



INFLUENCE OF TEACHER COLLABORATION ON USE OF A PLAY-BASED APPROACH IN TEACHING READING IN WUXI-XIEHE BILINGUAL KINDERGARTEN, CHINA

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Abstract:

Reading is an important basic academic skill that has a major influence on learning and performance in other subjects. Studies have reported that using play in kindergartens helps learners acquire basic reading skills. Research has demonstrated that in China, there is limited use of play in kindergartens. Since teachers are key players in kindergarten learners' experiences, it was important to establish the teacher factors that accounted for the limited use of play in kindergartens. This study sought to explore how teacher collaboration influences the use of a play-based approach in teaching reading in Wuxi-Xiehe Bilingual Kindergarten, China. The study was anchored on the Cognitive Theory of Development by Vygotsky (1978). A descriptive research design was applied, and the study targeted a population of 37 individuals from whom a sample of 13 respondents, comprising one head teacher and 12 preschool teachers, was obtained. A questionnaire, an observation checklist, and an interview schedule were used to collect data. Quantitative data were analyzed using descriptive statistics that included frequencies and percentages, while the qualitative data were analyzed thematically. The findings showed that the majority (46.2%) of the teachers occasionally engaged in team inquiries and collaborative decision-making regarding teaching methods. Additionally, the study established a strong correlation ($r=0.884$, $p=0.001 < 0.005$) between teacher collaboration and their use of play as a teaching approach. The study concluded that there was partial adoption of teacher collaboration in Wuxi-Xiehe Bilingual Kindergarten, which could negatively affect the implementation of play-based strategies for teaching reading. The study recommended that teachers should continue to foster collaborative

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professional learning, especially collaborative learning, on both structural and educational processes.

Keywords: reading, teacher collaboration, play-based approach, Wuxi-Xiehe Bilingual Kindergarten

1. Introduction

Reading is an important basic academic skill and influences learning and performance in other subjects (Aiping, 2021). Runo and Kangethe (2016) identified reading as one of the most reliable indicators of whether a learner will attain the competence needed to achieve academic success and to contribute actively to society. Yi-Chih and You-Jhen (2017) assert that children's reading ability has a major influence on their academic performance. Globally, reading abilities are poor. According to the report from the World Bank, an estimated 10% of the youth globally complete their education with no basic reading skills (World Bank, 2013). In England, a fifth of all children cannot read well by the time they complete the primary school cycle (Jenkins, 2015).

In India, the 2013 Annual Education Survey Report (ASER) and the 2010 National Achievement Survey (NAS) indicated that 32.3% of the children could identify letters but could not use them to form words, 47.3% were not able to identify letters and 12.6% could identify words however, found it difficult to string them together to create sentences or paragraphs. The same scenario is experienced in Africa, research studies indicate low reading levels among elementary school learners, over 92% are unable to read at a class level (NASMLA, 2010; UWEZO, 2016).

According to Bambridge (2016), children need to be helped to understand the association between letters and speech sounds. They need to understand how different letter sounds blend to make words. Studies have shown that play in early childhood significantly contributes to language development and comprehension (Malik, Altaf & Gull, 2020). According to Malik *et al.*, (2020), the use of play helps teachers to embed teaching concepts within learning events so that they can generate an attractive and stimulating learning environment for learners. Further, Malik *et al.*, (2020) reported that children who participated in make-believe play scored higher in reading tests as compared to those who had not participated in such experiences. Thus, playing and language development are strongly correlated.

In Kenya, studies have reported that play contributes immensely to the development of reading skills among preschool learners. For instance, a study by Kabua (2020) reported that teachers who adopted play as a teaching strategy had their learners manifest increased participation in school, and well-developed problem-solving skills, communication, and social skills. According to Malik *et al.*, (2020), the selection of appropriate teaching methods in a particular setting not only depends on the concept to be taught but may also be affected by the knowledge or skills of the teacher. Therefore, this study sought to establish whether the teachers in pre-primary schools are properly

trained and equipped with the right skills to teach through play. Kabua (2020) also reported a significant association between teachers' perception and use of play. It was established that teachers with positive perceptions are likely to use play in teaching and learning. In addition, Onditi, Adina, and Odongo (2018) established that perceptions held by preschool teachers influenced the use of play-based activities in learning.

