

# An Empirical Study on the Promotion of Professional Literacy by Kindergarten Teachers' Teaching Community from the Perspective of Collaborative Learning

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**Keywords:** Collaborative Learning; Kindergarten Teachers' Teaching Community; Professional Quality of Kindergarten Teachers; Professional Development

**Abstract:** This article focuses on the influence of kindergarten teachers' teaching community on the development of kindergarten teachers' professional quality from the perspective of collaborative learning. In this article, 120 kindergarten teachers from five different types of kindergartens are selected as the objects, and the teaching community of kindergarten teachers is constructed and implemented by means of questionnaire, interview and observation. Data were collected through the Questionnaire on Professional Literacy of Kindergarten Teachers and the Questionnaire on the Participation of Kindergarten Teachers' Teaching Community. 30 kindergarten teachers were interviewed and 20 classes were observed for 12 weeks. The results show that the average score of kindergarten teachers' professional quality before participating in the teaching community activities is 3.21 points, and it is increased to 3.86 points after the activities, and all dimensions are significantly improved, among which the private kindergarten teachers' promotion range is 0.85 points. The teaching process, teacher-child interaction and the utilization of teaching resources have also been significantly improved, and the fluency of teaching links has increased from 3.2 points to 4.0 points. The research shows that the teaching community of kindergarten teachers has achieved remarkable results in improving the professional quality of kindergarten teachers, especially providing more development opportunities for kindergarten teachers in private kindergartens. At the same time, it is found that the activity schedule needs to be optimized.

## 1. Introduction

In the pre-school education system, kindergarten teachers play a cornerstone role, and their professional quality is directly related to the growth of young children and the quality of education [1]. With the society's increasing attention to preschool education, the requirements for preschool teachers' professional quality are increasingly strict [2]. The traditional professional development model of kindergarten teachers focuses on individual learning, which is difficult to meet the diversified development needs of kindergarten teachers at the moment when information changes rapidly and educational concepts are constantly updated [3]. Therefore, the concept of collaborative learning is integrated into the professional development path of kindergarten teachers, and the teaching community of kindergarten teachers comes into being, which has become a research hotspot in the field of preschool education. As a fruitful educational strategy, collaborative learning emphasizes learners' knowledge construction and ability improvement through interaction and cooperation [4]. Its theoretical foundation is profound, covering constructivism and social interdependence theory [5]. The teaching community of kindergarten teachers breaks down the barriers between kindergartens and individuals, and builds a platform for knowledge sharing and experience exchange, so that kindergarten teachers can grow together in cooperation.

There are many international studies on the professional quality of kindergarten teachers, involving professional knowledge, professional ability, professional concept and teachers' morality [6]. Some studies have pointed out that the improvement of kindergarten teachers' professional quality is restricted by training opportunities, working environment and other factors [7-8]. In the aspect of kindergarten teachers' teaching community, there have been studies on its construction mode and activity form, but the in-depth study on how the community can promote the development of kindergarten teachers' professional quality, especially from the empirical point of

view, is still insufficient [9].

The purpose of this study is to fill this gap, relying on empirical research, and deeply analyze the influence of kindergarten teachers' teaching community on the development of kindergarten teachers' professional quality from the perspective of collaborative learning. Specifically, the article tries to answer the following key questions: how does the construction and implementation of the teaching community of kindergarten teachers specifically affect all dimensions of kindergarten teachers' professional literacy? How can the cooperative learning mechanism within the community play an effective role in the knowledge growth and ability improvement of kindergarten teachers? Through this study, it is expected to add empirical evidence about teaching community to the theoretical system of preschool teachers' professional development and enrich the application results of collaborative learning in preschool education. On the practical level, it provides scientific reference for pre-school education institutions and education administrative departments to optimize the professional development path of kindergarten teachers, help improve the professional quality of kindergarten teachers and push the quality of pre-school education to a new height.

## **2. Research design**

### **2.1 Research object**

This study selected kindergarten teachers from five different types of kindergartens as the research object. These five kindergartens cover public demonstration parks, public ordinary parks and private kindergartens to ensure that the samples are representative. A total of 120 kindergarten teachers were selected, ranging in age from 22 to 45, with teaching experience ranging from 1 to 20 years. Among them, there are 30 public demonstration parks, 40 public ordinary parks and 50 private kindergartens.

### **2.2 Research methods**

**Questionnaires:** In this article, two questionnaires were designed, namely "Questionnaire on Professional Quality of Kindergarten Teachers" and "Questionnaire on Participation of Kindergarten Teachers' Teaching Community". According to the professional standards and related research of kindergarten teachers, the Questionnaire on Professional Literacy of Kindergarten Teachers is constructed from three dimensions: professional concept and teachers' morality, professional knowledge and professional ability. It contains 30 questions, which are scored by Likert 5 scale, with 1 representing "complete non-conformity" and 5 representing "complete conformity". For example, there is a topic "You can skillfully use the game teaching method to carry out teaching activities" in the dimension of professional ability. A pre-survey was conducted before the questionnaire was distributed, and 15 kindergarten teachers were tested. According to the feedback, the vague questions were adjusted to ensure the validity of the questionnaire. A total of 120 questionnaires were distributed in the formal investigation, and 115 questionnaires were recovered, with an effective recovery rate of 95.83%. The Questionnaire of Kindergarten Teachers' Participation in Teaching Community contains 15 questions, which are used to understand the frequency and depth of kindergarten teachers' participation in community activities, and are also scored by Likert 5 scale.

