

The Effects of MMCI Course on Chinese Preschool Teachers' Child-Centered Beliefs

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Abstract

In the context of China's preschool education reform, child-centered education is widely advocated, yet adult-centered tendencies remain visible in daily practice. This study examined whether the Making the Most of Classroom Interactions (MMCI) program can enhance in-service kindergarten teachers' child-centred beliefs. Using a quasi-experimental design, 48 teachers from Jinan were assigned to an MMCI group or a control group. The MMCI group completed a six-week, practice-integrated course with weekly training followed by immediate classroom application; implementation was monitored via weekly video uploads from both groups. Beliefs were measured pre- and post-intervention (higher scores = more adult-centred). The results of independent samples t-test indicated that there was no significant difference ($p=.590>.05$) in the post-test scores between two groups. ANCOVA controlling pre-test, education, and years of service likewise showed no group effect ($p=.587>.05$), while baseline beliefs strongly predicted outcomes ($p<.001$). These findings suggest that short-term MMCI, even when integrated with practice, may be insufficient to shift entrenched beliefs; future work should lengthen duration, localize MMCI via context-relevant case analysis and reflective discussion of key child-centred practices, and employ adequately powered multi-region randomized designs.

Keywords: MMCI Course, Child-Centred Beliefs, Preschool Teachers, Teacher-Child Interaction, Professional Development

1. Introduction

The child-centred approach to education, rooted in John Dewey's progressive education philosophy (Dewey, 1938), emphasizes learning driven by children's natural development and interests. It views children as active learners and promotes development through play and hands-on experiences (Piaget, 1950; Vygotsky, 1978). Core characteristics of this approach include respect for children's autonomy, support for individual development, play-based learning, and equal teacher-child relationships (Bruce, 2015; Rinaldi, 2021). In China, the Guidelines for the Learning and Development of Children Aged 3-6 (Ministry of Education, 2012) promotes localized practices of this philosophy by requiring education to respect children's learning characteristics and encourage experience-based learning.

Child-centred beliefs are critical for teachers' professional growth. This approach encourages teachers to shift from 'knowledge transmitters' to 'observers-supporters' (Woodhead, 2006), requiring instructional sensitivity (van Manen, 2016) and scaffolding skills (Wood et al., 1976). It aligns with China's national policies. For example, the Professional Standards for Kindergarten Teachers (Ministry of Education, 2012) highlights 'child-centeredness' as a core principle, and the Preschool Education Law (2025) prohibits the 'primary schoolification' of early education. Research has shown that this philosophy improves teacher-child interaction quality (Pianta et al., 2012) and enhances core competencies such as creativity (Zhu & Zhang, 2018).

Despite policy support, adult-centred tendencies persist in Chinese kindergartens. Teachers often over-control classroom activities, follow rigid lesson plans, and ignore children's feedback and interests (Liu & Feng, 2019). Classroom discussions are teacher-led, with limited opportunities for children's autonomy and expression. Instruction is frequently skill-based, emphasizing discipline and obedience over exploration and emotional development (Hu & Szente, 2009).

These adult-centred practices may negatively impact children's long-term development. Excessive control suppresses autonomy and creativity, reducing intrinsic motivation (Ryan & Deci, 2000). Limited choice may hinder problem-solving and decision-making skills (Vandenbroucke et al., 2018). Emphasis on obedience can restrict social initiative and emotional regulation (Erikson, 1950). Such effects may persist into school age, leading to poor adaptability and reduced learning motivation (Laevers, 2005). Thus, facilitating a shift toward child-centred beliefs among teachers is essential for holistic child development. Therefore, the present study aims to examine whether participation in the MMCI training can promote child-centred beliefs among Chinese preschool teachers.

2. The MMCI Program

The MMCI program, created by the University of Virginia's Center for Advanced Study of Teaching and Learning (CASTL), is a professional development course designed to enhance the quality of teacher-child interactions while promoting children's learning and overall progress (Pianta et al., 2018). It is based on the Classroom Assessment Scoring System (CLASS) and includes ten training units aligned with three major domains: Emotional Support, Classroom Organization, and Instructional Support (Early et al., 2017).