Research by UNESCO and the International Bureau of Education (2013) highlights that the primary factor influencing the level of knowledge learners acquire is the commitment and collaboration among their teachers. Guerriero (2014) emphasizes that there is a direct link between student learning and collaboration among teachers. Consequently, enhancing teachers' collaboration is crucial due to this connection. Based on the reports, it is evident that teachers' perceptions and collaboration can influence how play is used in teaching. Reading is a vital basic academic skill that has a major influence on learning and performance in other subjects. Those who acquire good reading skills in early grades lay a stable foundation for future success in reading and other subjects associated with better school performance. Further, researchers found evidence that play in early childhood significantly contributes to language development and comprehension. Considered a regular preschool curriculum component, children improve on three primary dimensions of school readiness: oral language skills, social competence, and emergent literacy.

In China, an upsurge in English Chinese bilingual programs of instruction has seen the use of the English language in teaching and learning in schools. In preschool education, bilingual teaching has been advocated due to enhanced awareness of the value of the English language (Wei, 2016). Subject to the regulations of the Education Ministry (2001a, 2001b), teaching English, as the only foreign language, is done at the compulsory education stage (Shan, 2019). However, a survey conducted by Zhang (2016) in primary schools in China showed that roughly 60 percent of the learners have poor English reading skills. Similarly, Hu *et al.*, (2021) reported that the majority of learners in China have English reading difficulties.

Research has demonstrated that the use of play in kindergartens in China is limited (Kekesi, Donkor & Torkonyo, 2019). However, challenges accounting for the limited use of play in the kindergartens have not received attention in China. Hence, it was necessary to establish the teacher factors that influence the use of play in the teaching of reading in Wuxi Xiehe bilingual kindergarten, China. Research that had been conducted in China showed that roughly 60 percent of the learners in kindergartens have English reading difficulties. Further, studies reported that there was a decline in the use of play in early education. However, studies had not specifically established how identified teachers influence the use of play in teaching reading in China. It was, therefore, necessary to carry out a study to establish how teacher collaboration influenced the use of a play-based approach in teaching reading in Wuxi-Xiehe Bilingual Kindergarten.

The study was guided by the Cognitive Theory of Development by Vygotsky (1978). This theory was adopted because it provides a framework for how social

interactions, through play, influence learning. Vygotsky (1967) believed that *"conflict and problem-solving are the essential characteristics of development."* His major research focused on the belief that, for learning to happen, people need social interactions. The theory comprises 3 key social-cognitive processes: the proximal development zone- the difference between what the learner can achieve alone with no help and what they can achieve with help, in collaboration, or under the guidance of a parent, a peer, or a teacher. Second, moving from interpersonal to intrapersonal knowledge entails moving to how concepts are internalized by using internalized speech from understanding concepts developed between two or more people interacting. The last one is the transition to explicit rules from implicit rules - the learner moves from behavior based on remembered events to participating in the play behavior and fairly playing. Vygotsky's (1967) and others' scholarly works on cognitive development, during dramatic or symbolic play, many intellectual skills are enhanced.

Vygotsky (1967, 1978) posits that *"these objects support children's development of thought where children first learn interpersonally, skills in relation with the minds of others, and then intra-personally within the individual child's mind."* In line with this, mental development is viewed as the process through which children first borrow others' ideas and language in speech while playing, and then transform them into a mental structure that they can independently use and apply (Vygotsky, 1978).

There has been increasing interest in global strategies to boost teacher effectiveness, with teacher collaboration emerging as a promising approach (Hargreaves & Fullan, 2012; Louis & Kruse, 2015). Teacher collaboration encompasses the sharing of knowledge, relevant questioning, and mutual accountability, which create effective learning opportunities driven by student data (Bryk *et al.*, 2015). Teacher collaboration has become a promising strategy for enhancing instructional practices and supporting student success (Hargreaves & Fullan, 2012; Louis & Kruse, 2015).

Empirical studies indicate that positive interactions between students and teachers can enhance student engagement and performance (Bae & Kwon, 2021). However, there is a notable research gap regarding the impact of teacher collaboration on teaching effectiveness, specifically in the use of the play-based approach in teaching. This gap highlights the need to explore how different aspects of teacher collaboration affect teaching using the play-based approach in pre-primary schools. Although professional development programs for teachers have been recognized for their potential to improve teaching, challenges persist due to their limited direct impact on classroom practices and sustained effects on student outcomes (Sancar & Deryakulu, 2021).

