

A Study on Current Situation of Professional Quality of Preschool Inclusive Education Teachers of Henan Province in China

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The purpose of this research is to get comprehensive understanding about the current professional quality of preschool inclusive education teachers in Henan Province of China. According to the overall score of professional quality of teachers and the differences in demographic variables, finding the problems exists and proposing suggestions to improve the professional of preschool inclusive education teachers.

In this research, the method quantitative research was adopted, the research subjects include 430 teachers (144 pre-test objects and 286 formal-test objects) of inclusive classes in 106 inclusive education pilot kindergartens in Henan Province. "The professional quality questionnaire of preschool inclusive education teachers in Henan Province" with good reliability and validity was used for formal testing. SPSS 26.0 Statistical Analysis Software was applied for data analysis, and research on the current situation of professional quality of the teachers was performed utilizing descriptive statistics, one-way analysis of variance, and independent-samples t-test.

The formal test results showed that the overall score of professional quality of preschool inclusive education teachers in Henan Province was higher than 4 points ($M=4.069$, $SD=.605$), which had differences in the scores of each dimension, including: Professional perception and ethics ($M=4.408$, $SD=.582$); Professional knowledge ($M=3.734$, $SD=.856$); Professional competence ($M=4.128$, $SD=.630$). The results of one-way ANOVA or independent sample t-test with demographic factors as independent variables showed that there were four background variables with a significant difference in the professional quality level of the teachers: Teaching age (Professional knowledge $F=3.096$, $p<.05$); Professional title (Professional Knowledge) $F=3.333$, $p<.05$; Professional competence ($F=3.129$, $p<.05$); Professional course learning (Professional knowledge) $F=3.755$, $p<.001$; Professional competence ($F=2.340$, $p<.05$); Kindergarten level (Professional competence $F=3.471$, $p<.05$).

The results showed that the professional quality of preschool inclusive education teachers in Henan Province had a good overall level, but a low score in the dimension of professional knowledge, which needs further improvement. In the four variables of teaching, age, professional title, whether to participate in professional curriculum learning, and the kindergarten level, there were significant differences in professional quality of the teachers. Therefore, the professional quality level of preschool inclusive education teachers in Henan Province can be improved from this.

Key Words : Preschool inclusive education teachers, Professional quality, Professional perception and ethics, Professional knowledge, Professional competence

논문 투고일: 2021. 11. 29.

최종심사일: 2021. 12. 26.

게재확정일: 2021. 12. 27.

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I. Introduction

Since the 1970s, inclusive education has become the topic mostly discussed in the special education field in countries all over the world, and the perception and method advocated by inclusive education have been recognized as well. In 2000, the Fifth International Special Education Conference held in the University of Manchester, with “inclusive education” as the theme, has further promoted development of inclusive education and pointed out a new development direction of general education and special education (Deng, & Liu, 2013). Thereafter, systematic reform in teacher resources, teaching methods, and teaching materials, etc. of general schools was performed in various countries, to promote general schools to “inclusive schools” (Song, 2018). In terms of preschool inclusive education, the development trend of preschool inclusive education was mostly agreed. Yang (2005) analyzed five aspects such as impact of preschool inclusive education on the development of special and general young children, etc., and results showed that inclusive education had a positive impact on both special and general young children, which was worthy of promoting. In recent years, requirements for the development of preschool inclusive education have been clarified at policy level in China, and all places are encouraged to strengthen development of preschool education for disabled children. To conform to this trend, the Education Department of Henan Province has launched and implemented pilot project of preschool inclusive education since 2015, and by the end of 2019, it has selected 5 batches of total 182 general kindergartens to implement pilot preschool inclusive education, which has achieved full coverage of 158 counties (cities and districts) throughout the province. At present, researchers have conducted relevant studies on representative provinces in the developed areas of eastern China and the underdeveloped areas of western China, but there is a lack of relevant studies on the central region. Henan Province is the most populous province in central China, and it has performed outstandingly in the implementation of preschool inclusive education. Therefore, this study selects Henan Province as a representative province to

investigate and study the professional qualities of preschool inclusive education teachers. The value of researching within Henan Province is that it can not only supplement existing research, but also provide the possibility for future comparative research among multiple regions.

It was mentioned in Working Rules for Kindergartens published in China in 2016 that, kindergarten education should provide development opportunities and conditions for special children with the ability to receive general education. In Professional Standards for Kindergarten Teachers (For Trial Implementation), it also put forward specific requirements for professional knowledge of preschool education teachers in educating special children. As shown in the two documents, the preschool education objects in China shall include special children, and special education related knowledge shall be effectively integrated into professional quality of general preschool education teachers. In addition, many researches both at home and abroad showed that, the teachers' quality had a greater impact on the students than class size, class structure, family background and other factors (Sanders, & Horn, 1998). However, in the inclusive education practice in China, there are problems e.g. most preschool special teachers come from the general education system, and lack special education related knowledge, etc., and "the teachers' lack of professional knowledge and method of special education" is currently the main difficulty in learning in regular classes (Wang, Yang, & Zhang, 2006). Confronting with the phenomena that among the special children, there were multiple disability types, severe disability, increased children with multiple disabilities and significant individual difference, etc. in recent years (Yang, & Zhang, 2009), in order to guarantee that the special children can receive high-quality learning opportunities and outcomes, improving professional level of preschool inclusive education teachers has become an urgent problem to be addressed in preschool inclusive education in China. Based on this, this research will make discussions on structure and current situation of professional quality of preschool inclusive education teachers at present.