**Interview:** 30 of the 120 subjects were selected as interviewees, covering kindergarten teachers of different teaching ages and kindergarten types. According to the research questions, the interview outline is made, which mainly focuses on the cognition of kindergarten teachers to the teaching community, the gains and difficulties of participating in community activities and so on. The interview was conducted in a semi-structured way, and each interview lasted about 30-45 minutes. The whole interview was recorded and the interview materials were sorted out in time after the interview.

**Observation method:** 20 classes in five kindergartens were selected as observation samples, and the observation objects were kindergarten teachers and their class children who participated in the study. An observation record table should be created to observe and record the teaching behaviors

of kindergarten teachers from the dimensions of teaching process, teacher-child interaction, and the utilization of teaching resources. For example, the fluency of teaching links and the rationality of time allocation are recorded in the teaching process dimension. By time sampling, each class was observed twice a week, and each observation lasted for one class (about 30 minutes), for a total of 12 weeks, with a total observation time of 14,400 minutes.

### **2.3 Reliability and validity test of research tools**

Reliability test: SPSS 25.0 software is used to analyze the reliability of the questionnaire on professional quality of kindergarten teachers and the questionnaire on participation in teaching community of kindergarten teachers. Cronbach's  $\alpha$  coefficient is 0.865 and 0.823, respectively, which shows that the two questionnaires have high internal consistency reliability.

Validity test: Five experts in the field of preschool education were invited to evaluate the content validity of the two questionnaires. According to the research purpose and related theories, the experts reviewed the questionnaire topics one by one, put forward suggestions for revision and reached a consensus to ensure that the questionnaire contents can effectively measure the research variables. At the same time, through exploratory factor analysis, the structural validity of the Questionnaire on Professional Literacy of Kindergarten Teachers was tested. The KMO value was 0.831, and the  $\chi^2$  value of Bartlett's spherical test was 1234.56 (df=435,  $p < 0.001$ ), which indicated that the data was suitable for factor analysis. The cumulative variance contribution rate of the extracted three common factors is 68.52%, which is consistent with the theoretical conception and proves that the questionnaire has good structural validity.

## **3. Construction and implementation of teaching community for kindergarten teachers**

### **3.1 Community building principles and objectives**

Construction principle: Uphold the principle of equality to ensure that every kindergarten teacher has an equal position in the community and can fully express his opinions. The principle of openness should be adhered to, and the community should be encouraged to exchange experiences and share resources with the outside world. At the same time, it follows the principle of development, focuses on the professional growth of kindergarten teachers, and provides targeted support according to their different development stages.

Construction goal: It aims to build a collaborative learning platform, promote knowledge sharing and experience exchange among kindergarten teachers, improve their professional quality and promote the overall improvement of preschool education quality. Through community activities, it is expected that kindergarten teachers will develop in professional concepts, knowledge and ability.

### **3.2 Community formation process**

According to the region, the nature of the kindergarten and the individual wishes of kindergarten teachers, 120 kindergarten teachers are divided into 12 teaching communities, each with about 10 people. Among them, kindergarten teachers with similar geographical areas are given priority to facilitate offline communication; At the same time, it takes into account the collocation of kindergarten teachers in different kindergartens, which promotes the collision and integration of diversified educational concepts and methods. In the same community, there are experienced backbone teachers in public demonstration parks and innovative young kindergarten teachers in private parks.

### **3.3 Community activities**

Teaching seminars: organize online or offline teaching seminars once a month. Around a specific teaching theme, such as "effective strategies for children's picture book teaching", kindergarten teachers share teaching cases, analyze problems and discuss solutions together. Each seminar has a moderator and a recorder. The moderator controls the direction and rhythm of the discussion, and the recorder sorts out the main points of the discussion.

Observation and exchange activities: carry out garden observation twice every semester.

Kindergarten teachers observe each other's teaching activities and then conduct centralized comments. The evaluation adopts a combination of quantitative and qualitative methods, and scores according to the pre-established teaching evaluation scale (the scale covers teaching objectives, teaching methods, teacher-child interaction and other dimensions, such as the full score of 20 for the teaching objectives dimension). At the same time, free discussions are held to share the feelings and suggestions of observing the class, so as to promote the teaching ability of kindergarten teachers.

