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Research On the Current Situation and Cultivation Strategies of Children's Inquiry Ability in Science Education Activities

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Abstract: Children's science education in the 21st century emphasizes that inquiry is an important goal and method of scientific learning, which has an important impact on children's growth and development. Based on the current situation and cultivation strategies of children's scientific inquiry ability, 102 preschool teachers in Zunyi City were randomly selected by questionnaire survey method, and it was found that children's scientific inquiry ability was "weak ability to ask scientific questions" and "lack of attribution and persistence in learning quality". The causes of these situations are mainly divided into four aspects: teachers, children, parents and kindergartens. In order to find more suitable educational methods, help teachers improve the current situation of science education activities, and realize the value of science education. Try to formulate strategies from the aspects of selecting topics for scientific activities, children's personal experience of the inquiry process, and the supporting conditions for children's exploration ability.

Keywords: Science Education For Preschool Children, Scientific Inquiry Ability, Development Strategies

1 INTRODUCTION

Liu Zhanlan pointed out the importance and key goal of early childhood science education is to "have the ability to explore preliminarily" [1]. The Guidelines state that inquiry is the goal and approach of scientific learning [2]. The level of children's inquiry ability affects the effectiveness of science education. As the organizers and implementers of activities, teachers should cultivate children's scientific inquiry ability from all aspects. The Kindergarten Education Guidelines (for Trial Implementation) point out that it is necessary to create conditions for children to actually participate in inquiry activities, so that they can experience the process, methods and fun of scientific inquiry [3]. However, some scholars have pointed out that the lack of science education methods and activity development forms lead to unsatisfactory results in the implementation of pre-school science education activities [4]. Cui Lei pointed out that cultivating children's inquiry ability is full of challenges for teachers, which will be affected by insufficient teachers' ability and insufficient materials, thus limiting the development of children's inquiry ability [5]. Therefore, teachers' research on children's scientific inquiry ability cultivation strategies is of theoretical and practical significance. Some researchers have proposed that playing sand and water games can keep children in a state of thinking, inquiry, and practice, which is an important way to cultivate children's exploration ability [6]. Zhang Runping pointed out that children can be encouraged and supported to actively explore according to the situation, so that children can explore in life, learning, and activities [7]. Although the cultivation of children's scientific inquiry ability has been paid attention to and studied by many scholars, it is found that scholars are more likely to directly study the cultivation strategies of scientific inquiry ability, and lack the analysis and understanding of the current situation of children's scientific inquiry ability. Some scholars use a relatively single activity as a starting point to study the cultivation strategy of children's inquiry ability, which is not available in every region, and is highly targeted but less universal. Through reading the literature, it is found that from the early childhood science education activities, there are few relevant studies on the current situation and cultivation strategies of children's exploration ability, and readers can not get a more comprehensive and in-depth understanding, so this study is based on this research.

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2 Research Design

2.1 Definition Of The Concept

2.1.1 Science Education For Preschool Children

Science Education for Preschool Children defines "science education for preschool children" as "teachers initiating, supporting, and guiding young children to actively explore, experience from inquiry to discovery, and gain experience about the world around them and their relationships" [8].

There are many definitions of "science education for preschool children", but its core content is basically the same. Emphasize children's active exploration, let children as the main body of activities, actively learn and explore in activities, discover the fun of scientific activities, and find ways to learn. Teachers need to provide the corresponding conditions to participate in all the processes of children's science activities as collaborators and supporters, so that children can gain knowledge and experience related to the things around them.

2.1.2 Ability To Conduct Scientific Inquiry

The Pedagogical Glossary (2013) points out that the ability of scientific inquiry generally includes six aspects: raising scientific questions, designing solutions, conducting scientific experiments, collecting scientific information, rationally explaining scientific theories, and necessary scientific reflection [9].

2.2 Research Methodology

In this study, 102 preschool teachers in Zunyi City were selected as the research objects to study children's exploration ability in science education activities.

2.2.1 Subjects Of The Study

The study subjects of this study were 102 preschool teachers in Zunyi City, of which 2.94% were male teachers and 97.06% were female teachers. The proportion of teaching experience was 5-10 years, 35.29% was 3-5 years, and 41.18% were less than 3 years. Among them, 20.59% have a bachelor's degree, 61.76% have a junior college degree, and 17.65% have a college degree or less. The aim of this study is to survey kindergarten teachers and to know the current state of children's inquiry skills in science education activities.