This research aims to seek answers to the following questions:

1. What is the overall level of professional quality of preschool inclusive education teachers in Henan Province?

2. What are the characteristics of the demographic variables on professional quality of preschool inclusive education teachers in Henan Province?
3. Based on the different performance of demographic variables, what are the improvement suggestions regarding shortcomings of professional quality of preschool inclusive education teachers in Henan Province?

II. Theoretical Background

1. Definition of perceptions

1) Preschool inclusive education teachers

Preschool inclusive education refers to arranging special young children with developmental disabilities aged 3–6 years old in general classes, to learn and live together with general young children, and providing special education services suitable for development of the children with special needs, so as to make general education and special education inclusive and integrated with each other (Wu, 1998). Simply put, it refers to the form of education that allows special children to enter ordinary kindergartens and receive care and education together with ordinary children (Lei, 2015). Inclusive education teachers refer to teachers who educate and teach in general classes containing students with disabilities (Feng, 2014). Well, Preschool inclusive education teachers are teachers who engage in preschool inclusive education, that is, teachers who engage in educational activities in general classes containing special children. Preschool inclusive education teachers in this research refer to young children teachers acting as head teachers and undertaking education and care work in general classes containing special young children, excluding resource teachers and itinerant instructors.(p.)

2) Professional quality

Zhang(2007) defines quality as all the inherent characteristics that determine people's behavior habits and ways of thinking. Broadly speaking, it also includes knowledge and skills. As the concentrated manifestation of the teachers' comprehensive quality, teachers' professional quality is an internal regulation and requirement for teachers as a specialized profession, and is the quality manifested by the teachers during the education and teaching process that decides the education and teaching effect and has direct or potential impact on physical and mental development of the students (Liu, 2004). Ye (1998) pointed out that, the teachers' professional quality consisted of educational perception, professional knowledge and competence. As for relevant researches and opinions of different scholars both at home and abroad, they performed discussions on the teachers' professional quality mostly from knowledge, perception (attitude) and competence. However, in this research, the teachers' professional quality is defined as the quality necessary for young children teachers to be competent for education and care work, and it consists of three aspects: professional perception and ethics, professional knowledge, and professional competence.

3) Children with special needs

Children with special needs, in a broad sense, refer to children whose physical and mental development level is lower than that of ordinary children, or who have obvious deficiencies in their learning and living abilities (Cui, 2019). In a narrow sense, it refers specifically to children with disabilities, that is, children with physical and psychological development deficits (Chen, 2015). In this research, the young children with special needs refer to those young children with developmental disabilities both physically and mentally and need to receive special education service. Physical and mental disabilities mainly include visual disability, language disability, mental retardation, autism, learning disability, developmental retardation and other significant disabilities, etc.

2. Previous researches

1) Research on connotation and structure of teachers' inclusive education quality for learning in regular classes

Standards for quality of inclusive education teachers have been formulated in many countries, for example, Framework of Inclusive Teachers was made in Europe, which established four core values: attach importance to diversity of the learners, support all learners, cooperate with others, and make persistent development of the teachers' personal specialties. It was specified in the UK that, to be competent for inclusive education and teaching, the teachers should be equipped with control ability of the teaching subjects and teaching contents, the ability to manage the class and organize communication in class, the ability to be good at using teaching strategies, the ability to make teaching assessment, and the ability to participate in school management and cooperate with others, etc. Where it is emphasized in particular that the teachers must be equipped with the ability to discover and educate supernormal children and other special children. It has been put forward by many researchers that, quality of inclusive teachers should include basic knowledge for both special education and general education (Verity, & Amanda, 2011).

Researches and discussions on structure of inclusive education quality of general education teachers have been carried out in China from different perspectives. Hao and Lan (2004) thought that, to implement inclusive education, the general education teachers should be equipped with the knowledge, competence and emotion for educating special children; while from the perspective of democratic and equal education value, Wang and Hu (2008) put forward that under the background of inclusive education, the general education teachers should also be equipped with brand-new educational perception, knowledge and competency; by "activity analysis" and "system analysis method", Meng (2008) determined the inclusive education quality structure of the teachers under the educational perception including professional perception, professional intelligence, professional feelings and professional norms; Guo (2014) investigated current status of professional develop-

ment of the teachers for learning in regular classes in Heilongjiang Province in terms of three aspects: professional knowledge, professional competence, and professional perception and attitude respectively; Feng (2014) investigated core professional quality of teachers for learning in regular classes from three aspects: professional knowledge, professional competence and professional attitude; Mu et al. (2015) constructed four-dimensional professional quality structure of teachers for learning in regular classes in current stage: professional attitude, professional knowledge, professional competence and ability to gain support. The structure of inclusive education quality ought to be equipped by the general education teachers as proposed by similar foreign research institutes is similar to that proposed by domestic ones, Zhou and Wang (2017) discovered by sorting out and analyzing foreign literature that, inclusive education quality of inclusive education teachers in the USA mainly consisted of three basic dimensions: professional value, professional knowledge and competence; Rouse (2008) pointed out that inclusive education teachers shall form inclusive education perception, inclusive education knowledge and inclusive education competence. To sum up, it can be discovered that, although different researchers have different divisions of the structure of inclusive education quality of the general education teachers, they were mostly carried out centering on the three aspects: professional knowledge, professional competence (abilities) and professional attitude (perception or value).