According to Woodland and Koliba (2018), an important dimension of teacher collaboration is decision-making. Decision-making is a vital element in the collaborative inquiry cycle. Teachers must make informed choices regarding instructional quality, identify any gaps, and determine ways to enhance their practices. This authority extends to various areas, including decisions about instruction, assessments, and learning activities. Implementing decisions is a crucial phase in the collaborative process. Teachers need to put the collectively agreed-upon decisions into practice to effect meaningful

changes in their teaching methods (Woodland & Koliba, 2018). These actions should be carefully designed to address the complexities of instruction effectively. Evaluation is also essential for a well-developed collaborative inquiry cycle. Teachers collect and analyze data on student learning to assess the effectiveness of their practices and interventions (Goldring & Berends, 2019; Woodland *et al.*, 2013). This involves systematic data collection, analysis, and the integration of both quantitative and qualitative information to gauge the impact of collaboration on student outcomes.

In recent years, there has been a growing focus on teachers' professional development, which is increasingly being addressed in educational policy to enhance teacher quality (Çelik *et al.*, 2021). Teacher professional development can be categorized into three main phases: pre-service training, initial training, and in-service training. Pre-service training involves teacher candidates gaining theoretical knowledge and obtaining a teaching certificate through a structured curriculum. Initial training includes orientation programs that help new teachers adapt and prepare for their roles. In-service training comprises both formal and informal learning experiences organized centrally or locally as teachers continue their careers.

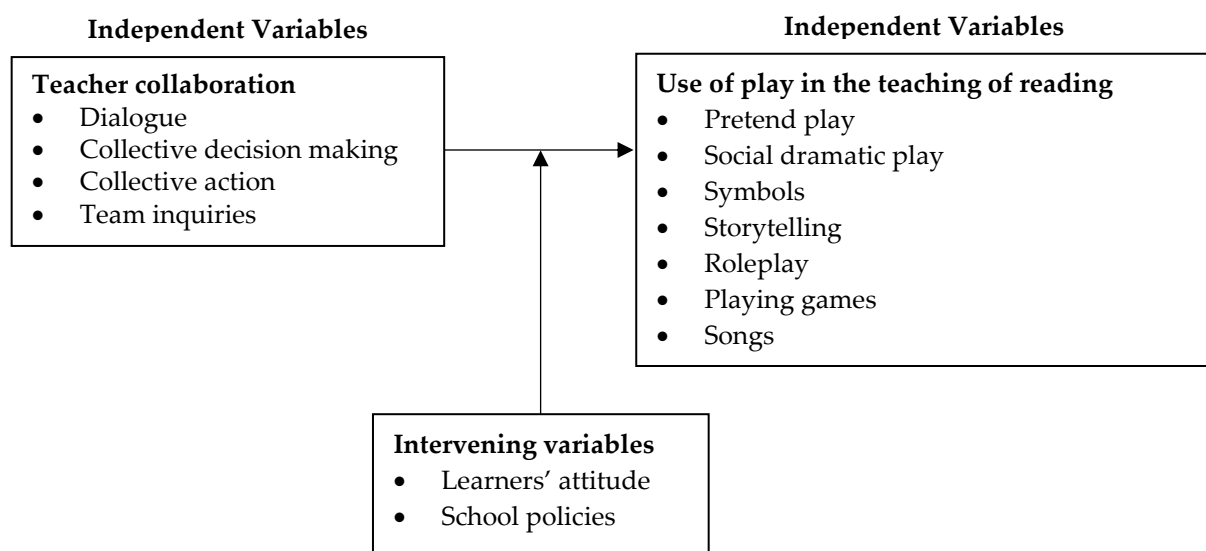
Collaborative professional learning involves informal learning through the exchange of knowledge and joint activities with colleagues (OECD, 2020). This type of learning is context-sensitive, reflecting school practices, and relies on social interactions among teachers. Collaborative learning enables teachers to assess and improve their practices (Nolan & Molla, 2018). It can occur within schools or extend to interactions with families and other educational settings. Research by Markussen-Brown *et al.*, (2017) highlighted the positive effects of collaborative teaching on language and literacy, noting improvements in teacher knowledge, empowerment, and the quality of preschool education. An experimental study by Sonmez *et al.*, (2019) found that professional development programs aimed at enhancing teachers' skills in collaborative teaching positively impacted their self-efficacy and knowledge.

