomy. It can be seen that "inquiry" is an important goal of preschool curriculum reform, that is, to advocate children's independent inquiry and active construction.

2. Inquiry Learning Is the Primary Way for Children to Learn Science

Children learn science differently from adults. They acquire the cognition of something in the continuous interaction with materials. Children discover the mystery of scientific knowledge through the operation and exploration of materials, thus generating curiosity and desire to explore science.

2.1. Stimulate Children's Interest in Scientific Inquiry

The "Guide" points out that children's scientific learning is a process of trying to discover the similarities, differences, and connections between things in the process of exploring specific things and solving practical problems. Children have an innate curiosity and desire to explore. They grow and develop by constantly knowing new things and updating their actual knowledge and experience. Due to their knowledge, experience, and cognition level limitations, young children cannot objectively explain adults' origin, development process, and results. They can only deepen their cognition through personal experience, perception, and exploration. The

science education of young children is to face the truth, let them ask questions about the truth, and get in touch with the fact. [1] Early childhood science education aims not to allow young children to obtain a specific scientific research result but to let young children develop inquiry interest and inquiry ability and experience the fun of inquiry learning. There is a lot of trial and error in children's scientific inquiry, and the process of seeking "answers" often needs to be repeated many times. It is in this repeated inquiry that children acquire knowledge construction.

2.2. Encourage Children to Carry Out Scientific Inquiry

Children's science learning takes place through play and activities. Children are born with great curiosity and thirst for knowledge about things around them and have a strong desire to explore everything. However, young children's age and limitations cannot think abstractly and logically and must learn science in specific practical operations. A science activity area is an important place for children to learn science, and it is an indispensable environment and condition for children's scientific inquiry and discovery. [2] [3] Most of the children's learning in the science zone is autonomous. These autonomous activities will promote the development of children's problem-solving ability and ability to respond to challenges actively. Here, young children learn to make independent decisions, explore basic scientific concepts, and gain a preliminary understanding of the nature of science. Therefore, teachers should create a safe and suitable environment for children to ensure the orderly development of scientific activities. Teachers should consider and pay attention to children's ideas, experiences, and feelings about the area and children's interests in making the science corner. Teachers must allow children to express their inner thoughts and ensure that children's scientific inquiry activities effectively go well.

3. Promotion Strategies for Children's Inquiry Learning in Science Corner Activities

Inquiry is the inquiry of young children, but we should emphasize the role of teachers. Teachers should clarify their position in inquiry-based learning. They are providers, guides, and participants. [4] Teachers should improve their inquiry concepts and guide children in specific science corner activities to explore independently, communicate, and cooperate with peers. And boldly express in-depth exploration.

3.1. Create A Safe Psychological Environment and Guide Children to Explore Independently

3.1.1. Respect, Understand and Accept Young Children's Ideas

The world of young children is different from that of adults, and their perspective on things is different from that of adults. Children's ideas are naive and lovely, and some are incomprehensible to adults. Young children are full of curiosity about everything around them, full of infinite question marks, and sometimes they will always have strange ideas in the face of some things. In the face of children's unrestrained ideas, teachers should respect children. [5] Even if their answers are far from what teachers want, teachers should not criticize and accuse children but affirm their courage to answer questions. Teachers should try to understand and accept children, patiently ask children about their true thoughts, provide them with certain materials, and let them explore desire independently.

On the contrary, if the teacher blindly blames the children, they will only feel fearful. During the practice process, I saw this phenomenon. Some naughty children have many novel ideas about the questions asked by the teacher. Still, the teacher always uses Interrupting the child's thoughts or even criticizing the child on the grounds of disrupting the teacher's classroom.

3.1.2. Timely Affirmation and Feedback

Proper encouragement and timely affirmation play a significant role in children's scientific activities. Such as a smile, a hug, a happy nod, a complimenting thumb, etc. Verbal encouragement should be special attention, and it should be based on children's specific performance, summarily affirming that children are in teaching activities—completion in. You can also ask questions patiently and earnestly after children express their thoughts. And give praises promptly so that they feel that they are receiving attention and their performance is being observed, increasing their sense of gain and self-confidence. Educators should not only focus on the knowledge learning of children in activities. Still, they should be good at discovering the bright spots of each child, looking at the results from different perspectives, and giving affirmation and praise to children's performance during each activity, focusing on those who appear to be on the surface. Children who have not completed the activity tasks are instructed not to be discouraged or discouraged and to analyze them from different angles. [6]