2) Research on current situation of professional quality of teachers for learning in regular classes

Researches on professional perception and attitude of teachers for learning in regular classes are as follows: domestic scholar Zhang and Gao (2014) discovered upon investigation that, the general education teachers generally held a negative attitude toward special children's learning in regular classes, while most of the general education teachers took a reservation attitude toward this, which depended on type, severity and other conditions of the special children's disabilities. Yan (2008) discovered upon investigation that,

young children teachers held an attitude between negative and neutral toward preschool inclusive education. Foreign general education teachers were also not optimistic toward inclusive education, and the Dutch general education teachers were still doubtful toward accepting special children, they always refused the special children for the causes of insufficient professional knowledge and competence for special education as well as insufficient experience in educating special children, besides, they also refused their country to develop more inclusive education schools (Xiong, & Lei, 2011), there was also similar negative attitude in India, and the Indian general education teachers were generally negative toward development of special children, and even with prejudice, they rejected special children because they were worried that the special children would occupy more time of the teachers, and many general education teachers thought it was not a basic human right for special children to receive inclusive education, which would lower development standard of the school as deemed by the majority of general education teachers, and special children shall learn in an isolation environment (Wang, & Deng, 2015). In addition to negative research conclusions, there were also domestic researches finding that the general education teachers were receptive toward special children's learning in regular classes. It was pointed out in research of Wang, Yang and Zhang (2006) that, more than a half (63.73%) of the general education teachers thought that the schools were supportive toward learning in regular classes, while only a few general education teachers (9.87%) did not think so. It was discovered by Zeng (2007) upon investigation that, general elementary school teachers were generally positive toward learning in regular classes, but such positive attitude was still in elementary stage of formation. Research by Shi and Chen (2017) also showed that the general education teachers were positive toward inclusive education on the whole.

Researches on inclusive education knowledge and competence of the teachers for learning in regular classes are as follows: the teachers for learning in regular classes had insufficient ability to make personalized education plan, lacked the ability to make measurement and diagnostic assessment, and also had insufficient ability to design appropriate course subjective, content and carry out targeted education and training (Hua, & Li, 2006); research of Xu (2011) showed that, mathematics teachers for learning in regular classes

grasped insufficient theory of special education; in addition, they grasped insufficient special children related basic knowledge and competencies, and would always be confused about education and teaching of special children (Li, 2012); investigation done by Tan and Ma (2012) found that, more than a half of the general education teachers lacked the special education knowledge and competence, and the majority of the general education teachers did not understand assessment knowledge of special children, and psychological characteristics of special children as well as corresponding education and teaching strategies toward special children. Investigations of Wang and Wang (2015) and Zhang (2016) showed that, the teachers for learning in regular classes had imbalanced development in various dimensions of inclusive education quality, where, the teachers for learning in regular classes had a poor ability to seek for support when being confused, and their score of professional knowledge was also significantly lower than their scores in professional competence and professional attitude. In this aspect, although foreign inclusive education started relatively earlier than domestic ones, the foreign general education teachers' grasp situation of inclusive education knowledge and competence was also hard to satisfy the requirements for development of inclusive education. Investigation showed that, the Scotland general education teachers lacked inclusive education quality relatively (Wang, & Yang, 2017), most of Australian general education teachers hadn't received any professional training on relevant knowledge and competence of special education or inclusive education, and it was difficult for them to be competent for teaching of special children, and in general schools, there was a critical shortage of teachers equipped with special education qualification or relevant teaching experience (Liu, & Yang, 2012). To sum up, on the whole, current understanding of the general education teachers regarding knowledge and competence of inclusive education is hard to satisfy urgent requirement of the large number of special children learning in regular classes for receiving high-quality education.

At present, elementary school and above-level school teachers are taken by most of the researches as the research subjects on inclusive teachers' professional quality both at home and abroad, mainly in developed areas or cities in terms of region. Therefore, based in Henan Province in the Central Region of China, young children teachers engaged in inclusive education in Henan Province are selected as the investigation subjects in this re-

search, with the purpose of filling in the previous research gap.

III. Research Methods

1. Research subjects

Pre-test subject: Teachers from inclusive classes of 36 pilot kindergartens of inclusive education in Henan Province. 144 valid questionnaires were collected. Formal test subject: teachers from inclusive classes of 70 pilot kindergartens other than the pre-test kindergartens. 286 valid questionnaires were collected. Basic information of formal test subjects is as shown in <Table 1>.