2.2.2 Research Tools

According to the definition of inquiry ability in the "Educational Terms", the "current situation of children's exploration ability" is divided into six dimensions to investigate, namely "raising scientific questions", "designing solutions", "conducting scientific experiments", "collecting scientific information", "rationally explaining scientifically" and "necessary scientific reflection ability". The survey on "Reasons Affecting Children's Ability to Explore" was divided into four dimensions: teachers, children themselves, parents and kindergartens.

2.2.3 Research Process

In the process of research, the literature review method was first used to understand the research status of scholars on the "cultivation of children's scientific inquiry ability", and it was found that there were few relevant studies on the current situation and cultivation strategies of children's scientific inquiry ability from the perspective of science education activities, and then took this as their own research direction. Taking 102 preschool teachers in Zunyi City as the research object, the teachers were surveyed in the form of online questionnaires, and the survey data were analyzed to understand the current situation of children's exploration ability and the reasons for this situation, and the corresponding training strategies were formulated according to the current situation.

3 The Current Situation Of Children's Inquiry Ability In Science Education Activities

3.1 Young Children's Ability To Take The Initiative To Ask Scientific Questions Is Weak

Asking scientific questions is the basis for inquiry, and only when children have questions in their hearts will they further arouse their curiosity and desire to explore, so that they can solve the problems step by step to find the final answer. Science Education for Preschool Children, in the key lessons of the leading children in each year of scientific inquiry, points out that children in small classes should be "willing and dare to ask questions". In kindergarten, children like to throw things into the water, there are stones, wooden blocks, leaves, etc., they just think it is fun and throw things into the water, but few children will find out or ask why the stones sink and the leaves float on the water.

Table 1 A table of children who take the initiative to ask scientific questions from the surrounding things and phenomena (N=102).

Whether young children can ask scientific questions	frequency	percentage
No	22	21.57%
A small part can	57	55.88%
Most can	19	18.63%
All can	4	3.92%

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From Table 1, it can be seen that the proportion of "a small number of students can ask scientific questions" is 5588% accounted for the largest proportion, 21.57% said "could not ask questions", 18.63% said "most of them could ask scientific questions", and 3.92% could ask all questions, accounting for the fewest proportions. From the data, it can be seen that 21.57% of children could not ask scientific questions, that is, about 4.3 out of 20 children could not ask scientific questions, and 55.88% A small number of students are able to ask scientific questions, which means that many of these students cannot raise scientific questions, which means that many children can only learn passively when carrying out scientific activities, and it is difficult to have their own thinking process and direction of inquiry, so that it is difficult to achieve the goal of science education.

3.2 There Are Fewer Children Who Can Design Solutions

After putting forward a scientific question, in order to understand the "truth", it is necessary to think and find a way to solve the problem, and then it is necessary to formulate a set of reasonable, logical and targeted solutions, and the formulator of the plan is the student himself, not the teacher, and the teacher should act as a guide and encourager. Science Education for Preschool Children, in the "Stratification of Technology Design Competency Levels," states that young children should be "able to discuss and set feasible goals with relevant people." Ability to express actions and various ideas related to the goal plan. Be able to design your own draft using conversations, images, etc., and briefly explain why you chose this method". In real life, after discovering a scientific problem, most children will choose to touch and touch it with their hands out of curiosity, but only that, they will rarely think further about the solution to the problem, and rely more on the teacher to tell them what to do.

Table 2 Situation Table Of Young Children's Design Solutions (N=102).

Whether the child can design a solution	frequency	percentage
Always	4	3.92%
Often	24	25.53%
Occasionally	56	54.9%
No	18	17.65%

As can be seen from Table 2, 54.9% of the respondents said they could design solutions occasionally, while 17.65% said they could not design solutions The proportion is 23.53%, and the proportion of "always able to design solutions" is 3.92%, which is the lowest. 17.65% of the children can not design solutions, which is equivalent to about 3.5 children out of 20 children have no ideas and ideas of their own, plus the proportion of children who can occasionally design solutions is more than half, indicating that many of these children can not design solutions, which shows that children's ability to design solutions to scientific problems is weak, and they can only solve problems under the guidance of peers or teachers.