3.1.3. Encourage Children to Express Themselves Boldly

It is the nature of children to be curious, and it is the driving force for children to explore. As Tao Xingzhi said: "Children can give full play to their creativity only when they have freedom of speech, especially the freedom to ask." Only when children are aware of problems will they be interested in learning and Exploring. First of all, teachers should create a safe psychological environment for children so that children dare to express themselves. After the teacher provided the children with materials in the science corner activity, they let their peers explore independently. When children encounter problems that they do not understand, please encourage them to put forward their ideas, and should not criticize the arguments put forward by children at will, but should praise them more. It is precise because of children's awareness of problems that children have the motivation to explore, which is also the starting point of children's interest. Second, teachers should guide children to question. Teachers should actively guide timid and dare not express their ideas. When the questions raised by the children are relatively simple, teachers should further drive the children to explore the deep meaning of the questions so that the children can acquire the inner construction of knowledge.

3.2. Create An Excellent Regional Environment and Attach Importance to Exchanges and Cooperation Among Peers

3.2.1. Reasonable Arrangement of Research Time

Due to the limitation of children's age, children's understanding of scientific inquiry is low, and there is a greater possibility of failure in the process of inquiry. Furthermore, education activities in kindergartens require communication and cooperation between children. Therefore, teachers should give children sufficient Inquiry time to let the children repeat the operation and inquiry. [7] In the face of a child's failure to explore once, the teacher should not give the child the answer directly, but let the child find out the problem in the communication and cooperation with his peers, learn to solve the problem independently, find the answer, and experience the joy of exploration. For many exploratory activities, young children can not complete it once but can carry it out in multiple observation experiments. For example, many plants cultivated by young children can not be observed earlier in the scientific planting area, but they can often observe their growth process.

Another example is the experiment of children exploring the track in the corner activity of the science area. In each activity, the teacher can ask the children to observe the driving distance of the car by changing the curvature and inclination of the track. Such exploration activities cannot be completed by children alone. Still, they must be achieved through cooperation with peers, which exercises children's hands-on ability and develops children's communication and cooperation ability.

3.2.2. Make Good Use of Science District Materials

Materials are an essential prerequisite for children to explore. Teachers create materials that meet children's age characteristics in the science area according to children's interests. In science learning, many children's interests come from daily life. For example, when children are outdoors, they may be interested in small ants and small snails. Teachers should use materials children are interested in to understand ants and snails—life habits. In addition, the materials in the science area should be used by children many times. The materials provided by teachers can trigger active cooperation among children. When children face tasks that cannot be completed by themselves, they will take the initiative to seek companions' help. In the plant corner, children can observe the changes of plants by one person and record them by one person. Such division of labor and cooperation can allow the "work" to be completed quickly and enable children to communicate with each other and enhance their familiarity with each other. [8]Therefore, appropriate scientific materials can allow children to acquire knowledge of science and increase children's communication and cooperation with each other.

3.2.3. Concretization of Activity Rules

After children enter the area, they will have more time interacting with other children while choosing materials independently. Teachers should seize the opportunity to use the time when children enter the area to cooperate, communicate, and complete exploration activities together. Teachers can improve children's collective awareness and ability by clarifying the area's rules. For example, the rule of the science area can make it clear that the division of labor and cooperation between children can be completed. And the allocation and selection of materials for teachers should be reasonable; Children observe and record together; in the library area, children can share a book to take care of books, not scramble for books, and share quietly together.

3.3. Give Correct Evaluation Methods to Encourage Children to Learn To Reflect

3.3.1. Organize Children to Carry Out Effective Evaluation

Due to the influence of age and the psychological development of young children, their evaluation is often through adults. Their understanding of themselves is also through the evaluation of parents or teachers. The evaluation of children must pay attention to words. The use of language is fair and objective to ensure that children feel that teachers pay attention to themselves in collaborative teaching and regional activities. Whether it is teaching activities or regional activities, children can be given opportunities for self-evaluation, guide and encourage them to establish correct and objective evaluations, and maintain their psychological construction. Guide children from vague and general assessment to specific and detailed assessment to properly evaluate themselves and cultivate children's ability to reflect and explain in evaluation activities. During the exercise, teachers should inspect the development of the children's corners back and forth. [9][10]For example, in the activities of the science corner, teachers can use specific and scientific language to evaluate children's experiments and observations, such as: "You can still Think of another way?" "Have the blocks you used in your experiment floated?" "I think you can do better, and you can try it again," "Let's do it again based on the practice just now. ". After the activity, do an excellent job of guiding, helping children find and fill in the gaps, and let them establish an accurate self-awareness. Educators can also teach them to learn self-reflection and self-summary, make progress together, improve children's ability to learn inquiries, and help carry out science corner activities better.