<Table 1> Statistical table of demographic variables

Demographic variables	Item	Number of teachers(N)	Percentage (%)
Teaching age	γ . 1-4 years	77	26.9
	δ . 5-15 years	136	47.5
	τ . Above 15 years	73	25.6
Professional title	A. Elementary and secondary school Level three	14	5.0
	B. Elementary and secondary school Level two	115	40.2
	C. Elementary and secondary school Level one	51	17.8
	D. Elementary and secondary school Senior Level	25	8.7
	E. Not rated	81	28.3
Professional course learning	Yes	82	28.7
	No	204	71.3
Level of kindergarten	ϵ . Provincial demonstration kindergarten	112	39.2
	ϕ . Municipal demonstration kindergarten	115	40.2
	λ . Level-one municipal kindergartens	30	10.5
	ω . Level two or below municipal kindergartens	29	10.1
	Total number of teachers	286	100

2. Research tools

1) Exploration of constitution of professional quality

In this paper, Professional Standards for Teaching Young Children and Professional Standards for Special Education Teachers issued by the Ministry of Education of the People's Republic of China was combed and analyzed, and an organic combination of the requirements of both documents for professional quality of teachers was made, thus forming constitution elements of professional quality of preschool inclusive education teachers preliminarily. Then opinions from 6 experts of inclusive education (4 experts from universities and 2 managers of inclusive kindergartens), and 5 teachers of inclusive classes were obtained, and constitution of professional quality of preschool inclusive education teachers in this study was determined, as shown in <Table 2>.

<Table 2> Constitution of professional quality of preschool inclusive education teachers

Professional quality of preschool inclusive education teachers	
1. PPE	1. Agree with the perception of preschool inclusive education 2. Understand diversity and difference of young children 3. Insist on educational equality 4. Equipped with compassion, persistence and frustration endurance
2. PK	1. Characteristics of special young children 2. Knowledge and method of educational assessment 3. Knowledge in educational psychology and physiology 4. Special education strategy 5. Rehabilitation training related knowledge and method 6. Management method of inclusive classes 7. Modern information technology and other auxiliary knowledge
3. PC	1. Competence to create harmonious environment 2. Competence to make individualized education plan 3. Competence to make multiple evaluation and appreciation and stimulation 4. Competence to make course adjustment 5. Competence to make educational communication and cooperation 6. Competence to make development and reflection 7. Competence to correct problematic behaviors

Note: 1. PPE: Professional perception and ethics, 2. PK: Professional knowledge,
3. PC: Professional competence

2) Preparation of initial questionnaire

In this paper, professional quality theory of preschool inclusive education teachers was taken as the basis for preparing questionnaire, and reference was made to previous researches related with inclusive education quality, and the main reference questionnaires in this research were: Questionnaire of Inclusive Education Quality for Undergraduates of Normal Major prepared by Chen(2019), Questionnaire of Inclusive Education Quality of Kindergarten Teachers prepared by Qi(2017), Investigation of Recognition Degree of Kindergarten Teachers toward Inclusive Education Quality prepared by Cui(2016), Questionnaire of Professional Quality of Teachers for Learning in Regular Classes prepared by Wang & Wang (2015) and so on, from which the questions suitable for this research were selected. In order to make preliminary investigation of the clarity and completeness of the narration of the questions, opinions from several experts of inclusive education, researchers of preschool inclusive education and principals and teachers of inclusive kindergartens were collected, to delete or add the preliminary questions, and adjust the narration of the questions, so as to make the questions closer to practical work of the preschool inclusive education teachers, and more adaptive to characteristics of the test subjects, thus forming the initial questionnaire.

The initial questionnaire consists of two parts. The first part is the information of the subjects, which consists of 12 questions such as teaching age, education background, and nature of the kindergarten, etc. The second part is the core contents of the questionnaire, which includes contents of three dimensions: 11 questions regarding professional perception and ethics; 8 questions regarding professional knowledge; 23 questions regarding professional competence, and there are total 42 questions. The questionnaire adopts five-grade scoring method, and in accordance with the fitting degree between practical condition and the narration in the question of the subjects, the options are divided into five grades: "Strongly disagree", "Relatively disagree", "General", "Relatively agree", and "Strongly agree", which are scored 1, 2, 3, 4 and 5 respectively, where, the higher the score, the higher relevant professional quality of the teacher.

3. Research process

Pre-test data was collected from April 1, 2021 to April 19, 2021, and after eliminating invalid questionnaires, the remaining 144 questionnaires were performed reliability and validity analysis, and the initial questionnaire was revised, which was completed on April 26, 2021. Formal test data was collected from April 28, 2021 to May 30, 2021, and after eliminating the invalid questionnaires, 286 valid questionnaires were kept for further statistical analysis.

4. Data analysis

SPSS 26.0 was used to complete data processing in this research. 144 pre-test samples were performed item analysis, exploratory factor analysis and structure validity analysis, and the questionnaire was revised according to the analysis results, thus determining the formal questionnaire; 286 samples of formal test were performed reliability analysis, and research on current situation and impact factors of professional quality of the teachers were performed by means of descriptive statistics, one-way analysis of variance and independent-samples *t*-test.