3.3 Lack Of Attribution And Persistence In Scientific Experiments

Thinking and doing are two different things, with action in between, and if children have conjecture and design solutions, but lack the process of solving problems, they will not be able to achieve active learning and development. The "Learning and Development Guide for Children Aged 3-6" states that "Jordan expects children aged 4-6 to participate in activities or tasks and be able to complete them consistently". In kindergarten, the hands-on experiment is very popular with children, but they often go directly to the experiment after getting the operation materials, resulting in a higher frequency of failure, and they tend to simply repeat the previous steps or give up directly after encountering failure, and only a few people will summarize the failed experiments until they succeed.

Table 3 Practices After Experimental Failure (N=102).

What to do after a failed experiment	frequency	percentage
Give up the experiment	34	33.33%
Continue the same attempt as before	48	47.06%
Adjust the method and try again until it succeeds	20	19.16%

As can be seen from Table 3, only 19.61% of the children were able to think about ways and successfully verify their ideas. Most of the children look at the problem more one-sidedly, not deep enough, it is difficult to find the hidden and incomprehensible relationship between things, so the failure of the experiment is inevitable, but after the failure of the experiment, 47.06% of the children chose to try again according to the original method, and 33.33% of the children directly gave up the experiment, indicating that they will not summarize the reasons for failure, lack of attribution and persistence in learning quality, resulting in experiments often give up halfway.

3.4 Young Children's Awareness Of Recording Is Poor When Collecting Scientific Information

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Chen Keda pointed out that the collection of scientific information in the classroom refers to the collation and analysis of the information obtained through observation and recording in the classroom, and turning it into something that you need [10]. The interpretation of the Learning and Development Guide for Children Aged 3-6 states that records are a useful tool for gathering information. Science Education for Preschool children, among the key lessons of children of all ages, points out that Nursery students can record their findings in a simple and intuitive way, Kindergarten students can record their findings in a different, easy-to-understand way, and Kindergarten students can collect and record data and information in an appropriate way. Illustrates that the ability to "record" begins to develop in small classes and progresses to a higher level as you get older. In kindergartens, many children only focus on hands-on operations in experimental classes, and their focus is basically on experiments. If the teacher does not remind them, they often forget to fill out the science record form, etc., and rarely take the initiative to record it.

TABLE 4 TABLE OF THE USE OF THE RECORDING METHOD (N=102).

Whether or not to use the recording method	frequency	percentage
Record often	16	15.69%
Occasional recordings	62	60.78%
Never recorded	22	21.57%
Didn't pay attention	2	1.96%

From Table 4, it can be seen that 60.78% of the children occasionally collect scientific information through recording in the classroom, accounting for the most, 15.69% of them often record, 21.57% of them never record, and 1.96% of them do not pay attention, indicating that the current situation of collecting scientific information in the classroom is not ideal, and only 15.69% of the children have the awareness of recording. Most children lack the awareness of recording and have weak ability to collect information, which affects the development of their inquiry ability.

3.5 *YOUNG CHILDREN'S ABILITY TO EXPLAIN SCIENTIFIC PHENOMENA AND PRINCIPLES IN A LOGICAL AND COHERENT MANNER IS WEAK*

The Learning and Development Guide for Children Aged 3-6 points out that children should be able to review and comprehensively think about the process of inquiry, discover phenomena and make preliminary reasonable explanations, and this process requires a high degree of language and thinking. In the key experience of scientific inquiry in all age classes, Science Education for Preschool Children points out that children in kindergarten dare to express their discoveries in simple language, Kindergarten children dare to communicate with their partners and share their preliminary conclusions, and Kindergarten children like to share the process and results of communication and inquiry with their partners. It can be seen that the scientific explanation of children's use of language is required from the elementary class, but the difficulty gradually increases with age. However, in the survey, it was found that the proportion of children who could meet the requirements was not high. In kindergarten, when the teacher asks students to explain scientific phenomena or principles, very few children will express the experiment clearly, and most children will not explain scientific phenomena and principles step by step, always thinking of what to say, lacking logic.

TABLE 5 TABLE OF CASES IN WHICH SCIENTIFIC PHENOMENA OR PRINCIPLES CAN BE EXPLAINED LOGICALLY AND IN AN ORDERLY MANNER IN LANGUAGE (N=102).

Ability to explain scientific phenomena or principles in a logical and coherent manner in language	frequency	percentage
Never	11	10.78%
Occasionally	68	66.67%
Often	22	21.57%
Always	1	0.98%

As can be seen from Table 5, 21.57% of the children were able to explain the discovered scientific phenomena in a coherent and logical manner, 66.67% were able to explain occasionally, and 10.78% and 0.98% were able to explain the scientific phenomena from time to time. It can be seen that their ability to use language to explain scientifically in a logical and coherent manner is weak.

