

Pedagogical Content Knowledge (PCK) Formation of Pre-Service Kindergarten Teachers in China: A Grounded Theory Approach

Tingting Liu^{1,2}

¹ School of EMILIO AGUINALDO COLLEGE, Manila, Philippines

² HanDan Preschool Teachers College, Handan 056100, China

Abstract

Based on the grounded theory, this study conducted in-depth interviews and research on 6 kindergarten teachers, and reached relevant conclusions about the current situation and optimization strategies of PCK for pre-service kindergarten teachers of China. Given the crucial role of PCK in effective teaching, this study also examines the specific challenges preservice early childhood teachers face in developing PCK. It will provide insights into the current state of teacher education in China and offer recommendations for enhancing the professional preparation of early childhood teachers. By addressing the gap between theoretical knowledge and practical application, this research aims to contribute to the improvement of teacher education programs, ultimately leading to better educational outcomes for young children.

Keywords

Pedagogical Content Knowledge (PCK); Pre-Service Kindergarten Teachers; A Grounded Theory Approach.

1. Introduction

In order to better explore the influencing factors of kindergarten PCK, this study intends to adopt the grounded theory approach.

The study area of this study is Hebei Province and Beijing City of China, where the education system is constructed and managed by the Ministry of Education of China, which can provide a complete education system from preschool education to higher education. Preschool education in Hebei province is not compulsory, but widely implemented. It serves children aged 3 to 6 years and aims to promote their physical, emotional, social and cognitive development. The focus of kindergartens is to provide a nurturing environment to prepare children for their primary school education[1].

2. Research Process

2.1. Collect Data of Subjects

The main objective of the study interview were six kindergarten teachers. After the number of participants reached six participants, it has reached theoretical saturation, which can explain the influencing factors of PCK of kindergarten teachers, so no longer increase the respondents. The basic information of the six respondents is shown in the table below. As can be seen from the table, the six respondents are all first-line kindergarten teachers in Hebei and Beijing, among which mudan has even achieved the post of deputy principal. These six respondents have rich teaching experience, working for at least 12 years and the longest for 20 years. They have rich experience in the application of PCK knowledge in kindergarten teaching. In addition, these respondents are between 35 and 45, which means that they are all middle-aged teachers.

Compared with young teachers, they will have more teaching experience and strategies, and better teaching effect for young children, so it is suitable for analyzing influencing factors.

Table 1. The data of 6 subjects

surname and personal name	The kindergarten	age	operate time	post
1	Dongguang County Kindergarten	37	In 12 years	teacher
2	Dongguang County Kindergarten	44	In 20 years	teacher
Guifen	Xiwengzhuang Town Central Kindergarten, Miyun District, Beijing Municipality	36	In 13 years	teacher
Hanj	The first kindergarten in Nandagang Industrial Park, Cangzhou City, Hebei Province	35	In 15 years	teacher
Mudan	Dingzhou City Kaiyuan Town central Kindergarten internalized branch park	36	In 14 years	Deputy principal
Wangjj	Wu'an City Minghu Kindergarten	41	In 19 years	teacher

2.2. The Data of the Subjects Were Analyzed

The data collection method for the main interviews in this study will be a semi-structured interview. These interviews will provide an opportunity for teachers to reflect on their experiences and perceptions of PCK formation. The interviews will be conducted using a purposeful sampling method targeting teachers with different backgrounds, teaching experience and subject expertise. Sample size will be determined by theoretical saturation, data collected until no new insights or themes emerge.

Beyond the interviews, other data sources may include classroom observations, teacher reflection, and course production, such as teaching plans, teaching materials, and professional development documentation. These complementary data sources will provide a more comprehensive understanding of the faculty experience and contextual factors that influence PCK formation.

After approval of the study protocol, the investigators will initiate and initial data collection, such as interviews, observations, documents, field documentation, and audio / video recordings. Initial data collection is usually guided by an open-ended data. Research questions or topics of interest, allowing the exploration of various perspectives and experiences relevant. When researchers began to analyze the collected data, emerging concepts, categories, and themes began to emerge. These emerging insights guide the subsequent data collection. New participants will be selected to support or challenge any emerging theory. Similarly, data triangulation will be done through classroom observations and / or file analysis to verify the emerging theory of PCK formation. Interview records will be generated and will be coded. Controls the reflexive nature of the study by creating reflective journals for researchers.