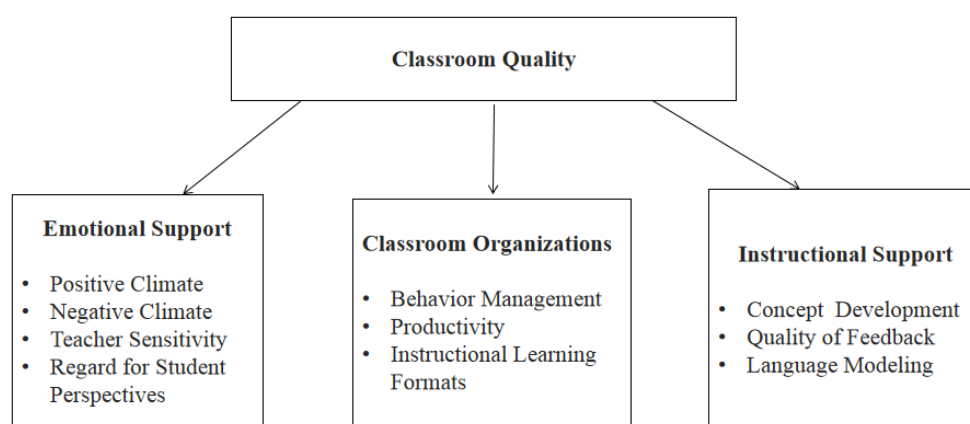


Figure 2.1: Domains and Dimensions of the CLASS Framework (Robert C Pianta, 2008)

The MMCI attaches significant value to teachers' supportive roles as guides as well as facilitators and not merely knowledge transmitters, in accordance with socio-constructivist theory (Vygotsky, 1978; Pianta et al., 2012). Course modules include observation and child behaviour assessment, responsive interaction skills, emotional support, and teaching support. The modules aim to aid teachers to better understand and respond to children's developmental needs (Hamre et al., 2014).

The activities are well aligned with child-centered principles. First, it supports the adaptation of interaction strategies to the individual needs of children by following their interests and abilities (Pianta et al., 2012). Second, it supports the utilisation of open-ended questions to stimulate critical thinking, which provokes autonomy and problem-solving (Hamre & Pianta, 2007). Third, it is emotionally oriented, whereby teachers are required to respond warmly and sensitively to children's emotional needs, and in doing so, create a positive and secure learning environment (Downer et al., 2010).

Empirical studies have established the efficacy of the MMCI intervention. In the U.S., teachers who underwent MMCI training had significant gains in interaction quality, particularly in emotional and instructional support domains (Pianta et al., 2017). Longitudinal studies also showed that MMCI impacts were sustained for at least one year following the training (Hamre et al., 2012). Its implementation in the Chinese early childhood context, nevertheless is less investigated, which necessitates the present study.

3. Methodology

The research used a quasi-experimental design with a non-randomised control group alongside pre-test and post-test assessments to investigate the impact of the MMCI program on child-centered beliefs of Chinese kindergarten teachers. To assess causal relationships, data were collected from participants both at pre-intervention and post-intervention.

Three important covariates were controlled: pre-test scores and education level as well as service duration of the

teachers. Previous studies have shown that teachers' level of educational qualification and work experience may have an essential role in influencing teachers' beliefs and openness to professional development activities (Hu et al., 2017; Early et al., 2007). Teachers with higher education levels are more likely to adopt child-centered methods (Li et al., 2020), while novice teachers (<5 years) are more adaptable and receptive to new pedagogical practices (Hamre et al., 2012; Pianta et al., 2017).

The MMCI course is an in-service and pre-service professional program focusing on enhancing the skills of teachers in teacher-child interaction. The MMCI course teaches teachers in 10 content dimensions. The study comprised two groups: 1) an experimental group that received the MMCI intervention) and 2) a control group that did not. Teachers assigned to the experimental group participated in the MMCI training programme for 6 weeks throughout the experiment.