3.6 *WEAK ABILITY TO REFLECT ON WHAT THEY HAVE LEARNED AND APPLY IT FLEXIBLY TO REAL LIFE*

In the Chinese Dictionary, reflection is also translated as reflection, which means reviewing and reflecting on the past and summing up lessons and lessons. Reflection first appeared in Western philosophy, and many educators in ancient China also mentioned reflection, "learning without thinking is reckless, thinking without learning is dead" is one of the typical

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representatives, it can be seen that reflection is indispensable in learning, and the most important point of reflection is to sum up experience, which is either right or wrong. Reflecting on the reasons for failure can lead to new ideas and new ways to succeed in the future. For the correct experience, we can further deepen and transfer these experiences, and combine the experience with the practice, which will surely create a new world. Science Education for Preschool Children states that "the ability to correctly discover, master and use appropriate resources, including methods and knowledge, is defined in the ability to produce children." to be able to make simple items using a variety of materials and equipment". In kindergartens, many children go directly to other links after taking science activities, and do not delve too much into scientific principles, and rarely bring the learned scientific principles into regional activities or other activities, and it is difficult to see them make creative behaviors or products.

TABLE 6 TABLE OF THE ABILITY TO MAKE SMALL TOYS BASED ON SCIENTIFIC PRINCIPLES (N=102).

Ability to make small toys based on scientific principles	frequency	percentage
Never	20	19.61%
Occasionally	64	62.75%
Often	17	16.67%
Always	1	0.98%

As can be seen from Table 6, 62.75% of the children were able to occasionally reflect on the scientific principles and phenomena they had learned, and the proportion of children who could never make small toys was 19.61%, 16.67% who were able to make small toys regularly, and 0.98% who were able to make small toys all the time. It can be seen that children rarely reflect on scientific principles and phenomena after understanding them, and only stay on the surface of understanding things, and it is difficult to transfer the experience they have gained and develop them more deeply. This suggests that children are less able to reflect on what they have learned and apply it flexibly to real-life situations.

4 FACTORS INFLUENCING PRESCHOOL CHILDREN'S ABILITY TO EXPLORE SCIENTIFICALLY

4.1 THE INFLUENCE OF TEACHERS ON CHILDREN'S ABILITY TO EXPLORE SCIENCE

4.1.1 THE EDUCATIONAL LEVEL OF PRESCHOOL TEACHERS IS GENERALLY LOW

By referring to the data in the "2019-2021 China Kindergarten Staffing Status and Demand Forecast Analysis Report" released by "China Education Investment Research", it can be seen that among the teachers who taught kindergartens in the country in 2018, 58% were junior colleges, 23% undergraduate, 17% high school , the least number of graduate students, relatively speaking, the higher the education of the teacher, the stronger its professional knowledge, the stronger the teaching organization ability, but now due to insufficient teacher resources, kindergarten teachers can not be like primary and secondary schools to require a bachelor's degree or above, and even remote areas and less formal kindergartens are selected from the community, even the teacher qualification certificate has not been obtained, they have not received formal and related training, in the implementation of the curriculum, there is no clear direction and appropriate methods, resulting in children can not be professional, Learn in a scientific way, thus influencing children's ability to explore scientifically.

4.1.2 TEACHERS LACK SCIENTIFIC LITERACY AND PROFESSIONAL GUIDANCE

As can be seen from Table 7, 61.76% of the teachers were found to have insufficient scientific literacy and 49.02% were found in the survey of teachers have a lack of expert guidance. Preschool education can be applied for the liberal arts and sciences major, it is not like the medical major requires excellent knowledge of mathematics, physics and chemistry, coupled with the knowledge of education during the university to learn more about education, the subject of higher logical thinking such as mathematics, physics and chemistry is increasingly unfamiliar, and the lack of learning and practice of such disciplines with strong logical thinking leads to many preschool teachers who do not have enough scientific literacy, and also have little understanding of the methods of engaging in this kind of education, resulting in the inability to carry out scientific education activities. In addition, there are few opportunities to receive professional guidance, which leads to the lack of teachers' own ability, which affects the development of children's scientific inquiry ability.

TABLE 7 PROBLEMS ENCOUNTERED BY TEACHERS IN SCIENCE EDUCATION ACTIVITIES (N=102).