The data analysis process will follow the principles of grounded theory. Interviews and other collected data will be transcribed and coded using open coding, where the initial categories and concepts will be identified. With constant comparative analysis, these codes will be refined and organized into broader themes and categories, capturing the nature of PCK formation.

In this study, the Nvivo 12 Plus software was used to code and analyze the interview materials. Nvivo is one of the three internationally famous qualitative data analysis software, along with Atlas Ai and MAXQDA. In general, NVivo is a powerful qualitative analysis (Qualitative Analysis) software, a software to process non-data data. It can process and analyze a variety of different types of data according to your ideas, such as text (word, pdf, etc.), pictures, recording, video

and other data content. Through the rapid analysis of the common content in the data, help you classify and sort, so that you can efficiently process the data, let the data for your use. The premise is that you have to have ideas, have the idea basis of analyzing the data, to use this tool well.

Therefore, through the nvivo software to interview text word frequency statistics, the six respondents interview text segmentation, remove some meaningless adverbs, the final statistics of the top 20 words, and the minimum length of the word is set to 2, avoid single word into the statistics, specific table as shown below.

Table 2. the final statistics of the top 20 words

individual word	length	count	The weighted percentage
teacher	2	1168	3.82
knowledge	2	973	3.19
teach school	2	746	2.44
pck	3	701	2.30
study	2	497	1.63
education	2	477	1.56
child	2	414	1.36
content	2	402	1.32
develop	2	378	1.24
study	2	229	0.75
branch of learning	2	228	0.75
student	2	220	0.72
nursery school	3	189	0.62
specialty	2	184	0.60
understand	2	163	0.53
curriculum	2	160	0.52
practice	2	155	0.51
domain	2	151	0.49
be in progress	2	136	0.45
experience	2	135	0.44

As can be seen from the table, In the interview text provided by these six respondents, Of the first twenty frequent words, The most important word is the first ranked and most frequent word, Is the word "teacher", This means that in the PCK teaching practice in kindergarten, Teachers, as the main body of teaching, Always be in the center of it, It also dominates the whole teaching process, Relative to the young children, Because kindergarten children's autonomy and initiative are very weak, It is very necessary for teachers to guide and train themselves, So the role and status of kindergarten teachers, Compared to primary or middle school teachers, Are all much taller. The second most common word is "knowledge", which also reflects the importance of teaching content knowledge in PCK. In addition to life guidance for children, the most important thing is to teach some knowledge to children in entertainment. In addition, children, students, such as keywords, also reflects the teaching object, the importance of this special group, because the children's age is very small, both habits and learning knowledge is very low, so the kindergarten teachers in PCK knowledge teaching, must be according to their aptitude, according to the characteristics of children to arrange the content of teaching, otherwise children is difficult to understand. Finally, there are some key words that reflect the teaching itself, such as content, experience and practice, which reflect the teachers' preschool

teaching experience and practical experience over the years, which is a very valuable summary of the experience of front-line teachers.

After obtaining the high-frequency word list, the corresponding word cloud map can be drawn according to the high-frequency vocabulary, as shown in the following figure. As you can see, in the word cloud figure, the more close to the center position, the more words appear, the weight is the greater, and the center of the word cloud figure is mentioned learning, knowledge, teaching, children, PCK and content so six keywords, the key words that kindergarten teachers is most concerned about kindergarten children knowledge learning, their core task is to teach children, so here need to pay attention to the PCK this more advanced teaching method. In the word cloud map, these six keywords are also distinguished in explicit orange, representing the most core part of the interview text. Next is the high frequency vocabulary, in the word cloud figure with bold black, including the common education, children, kindergarten, strategy, practice, this shows that the institute interview of these teachers, very concerned is the education kindergarten children used in the process of teaching strategy and teaching practice, this is the core task of kindergarten teachers every day, is also aimed at the study of the soil. Most peripheral is the edge of the vocabulary, this research is not so important, the word frequency is not many, but still can help to the researchers, they are in the word cloud figure with light gray font, more common is to get, think such said kindergarten teacher interviewed subjective attitude and ideas of tips, and other words related to PCK teaching strategy.