IV. Research Results

1. Reliability and validity analysis of pre-test

1) Item analysis

27% of the highest total score and 27% of the lowest total score were taken as the

high-score group and the low-score group. Scores of the two groups on each question were performed *t*-test, and the results showed that scores of the subjects in both groups on all questions were different, and all results were retained. Correlation between each question and the total score was calculated, and the questions with relatively low correlation ($r < .2$) were eliminated, and the questions with correlation coefficient of .2-.29 required modification. Results showed that correlation coefficient between the first question and the total score was .272, so it required modification, while correlation coefficient between other questions and the total score was within the range of .397-.897, so they were retained.

2) Exploratory factor analysis

Exploratory factor analysis of 144 data was performed by SPSS 26.0 KMO and Bartlett sphericity test were performed by factor analysis, thus obtaining KMO=.929, which meant that Bartlett sphericity test reached a significant level, and the data was suitable for factor analysis. Principal axis factor method was adopted, and oblique rotation was performed, then the items were excluded according to the following standards after rotation: ① Communality of item $< .4$; ② Maximum load of item $< .4$; ③ There is a relatively high load in multiple factors; ④ There are less than 3 items under this factor; ⑤ There is a big difference from other items of this factor in meaning. Only one item shall be eliminated once, and factor analysis must be performed again after elimination of each item.

According to the above standards, total 11 items i.e. Item 14, 9, 15, 18, 21, 23, 26, 29, 32, 33 and 37 were excluded, while 31 items were kept. At last, 3 factors were extracted from factor analysis of professional quality of preschool inclusive education teachers in Henan Province, where, the factor 1 included 11 items, and was named as “professional knowledge”; factor 2 included 9 items, and was named as “professional perception and ethics”; factor 3 included 11 items, and was named as “professional competence”. The 3 factors obtained from exploratory factor analysis were basically consistent with the previous dimensions of theoretical perception, so this questionnaire was equipped with a rel-

atively good content validity.

3) Structure validity analysis

Correlation coefficient between total score and the score of each dimension in this questionnaire was tested, and it can be known from <Table 3> that, the correlation between the total score and the score of each dimension was always bigger than the correlation among the dimensions; therefore, this questionnaire was equipped with good structure validity.

<Table 3> Matrix of correlation coefficient between each dimension and the total score

	1. PPE	2. PK	3. PC	4. TPQ(TS)
1. PPE	1			
2. PK	.424**	1		
3. PC	.588**	.791**	1	
4. TPQ(TS)	.709**	.913**	.931*	1

* $p < .05$, ** $p < .01$, *** $p < .001$.

Note: 1. PPE: Professional perception and ethics, 2. PK: Professional knowledge, 3. PC: Professional competence, 4. TPQ(TS): Teachers' professional quality(Total score)

4) Reliability analysis

Internal consistency coefficient between total score and each dimension was tested, and the results were as shown in Table 4, internal consistency coefficient between total score and each dimension was above .9, which indicated that this questionnaire was equipped with a good reliability and high stability.

<Table 4> Reliability of questionnaire on professional quality of preschool inclusive education teachers

		(N=286)
Variable	Cronbach α coefficient	
1. PPE	.900	
2. PK	.967	
3. PC	.950	
4. TPQ(TS)	.967	

Note: 1. PPE: Professional perception and ethics, 2. PK: Professional knowledge, 3. PC: Professional competence, 4. TPQ(TS): Teachers' professional quality(Total score)

2. Statistics on the scores of professional quality of preschool inclusive education teachers in Henan Province

Descriptive statistics of mean score and total mean score of each dimension of the teachers in professional quality questionnaire was performed, and the results are as shown in <Table 5>.

<Table 5> Score of each dimension and items of professional quality of preschool inclusive education teachers

						(N=286)
Dimension	M	SD	N(%) at M<3	N(%) at 3≤M<4	N(%) at 4≤M	
1. PPE	4.408	.582	9(3.1)	42(14.7)	235(82.2)	
2. PK	3.734	.856	66(23.1)	99(34.6)	121(42.3)	
3. PC	4.128	.630	14(4.9)	95(33.2)	177(61.9)	
4. TPQ(TS)	4.069	.605	–	–	–	

Note: 1. PPE: Professional perception and ethics, 2. PK: Professional knowledge, 3. PC: Professional competence, 4. TPQ(TS): Teachers' professional quality(Total score)

Results showed that, preschool inclusive education teachers in Henan Province had a mean professional quality score of above 4, which was at a good level. There were significant differences in scores of the three professional quality dimensions, where, professional perception and ethics scored the highest, then professional competence, while professional knowledge scored the lowest.

3. Comparison of differences in professional quality of preschool inclusive education teachers in Henan Province in terms of demographic variables

One-way analysis of variance or independent-samples *t*-test was performed with demographic factors as the independent variables, and results showed that the 4 background variables: teaching age, professional title, participation in learning of professional courses, and level of kindergarten had a significant impact on teachers' professional quality. The results are as shown in <Table 6>~<Table 9>.

<Table 6> Difference in inclusive education quality of the teachers in teaching age (N=286)

Dimension	Teaching age (M±SD)			F	Sig.	LSD
	γ (N=77)	δ (N=136)	τ (N=73)			
1. PPE	4.405±.555	4.408±.617	4.409±.549	.001	.999	$\gamma > \tau$
2. PK	3.865±.835	3.767±.888	3.532±.788	3.096	.047	
3. PC	4.196±.626	4.162±.621	3.990±.638	2.427	.090	

Note: γ . 1-4 years, δ . 5-15 years, τ . Above 15 years 1.