Problems encountered by teachers in science education activities	frequency	percentage
Lack of expert guidance	50	49.02%
Lack of scientific literacy	63	61.76%

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4.2 The Influence Of Children's Own Reasons On Their Ability To Conduct Scientific Inquiry

4.2.1 The Age Of Young Children Has A Certain Impact On Their Ability To Explore

Preschool children refer to 3-6 or 7 years old in a narrow sense, and many of the children's abilities at this stage are just developing or developing, so they lack the awareness of discovering scientific problems, the content of the record is one-sided, and the language generalization ability is weak. As far as children's recording ability is concerned, Duan Wenjie pointed out that the development level of children's records is directly proportional to their age, and their "recording and representation" has an obvious development trend, which is manifested in the fact that with the increase of age, the purpose of children's records will be clearer, and the content will gradually deepen, from one-sided to comprehensive, from concrete to abstract; and with the gradual development of language, the accuracy, completeness and logic of language expression will be enhanced, but it will lead to the weakening of non-verbal recording methods such as body movements, paintings, and symbols[11].

4.2.2 Some Children Lack Certain Learning Qualities

According to the Guidelines for the Learning and Development of Children Aged 3-6 (2013), "learning quality" refers to the basic qualities closely related to learning, which have an important impact on children's lifelong learning. The learning qualities of "curiosity and interest, persistence and attention, creativity and invention, reflection and interpretation" proposed by the State of Washington have a great correlation with the scientific inquiry ability of young children I investigated. In science experiments, asking scientific questions is the first step of scientific inquiry, and if children lack curiosity and interest, they will rarely pay attention to the things themselves, and it will be difficult for them to discover and ask scientific questions. In experiments, they rarely adjust their methods after the experiment fails, indicating that they lack the ability to reflect and persevere. In the survey, it was found that very few children were able to use scientific principles to make small toys, indicating that they lacked creativity and inventive learning qualities.

4.3 The Influence Of Parents On Children's Ability To Explore Science

4.3.1 Many Parents Lack A Scientific Concept Of Education

In their traditional cognition, they think that the knowledge that preschool children learn should be similar to that of the first and second grades of primary school, such as the addition and subtraction of mathematics, the pinyin of Chinese, the English alphabet, etc., lack of scientific education concepts, do not correctly understand the meaning of "science education", and do not know the importance of science education to students and even society.

4.3.2 The Level Of Cooperation From Parents Is Not High

As can be seen from Table 8, 58.82% of the teachers pointed out that they encountered the difficulty of "lack of parental cooperation" in carrying out scientific inquiry activities. Some parents are too busy with work to communicate with their teachers. Others think that after paying the money, all problems of education should be handled by teachers, and lack awareness of the importance of home education. For preschool children, school education and family education have an important role, learning does not only occur in kindergarten, in any link may occur, but some are intangible and some are tangible, if parents do not cooperate with the teacher, all the educational tasks are handed over to the teacher, it will miss a lot of opportunities to cultivate children's scientific inquiry ability, thereby affecting children's scientific inquiry ability.

Table 8 Lack Of Parental Cooperation Encountered By Teachers (N=102).

Whether there has ever been a lack of parental cooperation in science education activities	frequency	percentage
Appeared	60	58.82%
Didn't show up	52	41.18%

4.4 The Influence Of Kindergarten On Children's Ability To Explore Science

4.4.1 The Quality Of The Educational Environment In Kindergarten Has A Certain Impact On Children's Ability To Explore

The well-known story of "Meng's Mother Three Migrations" points out that the environment has a great impact on people, and creating a comfortable and safe learning environment for children can make children feel happy both physically and psychologically, so that children can be less disturbed by the outside world when carrying out scientific activities. As can be seen from Table 9, 8.82% and 36.27% of the teachers always pay attention and often pay attention to provide a safe environment and psychological atmosphere for children, respectively, while 46.08% and 8.82% pay attention occasionally and do not pay attention, respectively. It shows that most of the educational environment cannot allow children to concentrate on learning, which affects the development of children's inquiry ability.

Table 9 Paying Attention To Providing A Safe Environment And Psychological Atmosphere For Young Children (N=102).