Fig. 1 The words related to PCK

In addition to using the word cloud map to display, we can also describe the high-frequency vocabulary through the tree matrix map, as shown in the following figure. The reading order is from left to right, and each square represents a high-frequency vocabulary. The larger the area, the more the occurrence, the more important the word becomes. In the picture, teaching, content, knowledge, children, PCK, learning, teachers are still the most important keywords. Compared with the word cloud map, the presentation effect of the tree matrix map is more intuitive, and it can clearly reflect the proportion of each keyword, that is, which keyword is more important.

Table 3. Important key words

Teaching and Learning	Early Childhood	Kindergarten	Children	Strategies	Understanding	Practice	Understanding	Theory
			Work	Problems	Time	Impact	Different	Approach
		Development	Effective	Related	Perceived	Aspects	Process	teacher training
	pck	Activity	Methods	Improvement	competence	Disciplines	Research	Helps
Content				Factors	Participation	Comparison	Adjustment	Share
	Learning	Culture	Reflection	Course	Core	Colleagues	Evaluation	Math
			Conducting	Areas	Help	Life	Actual	Adoption
Knowledge	Teachers	Education	A little	Training	Capable	Background	Suitability	Interest
		Experience	A bit	Important	Experiences	Language	Mastery	Situation
			University	Effective	Major	Description	Include	Instructor
								Description
								Developing
								engage in
								probability
								create
								Latest
								result
								hallmark
								especially
								Opportunities
								Role
								Integration
								Classroom
								Observation
								Position
								Math
								Evaluation
								Colleagues
								Core
								Participation
								Factors
								Improvement
								Effective
								Work
								Children
								Kindergarten
								Early Childhood
								Teaching and Learning

The process of data analysis will be carried out in accordance with the requirements of root theory, and the data collected through the interview will be coded in the triple structure of "open coding -- spindle coding -- selective coding", so as to ensure that the information in the interview text can be refined and the PCK influencing factors that are intended to be discussed in this study.

3. Analysis Result

This study uses the coding theory to analyze the verbatim text content in a three-layer coding way. Coding (coding) refers to the process of breaking down, distinguishing and summarizing concepts of collected empirical material. The node (node) is a set of reference points extracted by the researcher from the material, which include the specific topic, place, person or other aspects of interest to the researcher. Encoding is usually divided into two categories: free nodes (free nodes) and tree nodes (tree nodes). The free node is an independent node, without forming a clear logical correlation with the other nodes. While tree nodes are relevant nodes with logical associations with other nodes[2].

In this study, open, axial and selective coding. The specific analysis of the three-level coding is as follows: (1) carefully read the verbatim draft materials and code them. If a piece of material contains multiple different nodes, they need to be marked under the corresponding different nodes.(2) After completing the coding of all materials, modify the name of the node according to the content of the node. Comparing the content of different nodes and further adjust some nodes to merge or reorganize. At the same time, the logic of tree nodes in depth, may need to adjust the position of some child nodes.(3) After adjusting the existing nodes, continue to choose a core category, and further analyze and classify the results of the axial encoding.(4) Reference nodes shall analyze the data and draw conclusions related to the research.

Be able to see, The results of rooted theory are divided into three levels: selective coding, spindle coding and open coding, Where selective coding is the highest level of coding, The PCK influencing factors of kindergarten teachers were divided into four aspects: personal factors, human factors, organizational factors and teaching ontology factors, Next comes the second

level of spindle coding, It once again subdivides the four corresponding factors, For example, individual factors are divided into independent variables such as motivation and past experience, Finally, the third level of open encoding, This part of the coding is derived directly from the interview text, Thus the largest number, Also with the lowest level of abstraction, Respectively affiliated to the corresponding spindle code.

3.1. Open Coding

Open coding is to analyze the text data without preconception, not influenced by subjective preference, and not influenced by the existing academic theory, gradually complete the conceptualization and categorization of the original data, and form the preliminary concept and conceptual category.

By tagging each statement and repeatedly comparing and sorting out, open coding finally selects and merges to obtain important concepts, and then the elements with similar nature and content are recombined to produce the initial category. From the original statements of the interview, integrate the same or similar concepts, and discard the invalid concepts with less than two concepts. In this study, the text content was analyzed word by word, and manually coded in Nvivo11.0 to form the corresponding initial concepts and sub-categories.