In preschool education, collaborative professional learning may involve activities such as providing feedback on practices, exchanging ideas about children's well-being and learning (OECD, 2020), observing classrooms, evaluating new practices jointly, and developing collaborative projects. These opportunities offer a supportive environment for teachers (Camburn & Han, 2017). Collaborative practices can enhance teaching effectiveness and positively influence children's cognitive, social, and emotional development. Research by Durksen *et al.*, (2017) showed that such practices create motivational structures for teachers, while Colmer (2017) found that they strengthen communication and professional relationships. Garner *et al.*, (2021) observed that participation in collaborative workshops improved teachers' appreciation of their peers' professional practices, and Irvine and Price (2014) noted that collaborative practices support educational reforms and changes.

A study by Saglam *et al.*, (2024) investigated the relationship between preschool teachers' participation in collaborative professional activities and their teaching practices in fulfilling children's needs. The study utilized survey data from 1,546 preschool

teachers in Turkey, collected through the 2018 TALIS Starting Strong Survey conducted by the Organization for Economic Co-operation and Development. The analysis involved descriptive statistics and structural equation modeling. The results demonstrated that preschool teachers who engaged in collaborative professional activities were more likely to adopt effective pedagogical practices for meeting children's needs. Additionally, such engagement explained around 7% of the variance in pedagogical practices. Teacher collaboration can enhance instructional practices and learners' achievement by shifting from individual teaching to a collective understanding and improvement of teaching methods. In summary, teacher collaboration shows promise for improving teaching effectiveness by fostering knowledge exchange, accountability, and better instructional practices. However, there remains a need for further research into how teacher collaboration specifically influences teaching effectiveness using the play-based approach in pre-primary schools. The concept under study is further summarized in Figure 1.

Figure 1: Conceptual Framework



Source: Researcher (2024)

2. Methodology

The study was conducted in Wuxi Xiehe Bilingual Kindergarten, an affiliate of the Shanghai United International School. The school is in the Xishan district, east of Wuxi, which is part of the eastern seaboard in the People's Republic of China. It is in the center of China's longest river, the Yangtze, and 128 kilometers from Shanghai. With a total area of 1058 square kilometers, the district's 2007 population is approximately 400,000. It stretches 36.8 kilometers from east to west and 72 kilometers from south to north. The researcher purposively selected the location because it is the district in China that has the highest population of immigrants, hence the need for the English language to enhance communication and internationalism in the province.

2.1 Research Design and Target Population

A descriptive survey research design was employed, utilizing both qualitative and quantitative measures. The design allowed the researcher to observe and describe aspects of the study participants in their natural environment. According to Creswell (2015), descriptive research design allows a researcher to describe various aspects of a phenomenon without manipulation. The study population was 444 teachers from 12 kindergarten schools in Xishan district, Wuxi. The researcher purposively selected the Xishan district out of the five (5) districts in Jiangsu province because it is the district in China that has the highest population of immigrants, hence the need for the English language to enhance communication and internationalism in the location.

2.2 Sampling Techniques and Sample Size

Jiangsu province was selected using purposive sampling because it is one of the provinces with the most schools that teach English as a foreign language. In addition, purposive sampling was employed to select the Wuxi Xiehe Bilingual Kindergarten since it is the only bilingual school the researcher could access in Xishan. Further, purposive sampling was employed in selecting all the teachers who teach grades 1, 2, and 3 in Wuxi-Xiehe Bilingual Kindergarten. The researcher sampled all 13 kindergarten teachers in Wuxi Xiehe Bilingual Kindergarten. The sample is further presented in Table 1.

Table 1: Sample Size

Playgroup	Target Population	Sample Size
	143	2
KG1	148	4
KG2	153	4
KG3	142	3
Total	444	13

2.3 Research Instruments

Data was collected through observation checklists and questionnaires. The observation schedule had two sections (A and B) that collected data on the availability of resources and the use of play in teaching reading. A questionnaire was employed to gather information from teachers.