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Pay attention to the extent to which young children are provided with a safe environment and psychological atmosphere	frequency	percentage
Always pay attention	9	8.82%
Pay attention often	37	36.27%
Pay attention occasionally	47	46.08%
Didn't pay attention	9	8.82%

4.4.2 *Some Kindergartens Do Not Have Enough Financial Means*

We all know that "the economic base determines the superstructure", and it can be seen from Table 10 that 82.35% of teachers encounter the problem of "lack of abundant and operable resources for scientific activities" when carrying out scientific activities. Scientific activity materials are the basic needs of children's experiments, when the kindergarten funds are sufficient, he can buy advanced instruments, good educational materials, the input of materials can also allow children to experiment many times, when children's experiments, operations are strongly supported, their development and growth will be faster. If the materials are insufficient, teachers will be unable to carry out scientific activities, and children will not be able to show their strength in experiments, which will affect children's ability to explore science.

Table 10 Lack Of Materials For Science Activities (N=102).

Whether there has been a lack of materials in science education activities	frequency	percentage
Encountered	84	82.35%
Haven't encountered it	18	17.65%

5 Strategies To Enhance Children's Ability To Explore Science

5.1 *The Selection Of Topics For Science Education Activities Should Be In Line With The Age Characteristics And Interests Of Young Children*

After the survey, it was found that 69.61% of teachers encountered the problem of low enthusiasm and interest of children in scientific inquiry activities. Interest is the best teacher, for 3-6 and 7-year-old children, they like exaggerated and interesting things, but because they are younger, cognitive level, operation and other abilities are weak, so when choosing the theme of science activities, it should be determined according to the age characteristics and interests of children Choosing scientific activities that are simple and interesting, relevant to real life, easy to operate experiments, and easy to understand the principles can not only attract children's attention, create conditions for them to discover and raise scientific problems, but also help enhance their self-confidence, cultivate their interest in scientific inquiry, and maintain their curiosity and desire to explore science.

5.2 *Pay Attention To The Cultivation Of Children's Personal Experience Of The Process Of Inquiry*

5.2.1 *Pay Attention To The Mobilization Of Children's Original Experience And Encourage Children To Make Bold Conjectures*

In the reasoning and prediction of science education for preschool children, it is pointed out that children should make full use of past experience when making guesses, and comprehensively use existing experience and newly obtained information to make predictions. Children's cognitive ability is weak, in the initial state of understanding of the world, in the scientific exploration activities teachers should guide children to combine the original experience with new discoveries, find out the related parts, find the similarities and differences between the two, is conducive to children to design solutions and increase the feasibility of solutions, if the imagination is open enough, bold enough, then their design ideas will be broader.

5.2.2 *Pay Attention To The Guidance Of Children's Thinking*

After discovering the problem, children only think about it, become curious about the problem, and want to explore it, will there be independent exploration, and many teachers and parents take measures after the child asks a question or after the child's experiment fails is to directly tell the answer, lacking the process of guiding children to approach the truth step by step through thinking. Many children lack a rethinking process after getting the results, so after the children raise questions, if teachers and parents can cooperate to guide the children correctly, put forward some constructive and exploratory questions, and let the children think more, they can cultivate their reflection ability and attribution ability. When they collect information, adults do not directly tell the answer, but let the child explore independently, there is a thinking process, the child will expand from a question to a series of questions, in the process of gaining not only the accumulation of knowledge, but more importantly,

the process of thinking, which will play an important role in the future learning and development of children.

5.2.3 Pay Attention To The Cultivation Of Children's Recording Ability

By referring to Li Xiaolian's literature, it is understood that from the perspective of children, recording can cultivate children's scientific inquiry attitude and exploration ability, and exercise various skills, which is a necessary condition for promoting children's in-depth exploration [12]. In the collection of scientific information, scientific interpretation of the "record" has a non-negligible role, specific image thinking is the main thinking of children, in the absence of physical conditions, children can not be very good to know the vocabulary and the things in the mind to correspond and use, need to use the method of recording, the observed, found phenomena and other required things to record, convenient for them to collect scientific information, conducive to subsequent recall, make scientific explanations, etc. In this way, children's scientific inquiry ability can be improved.

5.2.4 Pay Attention To The Cultivation Of Children's Ability To Apply What They Have Learned

Opposing "dead reading, reading dead books" and advocating "living and applying what you have learned" is the mainstream of contemporary education, teaching knowledge is only a means of education, and the purpose of education is to enable students to combine theory with reality and make positive creations. Educators should actively respond to the country's call for cultivating innovative talents. In science education activities, it is necessary to pay attention to the cultivation of children's connection between scientific theories and scientific phenomena with practical life, cultivate children's ability to invent and create, and lay the foundation for cultivating innovative talents.