Table 4. Analysis of the original original text

The original text	The initial concept	Deputy category
And often with the children together, the thought is also relatively simple, people will be more young and energetic	juvenescence	motive
Children's love is tender and pure. How much you give them, they can give you back. Children's unconditional trust and dependence on themselves will get a sense of achievement	achievability	
The major I chose in university is just early childhood education, and I have never learned the knowledge of other majors. Therefore, becoming a kindergarten teacher after graduation is the most appropriate career choice. If I choose other career, I do not have the early study, so it is difficult to find a satisfactory one	University major	
"I like my children, and I am willing to engage in early childhood education	Love for children	
This job employment is very good, need not worry about unemployment, and come in when there is no one to compete with you, our classmates as long as the graduation can find the right job	obtain employment	
Learn about the content and knowledge of education and teaching, study hard, study hard	Textbook knowledge learning	Past experience
Through the tutoring, newspaper remedial classes and other social practice to develop the teaching content	social practice	
Go to the kindergarten practice, in the use of teaching content knowledge to find problems, their own timely correction	practice	
Often learn early childhood psychology, health and other disciplines, strengthen theoretical learning, the development of scientific parenting ability	Actively improve yourself	teacher's ability
Rich teaching experience enables me to effectively teach children's knowledge in teaching, and I can also solve the problems in teaching tactfully. Such as: how to use PPT and teaching integration, how to truly teach students in accordance with their aptitude	Teacher experience	

Starting from the practical problems encountered in practice, with theoretical knowledge as the support, solve problems and summarize experience	linking theory with practice	
Put into their own love, their own love, their own emotions, and the children do heart to heart, hand in hand	Cherish unique values	Emotional embedding
In teaching music activities, I will turn the boring vocal exercises into catchy children's songs, and take children to follow the upward and downward scales of the piano to carry out solfeggio vocal activities. For example, I blow a small trumpet, tick tick, I knock a small drum, dong dong dong	Curriculum strategy	personal traits
Reflect on the formulation of goals, reflect on the effectiveness of the activity process, reflect on the interaction between teachers and children, reflect on whether teachers' language is concise and rigorous, and reflect on children's interest points	Good at reflection and summary	
At the same time is also due to the advice of parents, preschool education work social demand is large.	The influence of family culture	member of family
Professors of teaching content must pay attention to the curriculum integration between various fields, and should pay attention to restore some inherent connections between different fields, restore some contents to the overall and connected state, and find and dig new and more connected clues in the field as much as possible	The influence of excellent teachers	the succession of teachings from a master to his disciples
We regularly hold high-quality class competitions every semester. During the competition, we can see the excellent course display and the shortcomings of our own courses, so as to promote the rapid improvement and promotion of our own thoughts and ideas	Quality class competition	
In the group, teachers should conduct more grinding lessons, more communication, more reflection and more analysis	Interactions with peers and related teachers	
Children's enthusiasm to participate in the activities, as well as whether the activity goals are achieved, and whether the key and difficult points of the activities are broken through	The enthusiasm of children	child
Teachers will mainly observe children's day activities.	Children's classroom practice	
By observing the different performance of children's daily activities, such as children's behavior in the corner activities, children's communication, etc	Daily performance of young children	
Children's ability to express and judgment and independent thinking ability are the most important	Children's ability	
Children's learning ability, learning attitude, learning interest, etc.; to see the achievement of teaching objectives	Characteristics of children	
There are huge differences between urban and rural children, and it is necessary to develop different level design teaching objectives according to the different characteristics of urban and rural children.	Study in an excellent kindergarten	Garden leadership
Good friendship between teachers	favorable atmosphere	social benefits
The collective teaching and research activities in the work can effectively improve their own education level, improve from each class, and gradually form a form of education with its own characteristics	Collective teaching and research activities	Teacher community