Although the MMCI intervention in this study lasted only six weeks, the design attempted to compensate for the short duration by integrating training with real-time classroom practice. After each weekly training session, teachers in the experimental group were required to immediately apply the learned strategies in their daily teaching activities. This design aimed to increase the "dosage" of exposure within a short timeframe and to enhance teachers' understanding and internalization of child-centered principles by linking theory to practice. Thus, the study also sought to explore whether an intensified, practice-integrated short-term intervention could bring about measurable shifts in teachers' beliefs.

3.1 Participants

Participants were 48 kindergarten teachers from four public kindergartens in Jinan, Shandong Province, recruited through purposive sampling. Inclusion criteria required participants to be aged 23 or above, have at least 12 months of teaching experience, and not have received MMCI training before. Participants were assigned to either the experimental (n=24) or control group (n=24). Teachers provided informed consent prior to participation. Chi-square analysis was used to examine differences in background characteristics between the groups. This analysis compared the gender, age, duration of service, and education attainment of the MMCI experimental and control groups. The results showed that there was homogeneity between the two groups.

3.2 The Schedule

The intervention followed a structured schedule covering ten CLASS dimensions: Positive Climate, Teacher Sensitivity, Regard for Student Perspectives, Behavior Management, Productivity, Instructional Learning Formats, Concept Development, Quality of Feedback, and Language Modeling. During the same timeframe, the control group did not participate in any form of intervention. Table 3.1 is the schedule of the study.

Table 3.1 Intervention and Non-Intervention Timetable

Time	Experimental group	Control group
Week 1	Pre-intervention measurement with preschool teachers	
	Commencement of the training intervention	No intervention
Week 2	Presentation of MMCI framework	
	Continuation of training Sessions 1-9 covering	No intervention
Week 3-7	MMCI domains (1) ES-PC (2) ES-TS (3) ES-RSP (4) CO-BM (5) CO-PD (6) CO-ILF (7) IS-CD (8) IS-QF (9) IS-LM	
Week 8	Post-test data collection on preschool teachers	

Notes: ES: Emotional Support; PC: Positive Climate; TS: Teacher Sensitivity; RSP: Regard for Student Perspectives; CO: Classroom Organizations; BM: Behavior Management; PD: Productivity; ILF: Instructional Learning Formats; IS: Instructional Support; CD: Concept Development; QF: Quality of Feedback; LM: Language Modeling

To ensure implementation fidelity, both experimental and control group teachers were required to record and upload two classroom sessions each week to a shared cloud platform. For the experimental group, these recordings were used to verify whether teachers consistently applied the MMCI strategies in their teaching practice, while the control group continued with routine teaching activities without MMCI exposure. This monitoring procedure allowed the research team to track adherence to the training protocols and provided an additional layer of quality assurance in the implementation process.

This study was guided by the following research questions:

To what extent does involvement in the MMCI programme enhance Chinese preschool teachers' child-centred beliefs?

To what extent does engagement in the MMCI programme improve Chinese preschool teachers' child-centered beliefs after controlling for covariates?

3.3 Instrument

The Teachers' Child-Centered Belief Scale (Schaefer & Edgerton, 1985) was employed to measure participants' beliefs about children. This 16-item instrument uses a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Twelve positively worded items, such as "Children should always obey the teacher," reflect adult-centered beliefs, whereas four negatively worded items, such as "Children have a right to their point of view and should be allowed to express it," indicate child-centered views. Higher total scores represent a more adult-centered orientation. The scale has been previously validated in Chinese early childhood education settings with good reliability and cultural relevance (Hu et al., 2017).

3.4 Data Analysis

The means and standard deviations of participants' child-centered beliefs were summarized using descriptive statistics. An independent-samples t-test was conducted to determine whether there was a significant difference between the experimental and control groups at post-test. To account for the influence of covariates (duration of service, education attainment and pre-test scores), ANCOVA (Analysis of Covariance) was performed using SPSS. Prior to the main analysis, normality, homogeneity of variance, and parallel hypothesis were tested and satisfied. Education and teaching experience were treated as categorical variables and converted into dummy variables for the ANCOVA model.