5.3 Create Conditions That Support Children's Ability To Explore

5.3.1 Teachers Should Improve Their Scientific Literacy And Actively Participate In The Training Carried Out By Relevant Experts

After the survey, it was found that 61.76% of the teachers were not enough in scientific literacy, and 49.02% where not enough Preschool teachers are the guides of children's learning, and the level of teachers' own scientific literacy and teaching ability determines the quality of early childhood science education, which in turn affects the number of innovative talents cultivated by the country. According to Zhong Xiao's literature, some preschool teachers are not good at analyzing and solving the problems raised by children, are not good at developing and making teaching aids based on scientific phenomena and principles, are not good at collecting scientific phenomena in life and present them in the classroom, and are not good at selecting and developing scientific activity themes with long-term exploration significance [13]. Pre-school education is to lay the foundation for school education and lifelong education, and the development of young children in this period will have an important impact on their lives, so science education in the preschool stage plays an irreplaceable role in improving national scientific literacy and promoting social development. As the formulators and implementers of activities, teachers have the responsibility and necessity to take various ways to improve their scientific literacy and professional knowledge, so as to lay a solid foundation for better scientific activities.

5.3.2 When Children Make Multiple Mistakes, Teachers Should Give Them Enough Understanding And Patience

Thorndike's trial-and-error approach refers to the idea that through trial and error, consumers make connections between specific situations and reactions. The cat in Thorndike's famous "Hungry Cat Experiment" first touched the lever that opened the door by mistake again and again in the cage, and then opened the door to obtain food, and after many experiments, he gradually understood which lever could open the door, so when the cat returned to the cage again, it would directly touch the lever to open the door. Children are like this cat when doing experiments, they may be overwhelmed and clueless at first, and failure is inevitable, but after experiencing mistakes again and again, they will eventually find an exit to break through difficulties, and the teacher should give them enough time and patience in this process, and give appropriate guidance when necessary, so that children can learn in a relaxed and warm environment.

5.3.3 Create A Good Educational Environment And Meet The Material Needs Of Young Children For Scientific Inquiry

The environment has an influence on people that cannot be underestimated, and this influence is always carried out imperceptibly, "Kindergarten Education Environment Creation (2014)" pointed out that the kindergarten education environment has the function of educating people and behavior orientation. The environment has a significant impact on teachers' work and children's learning and quality of life, and a good educational environment can improve the quality of kindergarten education by allowing teachers to work happily and children to learn with peace of mind [14]. It is not enough to have a good educational environment, the material base determines the superstructure, and it was found that 82.35% of the teachers believe that there is a lack of abundant and operable resources for scientific activities in scientific activities. In children's science activities, only by providing them with enough materials to meet their material needs can we lay a good foundation for their future development, so that each child can operate experiments and have enough materials to support their "trial and error", not because the materials are not enough, there is no chance to start again after failure, and they can only watch the teacher's operation.

5.3.4 Actively Promote The Cooperation Of The Homeland, And Reach A Correct View Of Science Education In Agreement With Parents

Both home and kindergarten are important places for young children to live and learn, and play a key role in their growth and development. Teachers should not cater to some parents' knowledge-oriented educational concepts, but should actively communicate with parents, strive for the cooperation of parents,

assist parents to update educational concepts and master educational methods suitable for young children, and reach an educational consensus. Parents pay attention to the cultivation of children's interest in science in life, and teachers carry out planned, professional and systematic training of children's scientific inquiry ability in the kindergarten, so as to promote the development of children's scientific inquiry ability.

6 CONCLUSIONS

Through this survey and research, it is found that the level of children's scientific inquiry ability in all aspects is low, and the reasons for these current conditions are many, and kindergartens, preschool teachers, parents and children themselves have a great relationship, and the cultivation of children's scientific inquiry ability is the responsibility of the whole people, it is not only related to the quality of early childhood education, but also has a vital role in cultivating innovative talents. After analyzing the current situation and the causes, I believe that the cultivation of children's scientific inquiry ability should start from all aspects and change, form a scientific education concept and systematic teaching methods, and create a good learning environment for children's science education.

At present, early childhood science education in China is in the stage of development, and it is necessary for scholars of preschool education to conduct research and practice theories, modify and supplement the defects in various fields, develop and create a variety of valuable teaching methods and educational concepts, and contribute to the cultivation of an innovative new generation.

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