1. PPE: Professional perception and ethics, 2: PK: Professional knowledge, 3: PC: Professional competence

Results showed that, score of the teachers with different teaching ages in professional knowledge differed significantly. Further analysis showed that, teachers with teaching age of 1-4 years scored significantly higher than those above 15 years in terms of professional knowledge.

<Table 7> Difference in inclusive education quality of the teachers in professional titles

Dimension	Professional title (M±SD)					F	Sig.	LSD
	A (N=14)	B (N=115)	C (N=51)	D (N=25)	E (N=81)			
1. PPE	4.357 ±.352	4.416 ±.609	4.264 ±.660	4.489 ±.512	4.469 ±.537	4.581	.333	-
2. PK	3.851 ±.708	3.755 ±.891	3.667 ±.816	3.204 ±.702	3.889 ±.844	3.333	.011	A>D, B>D, C>D, E>D

3. PC	4.214 ±.573	4.221 ±.605	4.030 ±.680	3.771 ±.482	4.150 ±.648	3.129	.015	A>D, B>D, E>D
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Note 1: A. Elementary and secondary school Level three, B. Elementary and secondary school Level two, C. Elementary and secondary school Level one, D. Elementary and secondary school Senior level, E. Not rated, 1. PPE: Professional perception and ethics, 2. PK: Professional knowledge, 3. PC: Professional competence

Note 2: Kruskal Wallis test in Nonparametric Test was used to report χ^2 Value as the uneven score variance of teachers with different professional titles in the dimension of professional perception and ethics.

Results showed that, in terms of professional knowledge and competence, score of teachers with different professional titles differed significantly, and further analysis showed that, level three elementary and secondary school teachers, level two elementary and secondary school teachers, level one elementary and secondary school teachers and the teachers not rated scored significantly higher than those senior level elementary and secondary school teachers.

<Table 8> Difference in inclusive education quality of the teachers in professional course learning

Dimension	Professional course learning (M±SD)		<i>t</i>	<i>Sig</i>
	Yes (N=82)	No (N=204)		
1. PPE	4.425±.505	4.400±.611	.339	.742
2. PK	4.027±.735	3.616±.874	3.755	.000
3. PC	4.264±.631	4.073±.622	2.340	.020

Note: 1. PPE: Professional perception and ethics, 2. PK: Professional knowledge, 3. PC: Professional competence

Results showed that, in terms of professional knowledge and competence, there was a significant difference between the teachers having participated in learning of inclusive education courses and those having not. The teachers having learned the course knowledge scored higher than those having not in terms of professional knowledge and competence.

<Table 9> Difference in score of teachers from kindergartens of different levels in inclusive education quality

Dimension	Level of kindergarten (M±SD)				<i>F</i>	<i>Sig.</i>	LSD
	ϵ (<i>N</i> =112)	ϕ (<i>N</i> =115)	λ (<i>N</i> =30)	ω (<i>N</i> =29)			
1. PPE	4.498 ±.563	4.373 ±.591	4.241 ±.651	4.368 ±.510	1.923	.126	–
2. PK	3.750 ±.870	3.739 ±.876	3.530 ±.832	3.821 ±.744	.690	.559	–
3. PC	4.224 ±.600	4.148 ±.642	3.900 ±.637	3.910 ±.606	3.471	.017	$\epsilon > \lambda$, $\epsilon > \omega$

Note: ϵ . Provincial demonstration kindergartens, ϕ . Municipal demonstration kindergartens, λ . Level one municipal kindergartens, ω . Level two or below municipal kindergartens.
 1. PPE: Professional perception and ethics, 2. PK: Professional knowledge, 3. PC: Professional competence

Results showed that, score of teachers from different levels of kindergartens in terms of professional competence differed significantly. Further analysis showed that, teachers from provincial demonstration kindergartens had significantly higher professional competence level than those from level-one municipal kindergartens and level two or below municipal kindergartens.

V. Conclusions and Suggestions

1. Current situation of professional quality of preschool inclusive education teachers

Research showed that, preschool inclusive education teachers scored significantly lower in professional knowledge than in professional perception and competence. This result was consistent with previous research results (professional competence $M=4.029$, $SD=.641$, professional attitude $M=4.000$, $SD=.736$, professional knowledge $M=3.478$,

$SD=.771$), (Wang, & Wang, 2015). The cause might be that, compared with professional perception and competence, improvement of the teachers' professional knowledge was more dependent on pre-service and post-service training and daily independent learning, and the level of professional knowledge would be difficult to be significantly improved by mere practice without training and learning. Compared with professional knowledge, the formation or change of professional perception and attitude was more impacted by educational practice and living practice, where, a positive professional perception could be formed gradually from contact and interaction with the special young children, parents of the special young children and other practitioners of inclusive education or special education, and it was stimulated and promoted by the sense of achievement when the special young children showed positive reactions and positive development. However, development of professional competence was also easy to be improved during the working practice similarly, at present, the special young children entering the inclusive classes are generally young children with different types of mild disabilities, and the teachers can adjust and migrate the educational experience toward general young children within a relatively short time.