Take the research course as an example, after the class, colleagues can review according to the advantages and disadvantages of this activity, and make targeted improvements.	Work with colleagues or related teachers	
Have the opportunity to go out and follow the experts for offline training	Go out training	Teacher training
Online learning is the most common form of training, especially during the epidemic period. For example, online online learning	Network learning	
Some teachers will take their own initiative. Pay attention to the preschool education public account, website, usually buy some books, effective self-study	study on one's own	
Hardware guarantee is also important, reflected in the improvement of kindergarten infrastructure.	Park facilities	Hardware guarantee
The teacher quality here includes the knowledge level, professional quality, and the understanding of the knowledge taught	teachers'quality	content of courses
Who to teach (the knowledge of the education object) constitutes an effective teaching content knowledge, so we should pay attention to the knowledge level of children.	Teaching object	
Teaching method: it refers to a series of teaching methods adopted by teachers in the teaching process. So as to improve children's interest in learning, enhance the learning effect	teaching method	
The three-dimensional objectives of this lesson: that is, knowledge goals, ability goals and emotional goals,	instructional objectives	
Course content: it refers to the knowledge and skills that children need to learn. It has the scientific, systematic and practical three characteristic subject content knowledge,	course content	
Observe children's activities; observe children's standards; observe the activity atmosphere	Evaluation of the teaching effect	course evaluation
Cultivate children's sense of belonging: hometown culture, national culture characteristics, national pride, collective sense of honor	traditional culture	Cultural background factors
The contents of cultural heritage include stories, small poems, and some solar terms, such as Spring Festival, Dragon Boat Festival,	cultural inheritance	
In my opinion, cultural factors have a great influence on the teaching content. Due to the different cultural factors of teachers themselves, there will certainly be differences in understanding and sports teaching content	The educational function of culture	

3.2. Axial Coding

Spindle coding is to mine the logical relationship between concepts on the basis of open coding, and to cluster and integrate the initial category to form a more generalized category. Axis coding is to establish the connection between the conceptual category and the category, and to find out the main category from the subcategory, so as to show the relationship between the parts in the interview data. This study formed four main categories after repeated comparison and modification.

Table 5. Fundamental category,Deputy category and Category connotation

Fundamental category	Deputy category	Category connotation
personal factors	motive	Here mainly refers to some personal characteristics of teachers, on the influence of PCK teaching effect,
	Past experience	
	teacher's ability	
	Emotional embedding	
	personal traits	
human factor	member of family	The influence of others on teachers 'PCK teaching activities, that is, the influence of teachers' personal social relationships and interpersonal relationships, can be divided into several different groups of people: family members, teachers, colleagues, children and kindergarten leaders according to different levels of intimacy.
	the succession of teachings from a master to his disciples	
	colleague	
	child	
	Garden leadership	
Organizational factors	social benefits	The experience of teachers in the kindergarten work organization has an impact on her teaching, such as teacher community, welfare treatment, teacher training and hardware guarantee.
	Teacher community	
	Teacher training	
	Hardware guarantee	
Teaching ontology factors	content of courses	Factors such as course content, course evaluation and cultural background should be taken into account
	course evaluation	
	Cultural background factors	

3.3. Selective Encoding

Selection coding mainly analyzes the relationship between the main categories, further summarizes the more summarized core categories, and reveals the relationship structure between the main category and the core category. Selective coding is a further refinement and integration based on the spindle coding, namely the development of the "core category" from the main and sub-categories. Compared with other categories, the core category is dominant and can include most of the research results in a relatively broad theoretical range.

First, the basic nodes of "open coding -- spindle coding -- selective coding" are sorted into a table, as shown below.

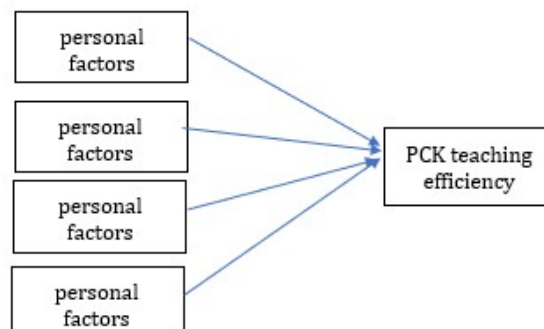
**Fig. 2** Personal factors affecting PCK