2.4 Reliability and Validity

A pilot study was conducted in one school, a Korean-bilingual school in Wuxi. This school was not included in the actual study. The main objective of the pilot study was to ascertain the validity and reliability of the study instruments. During piloting, the tools were administered to five teachers. The process was completed in a day. To ensure content validity, the tools were subjected to content analysis to ascertain that the items measured teacher collaboration in the use of a play-based approach in teaching reading. The questionnaire's internal consistency was established using the test-retest method in a one-week interval. The short time interval enhanced the correlation. The survey was

administered to respondents during the pilot study. This was repeated after one week with the same group of respondents. Cronbach's alpha was computed, and the results from the two administrations were compared. Cronbach's alpha coefficient of 0.7 is the accepted thumb rule indicating acceptable reliability. The researcher obtained a Cronbach's alpha coefficient of 0.824, which indicated that the tool was reliable.

2.5 Data Collection Procedures, Analysis, and Presentation

This began once an approval letter was obtained from the university. The researcher visited the sampled school for an introduction. The study's intent was explained to the head of the school by the researcher, and she requested an introduction to the teachers of the classes where the data were collected. The researcher created rapport with the teachers. The collection of data was done in three stages: The researcher visited the classrooms and made observations during reading lessons. The researcher administered a questionnaire to the teachers to ascertain the extent of the use of play in the teaching of reading and how they collaborate to ensure effective use of the play-based approach in teaching reading. The quantitative data were coded and entered into SPSS version 23.0 for analysis. Descriptive statistics that included frequencies and percentages were used to analyze the data. In addition, the researcher used the Pearson Product-Moment Correlation to establish whether the independent variables influence the dependent variable. Further, the qualitative data were analyzed based on themes derived from the study objectives.

3. Results

The key aim of this study was to determine how teacher collaboration influences the use of a play-based approach in teaching reading in Wuxi-Xiehe Bilingual Kindergarten. Information on collaboration among the teachers was collected through an observation checklist and a questionnaire. The respondents were asked to indicate whether they collaborated as a team to enhance the quality of teaching reading. The researcher also ascertained the self-responses by making observations. The data was analyzed, and the results are presented in Table 2.

Table 2: Frequency of Teachers' Engagement in Collaboration Activities

Collaborative Activities	The extent of Participation in the Activities					
		Rarely	Sometimes	Occasionally	Mostly	Never
Team Dialogue	F	4	5	3	1	-
	%	30.7%	38.5%	23.1%	7.5%	
Collective Decision Making	F	3	2	6	2	-
	%	23.1%	15.3%	46.2%	15.3%	
Team Inquiries	F	4	2	6	2	-
	%	30.7%	15.3%	46.2%	15.3%	
Collective Action	F	3	5	3	1	1
	%	23.1%	38.5%	23.1%	7.5%	7.5%

The figures in Table 2 indicate that a significant portion (46.2%) of the teachers occasionally engaged in team inquiries and collaborative decision-making regarding teaching methods.

Additionally, 38.5% of the teachers reported sometimes participating in team dialogues and collective actions to improve the quality of teaching and learning processes. These results imply that teachers at Wuxi-Xiehe Bilingual Kindergarten occasionally sought each other's input and made joint decisions about the teaching-learning processes.

This suggests a partial adoption of teacher collaboration, which could negatively affect the implementation of play-based strategies for teaching reading in kindergarten. This is in line with the findings presented by research by Markussen-Brown *et al.*, (2017), who reported positive effects of collaborative teaching on language and literacy, noting improvements in teacher knowledge, empowerment, and the quality of preschool education. Similarly, an experimental study by Sonmez *et al.*, (2019) found that professional development programs aimed at enhancing teachers' skills in collaborative teaching positively impacted their self-efficacy and knowledge.

In the same breath, the findings agree with the findings reported by a study carried out by Saglam *et al.*, (2024), who investigated the relationship between preschool teachers' participation in collaborative professional activities and their teaching practices aimed at fulfilling children's needs. The results demonstrated that preschool teachers who engaged in collaborative professional activities were more likely to adopt effective pedagogical practices for meeting children's needs. Additionally, such engagement explained around 7% of the variance in pedagogical practices. The findings strongly suggested that collaborative professional learning among teachers positively influences their teaching methods, thereby supporting children's learning and development in preschool settings. Collaborative professional activities in preschool education are beneficial for children's overall development.

Teacher collaboration involves working together and engaging in reflective dialogue to enhance teaching practices and boost student learning. Effective teacher teams operate through various dimensions that contribute to the success of collaborative inquiry cycles (Steinert *et al.*, 2016). One key dimension is Dialogue: Dialogue plays a crucial role in successful teacher collaboration. High-functioning teams participate in collective discussions about student learning, the effects of teaching on student outcomes, and how to provide suitable challenges and support for all students (Korthagen, 2017). This involves sharing teaching practices, reviewing evidence, and addressing differences of opinion to promote ongoing improvement.