Special education related knowledge is both the most important and the most difficult part in professional knowledge of inclusive education teachers, including assessment, rehabilitation and training, etc. of special young children, and this is a field that general teachers haven't been engaged before undertaking inclusive education. It is not sufficient to improve professional knowledge by relying on trials and errors in practice only, professional training and learning are also required. Among the 286 test subjects, 204 teachers hadn't learned relevant professional courses; among all test subjects, only 4 teachers were of the special education major; less than 1/3 of the subjects had the regular opportunity to participate in professional training of teachers, in teaching and researching activities, and to receive instruction from special education experts. It can be seen that the training and learning condition of the preschool inclusive education teachers was not ideal, which resulted in relatively weak professional knowledge of the teachers. Therefore, it is necessary to strengthen professional and systematic training toward the preschool inclusive education teachers, so as to improve level of the teachers' professional knowledge.

2. The different performance in demographic variables of professional quality of preschool inclusive education teachers

1) The different performance in teaching age of professional quality

Research showed that, teachers with teaching age of 1-4 years scored significantly higher in professional knowledge of inclusive education than those above 15 years. This result was basically consistent with the previous study that "professional literacy score increased with the increase of teaching age in the first 15 years of work, and showed a significant downward trend from the 16th year" (Wang, & Wang, 2015). In the first 15 years of work, the teachers had a relatively high level of professional knowledge, while after working for more than 15 years, the teachers' level of professional knowledge decreased significantly, which was related with the law of development of teaching profession, as well as training received by the teachers. On one hand, seeing from the law of development of teaching profession, the teachers would enter the plateau phase of their profession after working for 15 years, and at this time, the teachers would generally have occupational burnout, and compared with the young teachers that were vigorous and eager to learn, the teachers with high seniority would lack both physical and mental strength, have decreased learning ability and were more negative in updating professional knowledge. On the other hand, from the perspective of receiving professional training and the training conditions, the young teachers were always key training subjects of the kindergartens, and would have more opportunities for training and learning, while the teachers with high seniority would always be ignored, and they mostly made exploration and accumulation in practice, which impacted their timely reception of the latest and most advanced professional knowledge to a great extent, and impacted the rapid and persistent development of their professional knowledge. Therefore, importance shall be attached to training of all the inclusive education teachers as well as exchange and sharing of knowledge and experience between new and old teachers.

2) The different performance in professional title of professional quality

Research showed that, senior inclusive education teachers (with the highest professional title for young children teachers) in elementary and secondary schools scored lower in professional knowledge and competence than those with other levels. However, Tu (2020) has done similar studies in other regions, and the results showed that the scores of teachers with different professional titles were not significantly different. This phenomenon, which was different from previous study, was still related to learning condition of professional courses, and among the subjects, there were total 25 elementary and secondary school teachers with senior professional title, 22 of which hadn't learned professional courses of inclusive education. In addition, in practical work of young children teachers, the teachers with higher professional title would always tend to be older, or assume the leading post, and undertake a small part of first-line inclusive classes. At present, assessment conditions for professional title do not include professional quality of inclusive education, therefore, working experience of inclusive education and professional quality level of inclusive education shall be included in assessment criteria for professional title gradually, so as to encourage teachers to take the initiative to learn and practice and improve their professional quality.

3) The different performance in professional course learning of professional quality

Research showed that, the teachers having participated in learning of professional courses of inclusive education before employment had a significant higher level of professional knowledge and competence than those having not. This result was completely consistent with the previous research that "the scores of teachers who have studied special education courses are significantly higher than those of teachers who have not studied special education courses" (Qi, 2017). Although among all subjects, only 82 teachers (accounting for 28.7%) had learned professional courses of inclusive education before employment, such teachers still showed significant advantages in professional quality of in-

clusive education. This result fully reflected the key role of pre-service learning of professional courses in professional development of inclusive education teachers in China, but in universities in China, there are currently rare professional courses of inclusive education set in teacher training related majors, therefore, setting of professional courses of inclusive education shall be taken as necessary content of talent training scheme for normal students gradually.

4) The different performance in level of kindergarten of professional quality

Research showed that, professional competence level of inclusive education teachers from provincial demonstration kindergartens was significantly higher than that from municipal kindergartens. This result was in line with expectations. Seeing from internal support, both the hardware conditions and software conditions of provincial demonstration kindergartens were of the highest level in the province, and the kindergartens naturally had more learning and practicing environments and conditions, as well as more standard teaching and research system and more mature teaching and research team, as well as sufficient ability and financial resources to train professional inclusive teachers, for example, send more teachers to make investigation and learning, etc. in regions with leading development of inclusive education. Seeing from external support, provincial demonstration kindergartens would get more preferential policies and capital support, and gathered the most comprehensive external resources, which was of great help to both overall developments of the kindergartens and training of professional quality of inclusive education teachers. Therefore, the provincial demonstration kindergartens shall make full use of the internal and external resources, and make continued improvement of professional quality of inclusive education teachers, in the meantime, play the leading and helping role to drive improvement of inclusive education teachers' professional quality in other kindergartens. The society shall also attach more importance to development and balanced resource distribution of inclusive education in kindergartens of relatively low level, to realize advancement of inclusive education kindergartens side by side, and achieve overall

improvement of professional quality of inclusive education teachers.