Table 6. Selective coding,axial coding and Open coding

Selective coding	Axial coding	Open coding
personal factors	motive	juvencence
		achievability
		University major
		Love for children
		obtain employment
	Past experience	Textbook knowledge learning
		social practice
		practice
	teacher`s ability	Actively improve yourself
		Teacher experience
		linking theory with practice
	Emotional embedding	Cherish unique values
human factor	personal traits	Curriculum strategy
		Good at reflection and summary
	member of family	The influence of family culture
	the succession of teachings from a master to his disciples	The influence of excellent teachers
		Quality class competition
	colleague	Interactions with peers and related teachers
	child	The enthusiasm of children
		Children's classroom practice
		Daily performance of young children
		Children's ability
		Characteristics of children
	Garden leadership	Study in an excellent kindergarten
Organizational factors	social benefits	favorable atmosphere
	Teacher community	Collective teaching and research activities
		Work with colleagues or related teachers
		Go out training
	Teacher training	Network learning
		study on one's own
	Hardware guarantee	Park facilities
Teaching ontology factors	content of courses	teachers'quality
		Teaching object
		teaching method
		instructional objectives
		course content
	course evaluation	Evaluation of the teaching effect
	Cultural background factors	traditional culture
		cultural inheritance
		The educational function of culture

4. Model Interpretation of PCK Influencing Factors for Kindergarten Teachers

This study through the grounded theory of kindergarten teachers PCK influencing factors model, divided into personal factors-human factors-organization factors-teaching ontology factors so four main categories, in the fourth chapter, I will introduce you to the details behind each factor and related interview text, to prove the correctness of the influencing factors model and credibility.

4.1. Personal Factors

The first category of influencing factors is individual factors, which mainly refers to some characteristics of individual teachers, and the influence of PCK teaching effect[3].

4.1.1. Personal Traits

Personality traits reflect the characteristics of teachers and their influence on PCK teaching. Because teachers play the only core role in children's teaching, teachers' personality traits will also directly affect children's learning effect.

(1) Curriculum strategy

Experienced kindergarten teachers will adopt a variety of curriculum strategies to promote children's learning, and the six interviewees interviewed in this research are all experienced teachers, so they have accumulated a variety of curriculum strategies. The curriculum strategy is very subjective and completely depends on the characteristics of teachers. For example, some teachers prefer to play games with children, some teachers prefer to let children laugh happily and learn while laughing, and some teachers pay attention to teaching textbook knowledge, the most important thing is to explain the knowledge point clearly, rather than playing games. This makes the difference between people.

(2) Good at reflective practice

Teachers of another very important personality traits is good at reflection practice, especially from the daily repeated teaching, can promote teaching experience of long time, and often reflect on their teach good, have a good contact with children, it requires very strong sense of self-reflection consciousness, and timely summarizes the problem, targeted improvement.

4.1.2. Motive

The motivation of personal factors mainly examines why teachers are engaged in the profession of kindergarten teachers, that is, to ask teachers about the original career choice, mainly in professional, youth, sense of achievement and love for children.

(1) achievability

The sense of achievement refers to the satisfaction and achievement brought by kindergarten teachers in the process of teaching and getting along with children. For example, the respondent guifen said, "Children's love is immature and pure, how much you give them, they can give you back as much, children's unconditional trust and dependence on themselves will get a sense of achievement", which is also what drives her to choose the career of kindergarten teacher.

(2) juvenescence

Being younger is the benefit of being a kindergarten teacher. It is generally felt that if you get along with young people, you will also get infected and thus look young and energetic; But if you keep getting along with the elderly, your mind will age and grow older. One interviewee said, "I am often time with my children, with simple thoughts, and I will be young and energetic."

(3) University major

Some teachers choose the kindergarten teacher this profession, because it is compatible with their own university major. Respondents said, for example, "in order to have good employment opportunities after graduation", "your university chosen professional is early childhood education, also didn't learn other professional knowledge, so directly after graduation when the kindergarten teacher is the most counterpart career choice, if choose other career, I have no early learning, it is hard to find satisfactory".

(4) obtain employment

Kindergarten teachers are a relatively easy employment choice, respondents said, "this job is a good job, you don't have to worry about unemployment, and when coming in, there is no one to compete with you, our classmates can find the right job as long as they graduate."

(5) Love for children

Love for children is the main reason why teachers choose their jobs. Almost all the respondents said, "like early childhood education, like and children together", "I love children, like to interact with them, willing to observe their growth and progress, think preschool education work is a creative job, has a certain challenge, will get satisfaction", also have respondents such as wangjj, she is "like children, willing to engage in early childhood education career", through personal field after contact with children, she feel "feel children very lovely, willing to contact this group".