3.3.2. Encourage Children to Speak Their Minds

Children will show strong desires in activities. Whether they have problems or not, they always deliver a positive attitude. Therefore, teachers should give every child the opportunity to

express themselves freely. The guidance of teachers in the corner activities is essential. The activities of the science corner are mainly based on the hands-on operation of the children, and the children have fewer opportunities to speak. The teacher should guide and help the children through appropriate language guidance—further understanding. For children who are more introverted and timid, teachers give children the opportunity to speak to help them build up their self-confidence. At the same time, in the activities of the science corner, because of its strong logic, teachers can "dialogue" with children in a compelling way, and use "midwifery" to help and encourage children to express their views, ideas, thinking, etc., let the children speak to the maximum. During speaking, the children sometimes say things after thinking about them, and sometimes they say some irrelevant things without thinking. Teachers should encourage and guide them to say that they are using What method is successful and how to solve the difficulties encountered in the activities. Teachers should teach children to reflect, let children form a sense of attribution, and enhance children's ability to explain and reflect.

3.3.3. Pay Attention to Teaching By Words and Deeds In Education

A good imitation is one of the characteristics of school-age children. In the family, children imitate the words and deeds of their parents; in kindergartens, teachers are the objects of their imitation. Therefore, teachers should set an example for children. When children concentrate on learning one thing, parents should not disturb them or start to study seriously with their children's standard; to cultivate children's quality of not being afraid of difficulties. Educators should be calm and calm when encountering problems, not back down or give up. Use your actions to tell children to face the challenges bravely and not give up easily; to cultivate children's cooperation ability, educators should communicate with children, and when playing games with children, share and discuss with children more, and jointly complete game challenges. In short, educators should lead children with good examples to develop better in an environment where they can be heard and seen.

Modern society is an autonomous, open, and developmental society. Individual development fully emphasizes its diversified and individualized development. Under the people-oriented ideology, more emphasis is placed on respecting children's developmental nature, encouraging children to explore freely and express boldly, and developing children's autonomy. As a new way of learning, children's inquiry learning meets the kindergarten curriculum reform and development needs. It plays a significant role in children's autonomous, creative, and cooperative learning. In inquiry learning, children's personality is developed, their subject consciousness is also awakened, and various comprehensive abilities are improved.

References

- [1] Z.L.Liu: Early Childhood Science Education (Beijing Normal University Press, China 2000), P.8-10.
- [2] P.Mantzicopoulos, H.Patrick and A.Samarapungavan.A: Young children's motivational beliefs about learning science, Early Childhood Research Quarterly, Vol. 23, (2008), No. 3, P. 378-39
- [3] M.G.Robyn, K.Nichols, G.Burgh, M.Haynes.Primary student's scientific reasoning and discourse during cooperative inquiry-based science activities[*J*].International Journal of Educational Research, Vol. 63(2014)No.23, p.127-140.
- [4] P.Wang, Y.D: Teacher role in early childhood inquiry learning activities, Preschool Education Studies, (2006) No.3, p.46-47.
- [5] H.M.Chen: Strategies to promote children's inquiry learning in scientific activities, Elementary Science (Teacher Edition), (2019) No.7, p.164.
- [6] Y.P.Xu: Characteristics, guiding principles, and strategies of scientific inquiry learning, Journal of the School of Education, Taiyuan University, Vol. 27 (2009) No.1, p.24-26.

- [7] J.Liu: Develop in the initiative, innovate in the inquiry-A brief discussion on the inquiry learning strategy in children's science activities, Exam Weekly, Vol. 43 (2017) No.6, p.24.
- [8] C.Wang: Application of Group Cooperative Learning in Hearing- impaired Children in Kindergartens,International Journal of Social Science and Education Research,Vol. 4 (2021) No.9, p.449-452.
- [9] M.J.Zhang:Regional activity guidance strategy based on young children's characteristics, Education Review, (2018) No.8, p.143-146.
- [10] C.F.Li: The role orientation and guidance strategies of teachers in kindergarten regional activities, Journal of Lan Zhou Institute of Education, Vol. 33 (2017) No.5, p.167-169.