3. Suggestions

It can be currently known that: professional quality of preschool inclusive education teachers in Henan Province is satisfactory overall, but some aspects would call for improvement, where, the professional knowledge is at the lowest level and calls for the greatest improvement. This current situation is mainly due to the teachers' lack of professional learning and training, therefore, in order to improve professional knowledge of preschool inclusive education teachers, and further improve their overall professional quality, it needs to make efforts in pre-service learning and post-service training of the teachers.

Firstly, attention shall be paid to training teachers with professional quality of inclusive education. It was pointed by foreign scholars that "ability of the general teachers in educating the disabled students in inclusive environment must be trained from pre-service stage" (Singh, 2006). Relevant professional courses of special education and inclusive education can be added in the stage of normal education, to make professional perception, knowledge and competence of inclusive education become necessary quality of the teachers, in the meantime, the quality of inclusive education can be included into assessment standards of Teacher Certificate, proper systematic pre-service training and assessment shall be made, and preparation shall be made for being engaged in inclusive education at any time. Secondly, continued post-service training and learning of the preschool inclusive education teachers shall be strengthened. The mode of training and learning can be diversified, for example, arrange each inclusive education teacher to participate in short-term further off-job learning in turns, invite experts to make preach and instruction in the kindergartens, and set up teaching research group to make routine teaching research and learning, etc. During the learning and training, attention shall be paid to stimulating the teachers' autonomous initiative in learning, and highlighting the teachers' status of subjectivity. Professional quality level of inclusive education can also be included in assessment standards for professional title of the teachers, so as to further urge the

teachers to make active learning, and improve their professional quality.

The shortcomings of this research were that the subject group was small, and the conclusions drawn might be somewhat biased, with low generalization performance. In the following, further researches can be performed by expanding to the whole Central Region and even the whole China to make extensive collection of samples.

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Abstract

중국 허난성 취학 전 융합교육 교사의 전문소양 현황에 관한 연구

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본 연구의 목적은 중국 허난성의 취학 전 융합교육 교사의 전문적 소양 현황을 전면적으로 이해할 수 있도록 자료를 제공하여 취학 전 융합교육 교사의 전문적 소양 향상을 하도록 한다. 즉, 교사의 전문적 소양의 평균점수와 인구학적 변수의 차이점이 있으면 문제점이 있으므로 취학 전 유아 융합교육 교사의 전문 소양에 영향을 미치는 변인을 찾고 전문 소양 향상을 위한 제안을 하고자 한다.

본 연구의 방법은 정량적 연구로 진행하였다. 중국 허난성의 106개 융합교육 시범유치원에서 교사 총 430명의 융합학급 교사를 연구 대상으로 하였다. 신뢰성이 좋은 《허난성 취학 전 융합교육 교사 전문소양 설문지》를 사용하여 정식 테스트를 진행하였다. SPSS 26.0 통계분석 소프트웨어를 사용하여 데이터 분석을 수행하였다. 기술적 통계, one-way ANOVA, 독립표본 *t* 검증(independent-samples *t*-test) 등을 통해 교사의 전문성 현황을 이해하는 연구를 하였다. 공식적 시험 결과로는 허난성 취학 전 유아 융합교육 교사의 전문적 소양 전체 평균점수는 4점 이상 ($M=4.069$, $SD=.069$) 이었다. 각 차원별 점수 차이가 있었는데, 전공 의식 및 도덕성($M=4.408$, $SD=.582$); 전문지식($M=3.734$, $SD=.856$); 전문능력($M=4.128$, $SD=.630$)에 차이가 있었다.

본 연구의 결과는 인구통계학적 요인을 자기 변수로 하여 one-way ANOVA 또는 독립표본 *t* 검사를 실시하였는데, 그 결과 4가지 배경 변수가 교사의 전문적 소양 수준에 현저한 영향을 미치는 것으로 나타났다. 교육연령(전문지식, $F=3.096$, $p<.05$); 직함(전문지식 $F=3.333$, $p<.05$; 전문능력 $F=3.129$, $p<.05$); 전문과정 학습(전문지식 $F=3.755$, $p<.001$; 전문능력 $F=2.340$, $p<.05$); 유치원급(전문능력 $F=3.471$, $p<.05$)로 나타났다.

본 연구를 통해 다음과 같은 결론을 얻었다. 현재 허난성의 취학 전 융합교육 교사의 전문적 소양은 평균적으로 수준이 양호하였으나, 그러나 전문지식 차원에서는 시급히 개선을 요하는 낮은 점수를 받았다. 교사의 4가지 변수인, 나이(age), 직책, 전공수업 참여 여부와 유치원급 등 4가지 변수는 교사의 전문적 소양에 현저한 영향을 미치는 요소로 나타났다. 전문적 소양에 영향을 주는 4개의 변수가 요소이므로, 허난성의 취학 전 융합 교육 교사의 전문적인 소양 수준을 4개의 변수로 개선시킬 수 있다.

주제어 : 지역아동센터 이용 아동, 프로그램 만족도, 또래관계, 심리사회적 적응

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