4.1.3. Emotional Embedding

Emotion embedded discusses the emotions and feelings that teachers invest in the PCK teaching process, which is also very important for a soulful teaching experience. In this part, some interviewees expressed that they cherish the unique value of children's games and life, and would invest their true feelings to get along with children, such as their own love, their own love, their own joys and sorrows, and children heart to heart, hand in hand.

4.2. Human Factor

The second part is human factors, which reflects the influence of others on teachers' PCK teaching activities, that is, the influence of teachers' personal social relations and interpersonal relationships. According to different levels of intimacy, it can be divided into several different groups, including family members, teachers, colleagues, children and kindergarten leaders.

4.2.1. Child

Children are the object of teachers' teaching, is the object of PCK practice, teachers themselves are the main body of teaching, so children are the foundation and necessity of the existence of teachers.

(1) The enthusiasm of children

Children's enthusiasm to participate in activities, as well as whether the goal of activities is achieved, whether the key and difficult points of activities are broken through.

(2) Children's classroom practice

Teachers will mainly observe children's day activities.

(3) Daily performance of young children

How to judge the children's daily performance? The interviewee wangjj said, "by observing the different performance of children in the day's activities, such as children's behavior in the corner activities, the communication between children, children's sports ability and self-safety protection awareness in outdoor activities, the development of children's self-care ability in various life activities", the daily performance here also includes the achievement of the teaching objectives; achieved, and whether the key and difficult points.

(4) Children's ability

Children's abilities include a lot, but in the teacher's opinion, it is mainly the ability related to the learning content. Respondents believed that "the ability of expression, judgment and independent thinking of young children is the most important".

(5) Characteristics of children

Kindergarten teachers need to teach children in accordance with their aptitude according to their characteristics, which requires an accurate grasp of children's characteristics. Children's characteristics include "children's learning ability, learning attitude, learning interest, etc.; look at the achievement of teaching objectives", teachers will "adjust the difficulty of the age of children's knowledge level, or the difficulty of two teaching, from easy to difficult", this is,

according to the characteristics and needs of children, especially between urban and rural children, there is a huge difference, need to develop according to the different characteristics of urban and rural children.

4.2.2. Colleague

The help between colleagues is also very great, mainly reflected in the communication and interaction with colleagues, for the help of teachers. For example, some interviewees said that "the group and teachers should conduct more research and grinding classes, more communication, more reflection and more analysis," which can "discuss the learning experience with each other and discuss the teaching content knowledge suitable for children". In addition, the interaction between and colleagues also good, "with experienced old teachers share teaching experience and communication, is conducive to my experience, better choose teaching content service for children, at the same time know what the teaching content must be rigorous, oneself should pay attention to", this shows that mutual evaluation between colleagues, criticism, and the collective research activities are helpful to the development of PCK.

4.2.3. Inherit Excellent Teachers

(1) Suggestions from excellent teachers

The suggestions of excellent teachers can help new teachers grow rapidly and improve the teaching effect of PCK. Respondents, for example, said, have the teacher advised her, let her "teaching content professor must pay attention to the course integration between various fields, it should pay attention to restore some inherent connection between different areas, restore some content to the whole, contact, and as far as possible to find and dig new and more contact clues", the teaching effect to her.

(2) Quality class competition

Some teachers said that we regularly hold quality class competitions every semester. During the competition, we can see the excellent course display and the shortcomings of our own courses, so as to promote the rapid improvement and promotion of our own thoughts and ideas.

(3) Garden leadership

Kindergarten leaders and other kindergartens are also very helpful. For example, some teachers will go to other kindergartens to learn and visit, learn methods and teaching contents, and also understand excellent children.

(4) member of family

Some teachers' parents will give advice, such as "also due to the advice of parents, preschool education work in great demand." For example, the respondent hanrj said, "Influenced by the family culture, three generations of family members are engaged in the teaching profession, so they have been influenced by them since childhood."

5. Conclusion

After the interview and root theory analysis described above, this study has a basic understanding of the influencing factors of PCK of kindergarten teachers, which will be further discussed next.

Shulman Subject knowledge for the first time (pedagogical content knowledge, PCK) concept, its connotation mainly refers to the general teaching experience, pedagogy, subject teaching knowledge and philosophy and special knowledge of special knowledge, specifically is a comprehensive professional knowledge and pedagogy knowledge to understand the specific unit teaching organization and presentation, to adapt to the students' different interests and ability.