4. Results

4.1 Descriptive Statistics of Pre-test and Post-test Scores in Control Group and Experimental Group

4.1.1 Descriptive Statistics of Pre-test Scores

Table 4.1 presents the descriptive statistics for child-centered belief scores in both groups prior to the intervention. For the control group, pre-test scores ranged from 1.50 to 3.13 ($M = 2.34$, $SD = 0.40$). For the experimental group, pre-test scores ranged from 1.50 to 3.25 ($M = 2.37$, $SD = 0.45$). These results suggest that both groups exhibited comparable baseline levels of child-centered beliefs, with similar means and standard deviations.

Table 4.1 Pre-test and post-test scores for the control and experimental groups in child-centred beliefs

Groups	Pre-test				Post-test			
	Minimum	Maximum	Mean	S.D	Minimum	Maximum	Mean	S.D
Control Group	1.50	3.13	2.34	.40	1.50	3.13	2.31	.38
Experimental Group	1.50	3.25	2.37	.45	1.50	2.81	2.27	.33

4.1.2 Independent-samples t-test of Pre-test Scores

To formally test whether the two groups differed significantly at baseline, an independent-samples t-test was conducted (Table 4.2). The results indicated no significant difference in pre-test scores between the control group and the experimental group, $F = 0.088$, $p = .768$. This finding confirms that the two groups were statistically equivalent at the pre-test stage, providing a sound basis for subsequent comparisons of post-test outcomes.

Table 4.2 Independent samples test in pre-test scores between control group and experimental group

Variables	F	P
Child-centered Beliefs	.088	.768

4.2 RQ1: To What Extent Does Involvement in the MMCI Programme Enhance *Chinese Preschool Teachers' Child-centered Beliefs*?

To address the first research question, independent-samples t-tests were conducted to compare post-test scores between the control group and the experimental group (MMCI intervention group).

Table 4.3 Independent-Sample T-test Between Control Group and Experimental Group

Group	N	Mean	S.D	t	F	Sig.
Experimental Group	24	2.267	.331	.437	.293	.590
Control Group	24	2.312	.380	.437		

An independent-samples t-test was conducted to compare post-test scores between the groups. The experimental group ($M = 2.267$, $SD = 0.331$) and control group ($M = 2.312$, $SD = 0.380$) showed no statistically significant difference, $t(46) = 0.437$, $p = .590$. Given that higher scores reflect more adult-centered beliefs, the slight reduction in the experimental group's mean score suggests a trend toward child-centeredness, although not significant.

4.2 RQ2: To What Extent Does Engagement in the MMCI Programme Improve Chinese Preschool Teachers' Child-centered Beliefs After Controlling for Covariates?

To address RQ2, ANCOVA was conducted. The researcher conducted an ANCOVA on post-test scores with group (MMCI vs. control) as the between-subjects factor and pre-test scores, education attainment, and duration of service as covariates controlling for education and years of service.

Table 4.4 Tests of Between—Subjects Effects of teachers' child-centered beliefs at Post-test

Source	Type III Sum of Squares	df	MS	F	Sig.	Partial η^2
Corrected Model	2.139 ^a	4	.535	6.171	<.001	.365
Intercept	1.513	1	1.513	17.456	<.001	.289
Group	.026	1	.026	.300	.587	.007
Education Attainment	7.470E-5	1	7.470E-5	.001	.977	.000
Duration of Service	.153	1	.153	1.767	.191	.039
Pre-test Scores	2.075	1	2.075	23.941	<.001	.358
Error	3.726	43	.137			
Total	257.490	48				
Corrected Total	5.865	47				

The results showed that the overall model was significant, $F(4, 43) = 6.171$, $p < .001$, partial $\eta^2 = .365$. The group variable had no significant effect on post-test scores, $F(1, 43) = 0.300$, $p = .587$, partial $\eta^2 = .007$. In other words, there was no significant difference in the post-test scores between the experimental group and control group. Among the covariates, pre-test scores showed a strong effect, $F(1, 43) = 23.941$, $p < .001$, partial $\eta^2 = .358$, whereas education attainment and duration of service were not significant, $F(1, 43) = 0.001$, $p = .977$, partial $\eta^2 \approx .000$, and $F(1, 43) = 1.767$, $p = .191$, partial $\eta^2 = .039$, respectively. These results suggest that post-test differences were largely accounted for by baseline levels rather than the short-term intervention.