Informal learning methods such as mentoring, coaching, and collaborative learning within schools are seen as more impactful for teacher development and the application of new pedagogical practices (Lefstein *et al.*, 2020). These informal practices also help combat the sense of isolation that teachers may experience when working independently.

Collaborative professional learning involves informal learning through the exchange of knowledge and joint activities with colleagues (OECD, 2020). This type of learning is context-sensitive, reflecting school practices, and relies on social interactions among teachers. Collaborative learning enables teachers to assess and improve their practices (Nolan & Molla, 2018). It can occur within schools or extend to interactions with families and other educational settings.

4.2.1 Influence of Teacher Collaboration on the Use of Play in Teaching Reading

Further, the researcher sought to determine how teacher collaboration influences the use of play in teaching reading in Wuxi-Xiehe Bilingual Kindergarten. This was achieved by correlating dimensions of teacher collaboration and use of play using Pearson's Product-Moment Correlation. The results are presented in Table 4.

Table 3: Teacher Collaboration and Use of Play

		Teacher Collaboration	Use of Play
Teacher Collaboration	Pearson	1	.884
	Sig. (2-tailed)		.001
	N	13	13
Use of Play	Pearson Correlation	.884	1
	Sig. (2-tailed)	.001	
	N	13	13

Results presented in Table 3 show that the utilisation of play as a teaching approach in teaching reading and teacher collaboration are correlated. It is evident from the table that there is a strong correlation between teacher collaboration and their use of play as a teaching approach ($r=0.884$, $p=0.001 < 0.005$). The Pearson's r for the two variables' correlation, which is 0.884, near 1, with a significant value of 0.01, which is less than 0.05, illustrates this. This demonstrates how the use of play in reading instruction is influenced by teacher collaboration. The findings agree with the findings reported by the OECD (2020) that collaborative practices can enhance teaching effectiveness and positively influence children's cognitive, social, and emotional development.

Similarly, the findings concur with the findings reported by Camburn and Han (2017) that teacher collaboration provides opportunities that offer a supportive environment for teachers and learners.

Further, the findings are in line with the findings reported by Saglam *et al.*, (2024), who investigated the relationship between preschool teachers' participation in collaborative professional activities and their teaching practices aimed at fulfilling children's needs. The results demonstrated that preschool teachers who engaged in collaborative professional activities were more likely to adopt effective pedagogical practices for meeting children's needs. Additionally, such engagement explained around 7% of the variance in pedagogical practices. The findings strongly suggested that collaborative professional learning among teachers positively influences their teaching

methods, thereby supporting children's learning and development in preschool settings. Collaborative professional activities in preschool education are beneficial for children's overall development. Finally, the results agree with the findings reported by Bae and Kwon (2021) that empirical studies indicate that the positive influence of teacher collaboration enhances student engagement and performance. Teacher collaboration can enhance instructional practices and learners' achievement by shifting from individual teaching to a collective understanding and improvement of teaching methods. Through collaboration, teachers can learn from each other, engage in meaningful questioning, and hold each other accountable, all while using student data to optimize learning opportunities (Goddard *et al.*, 2015).

5. Conclusions

Based on the findings, it is logical to conclude that there was partial adoption of teacher collaboration in Wuxi-Xiehe Bilingual Kindergarten, which could negatively affect the implementation of play-based strategies for teaching reading. Further, the study concluded that the use of play in reading instruction in Wuxi-Xiehe Bilingual Kindergarten was influenced by teacher collaboration.

5.1 Recommendations

- 1) Teachers are encouraged to foster collaborative professional learning, especially collaborative learning, on both structural and educational processes. In this regard, teachers should be aware that play is an elementary activity any child does; hence, the creative use of this intrinsic behavior, which is naturally embedded in children, improves both teaching and learning activities.
- 2) The study findings were limited to Wuxi-Xiehe Bilingual Kindergarten. Thus, studies on the same topic could be conducted in other schools in urban and rural areas to establish the use of play as a teaching strategy in teaching reading, since the study findings cannot be generalized to the entire country.

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Conflict of Interest Statement

The authors declare no conflicts of interest.

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