"What to teach" is the first dimension of PCK theory, and also the first problem to be solved by using PCK theory. "What to teach" points to the teaching content, emphasizing the scientific nature and applicability of the teaching content. Teachers' understanding of the teaching content shows the quality of their teaching activities. The core question of "what to teach" points to the essential content of educational concepts and educational principles. Core experience is an important concept and main part of educational curriculum knowledge, which is called an important knowledge point in the curriculum theory of China. In curriculum teaching, only by focusing on the core problems, paying attention to the core experience in the field of education curriculum, and understanding the ontological value and teaching method of the core experience, can teachers help children to obtain the accumulation and development of emotion, ability and experience, and improve their ability to solve problems independently. Therefore, under the guidance of PCK theory, kindergarten teachers first focus on the teaching content in the subject and combine with the specific curriculum.

"Who to teach" is the intermediate link of PCK theory, and also the premise to ensure the correct application of PCK theory. "Who to teach" emphasizes the teachers' comprehensive understanding of the object of education. The development of children's ability is the core goal of teachers to carry out teaching activities, and it is also the educational goal generally advocated and respected by the academic circle. However, the development of children's ability is a relatively general and broad concept, which is not conducive for teachers to design and carry out specific teaching activities. From the PCK theory, the knowledge of owning objects requires teachers to understand the degree of children's understanding of concepts and the degree of learning skills in different teaching fields. Effective teaching should occur within the LDs of young children, and knowledge within LDs is specific. Under the guidance of developing suitability education, teachers need to integrate the knowledge and skills that children must master in specific fields into the general understanding of promoting children's development.

"How to teach" is the key link of PCK theory, and also the concrete embodiment of educational methods, which directly affect the quality of education. The problem of "how to teach" requires preschool teachers to fully grasp the relevant knowledge of educational methods and preschool development characteristics, so as to effectively connect the output of educational content and the absorption of educational content. PCK theory defines teaching method knowledge as methodological knowledge which is closely linked to subject knowledge and aims to promote students to understand subject concepts. Teaching methods can best reflect the beauty of art, form and value of education. The problem of how teachers teach is directly related to how children learn. In kindergarten, integrated teaching is the most common educational practice. Considering the educational situation unique to preschool education, the teaching methods should not only consider the methods with domain characteristics, but also consider the general teaching methods, that is, the methods applicable to all teaching situations and multiple fields. This is also what distinguishes the PCK theory of preschool education from other educational stages. Teachers can usually list a lot of general teaching method knowledge, such as teaching in the game, to mobilize children's various senses in learning, to use specific materials to help children construct knowledge, to pay attention to let children experience. Considering the uniqueness of young children's psychological development, these teaching methods are an important part of developing suitability education. It is the most basic requirement for teachers to understand the basic means of developing appropriate education and use these methods in daily educational practice. PCK theory requires teachers to further, requiring teachers to master the knowledge of specific field teaching method.

The principle of education is the dual embodiment of the noumenon law and the object law, that is, it should not only have the noumenon development law of education, but also consider the development law of the educated. The teaching concepts and teaching methods that teachers follow when carrying out educational activities must conform to the law of children's

development, and maintain a high degree of consistency between the two to effectively play the role of education.

References

- [1] S.P Huang , Y.Kong : The Wisdom of attaching Equal importance to Moral and Intellectual Education in Ancient China and its Enlightenment, Chinese Journal of Special Education, Vol.10(2018), p83-87.
- [2] Y.Zhou, M.ZSong : An Analysis of Interdisciplinary identity and Measures for college foreign language teachers in the Context of Big Data , A study of eight narrative Questionnaires based on Nvivo Qualitative analysis software, Journal of Mudanjiang University of Education, Vol09 (2018) p.59.
- [3] Y.L Fang : A Study on the Status quo of preschool teachers' Teaching Behavior in Collective Teaching Activities, Master Thesis of Zhejiang Normal University, China, 2014, p20-26.
- [4] S.M Bu: Analysis of "Core Experience", Journal of Education Science, (11)2018.
- [5] Z.Li : A Case Study of Life Science Teaching Knowledge for preschool teachers, Master Thesis, Northwest Normal University, China ,2015 p17-20.