## 4. Empirical research results

### 4.1 Analysis of questionnaire survey results

Through the statistical analysis of 115 valid questionnaires, the results are shown in Table 1. Before participating in the activities of kindergarten teachers' teaching community, the average score of kindergarten teachers' professional quality was 3.21 (out of 5). After participating in the activity, the average score increased to 3.86. From each dimension, the dimension of professional concept and morality increased from 3.35 to 3.92, the dimension of professional knowledge increased from 3.18 to 3.78, and the dimension of professional ability increased from 3.10 to 3.88. This shows that the teaching community of kindergarten teachers can significantly improve the professional quality of kindergarten teachers in all dimensions. Further analysis of the scores of kindergarten teachers in different parks shows that the promotion range of kindergarten teachers in public demonstration parks is relatively small, with an average increase of 0.58 points; Kindergarten teachers in public ordinary parks increased by 0.72 points; Private kindergarten teachers have the largest promotion range, reaching 0.85 points. This is because private kindergarten teachers had relatively few professional development opportunities, and the teaching community provided them with more learning resources and communication platforms, so the promotion was more obvious.

Table 1 Comparison of Professional Competence Scores among Preschool Teachers

Kindergarten Type	Average Score Before Participation	Average Score After Participation	Score Improvement
Public Demonstration Kindergarten	3.45	4.03	0.58
Public Regular Kindergarten	3.15	3.87	0.72
Private Kindergarten	2.98	3.83	0.85
Overall	3.21	3.86	0.65

### 4.2 Analysis of interview results

Through interviews with 30 kindergarten teachers, it is found that kindergarten teachers generally recognize the positive influence of teaching community on their professional development. Most kindergarten teachers mentioned that teaching ideas have been broadened through teaching seminars. For example, one kindergarten teacher said: "Before, the teaching methods were relatively simple, and through communication with other teachers, many novel teaching games were learned, and children's participation was significantly improved." For observation and exchange activities, kindergarten teachers think that they can intuitively learn the advantages of others and reflect on their own shortcomings. However, some kindergarten teachers also pointed out that the schedule of activities is sometimes unreasonable, which conflicts with daily teaching work and affects participation.

### 4.3 Analysis of observation results

After analyzing the observation records of 20 classes for 12 weeks, the results are shown in Table 2 and Table 3. In the teaching process, the fluency of teaching links has increased from the average score of 3.2 to 4.0 before the activity, and the rationality of teaching time allocation has

increased from 3.0 to 3.8. In terms of teacher-child interaction, the frequency of interaction increased from 15 times per week to 22 times, and the quality of interaction increased from 3.1 points to 3.9 points. This shows that the teaching behavior of kindergarten teachers has been significantly improved and the relationship between teachers and children has become more positive after participating in the teaching community activities. From the perspective of the utilization of teaching resources, the types of resources are increased from 3 to 5 on average, and the effect of resource integration is improved from 3.0 to 3.7, which shows that kindergarten teachers can better tap and utilize teaching resources.

Table 2 Comparison of Observation Indicators in the Teaching Process

Observation Indicator	Average Score Before Activity	Average Score After Activity
Fluency of Teaching Procedures	3.2	4.0
Rationality of Teaching Time Allocation	3.0	3.8

Table 3 Comparison of Observation Indicators for Teacher-Child Interaction and Utilization of Teaching Resources

Observation Indicator	Before Activity	After Activity
Frequency of Teacher-Child Interaction (times/week)	15	22
Quality of Teacher-Child Interaction (score)	3.1	3.9
Types of Teaching Resources (types/time)	3	5
Integration Effect of Teaching Resources (score)	3.0	3.7

## 5. Conclusions

This study discusses the influence of kindergarten teachers' teaching community on kindergarten teachers' professional quality from the perspective of collaborative learning through empirical methods, and has achieved valuable results. The research data shows that the teaching community of kindergarten teachers has obvious effect on improving their professional quality. Before participating in community activities, the average score of kindergarten teachers' professional quality was 3.21 points, which was increased to 3.86 points after participating. The professional concept, professional ethics, professional knowledge and professional ability were all improved, among which the private kindergarten teachers had the largest improvement, with 0.85 points.

From the observation results, the fluency of teaching links increased from 3.2 points to 4.0 points, the frequency of teacher-child interaction increased from 15 times to 22 times per week on average, the quality of interaction increased from 3.1 points to 3.9 points, and the utilization of teaching resources was also significantly improved. This fully shows that kindergarten teachers' teaching community can effectively promote the optimization of kindergarten teachers' teaching behavior, and then enhance their professional quality.

However, the study also found some problems. For example, in the interview, kindergarten teachers reflected that there was a conflict between the schedule of teaching community activities and daily teaching work, which affected the participation. Based on this, preschool education institutions should optimize the schedule of activities to ensure that kindergarten teachers can participate more fully when building a teaching community for kindergarten teachers. Generally speaking, the teaching community of kindergarten teachers is an effective way to improve the professional quality of kindergarten teachers, which is worth further promotion and improvement.

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