In summary, even after controlling for teachers' education attainment, duration of service and pre-test scores, the MMCI course intervention did not statistically significantly improve the child-centered beliefs of Chinese preschool teachers in 4 weeks. This is consistent with the results of the previous independent sample T test, further strengthening the robustness of this conclusion.

5. Finding and Discussion

5.1 Finding of the Study

This study aimed to examine whether the MMCI programme could enhance Chinese kindergarten teachers' child-centered beliefs. Results from the independent-samples t-test revealed no statistically significant difference between the experimental and control groups in post-test scores, despite a small decline in the experimental group's mean indicating a minor trend toward child-centeredness. ANCOVA results, controlling covariates, confirmed the non-significance of group differences, reinforcing the robustness of the findings.

5.2 Discussion of the Results

There was no significant difference ($P > .05$) in child-centered beliefs between and experimental group (MMCI group) and control group. This outcome suggests that the MMCI course, delivered within the study timeframe, was insufficient to bring about a fundamental shift in teachers' pedagogical beliefs regarding child-centeredness. These findings are consistent with Guan (2023), whose four-week MMCI-based intervention for pre-service teachers did not result in significant changes in child-centered beliefs. In contrast, Hu (2022) found that after a 20-week intervention involving MMCI and coaching, pre-service preschool teachers showed significant improvements in child-centered beliefs. Therefore, the duration of the intervention may be critical factors in influencing belief systems.

Several additional factors beyond duration may contribute to the observed lack of significant change. First of all, lack of active reflection and belief-focused discussion in the intervention. The MMCI course may have focused primarily on improving interactional skills and knowledge, rather than directly encouraging participants to reflect on or interrogate their own beliefs. According to Levin and He (2008), teacher belief change often requires deliberate opportunities for critical reflection, discussion, and cognitive dissonance. Without structured activities that challenge existing assumptions, beliefs may remain unchanged despite exposure to new knowledge.

Secondly, influence of cultural and institutional norms. In contexts like China, where more teacher-directed or academic-oriented approaches are still culturally prevalent, child-centered beliefs may face implicit resistance. Even if teachers gain exposure to child-centered philosophies, they may find them difficult to reconcile with institutional expectations, curriculum standards, or parental pressures (Li, Wang, & Wong, 2011). These external forces can reinforce existing beliefs and constrain internal belief shifts.

Finally, nature of participants: in-service teachers. In-service teachers, especially those with many years of teaching experience, may have more firmly entrenched belief systems. Research by Opfer and Pedder (2011) suggests that experienced teachers may require longer or more intensive interventions to unlearn and reconstruct foundational beliefs, compared to pre-service teachers who are still forming their professional identities.

Taken together, these findings indicate that while MMCI can effectively enhance knowledge and practice-based competencies, altering belief systems—especially those tied to broader philosophical orientations like child-centeredness—requires more targeted, prolonged, and reflective interventions.

6. Limitations and Recommendations

6.1 Limitation of the Study

The limitations of the study is the relatively small sample size of 48 preschool teachers, all drawn from a single city (Jinan, Shandong Province), limits the generalizability of the findings. The results may not fully capture the diversity of teacher beliefs and practices across different regions in China. Future studies should consider expanding both the sample size and geographic scope to enhance the robustness and external validity of the conclusions.

6.2 Recommendations of the Study

First, belief change is gradual; even with intensified, practice-integrated cycles, a longer intervention window is needed. We recommend extending the duration of the intervention. Researchers can explore the effects of interventions delivered over different time frames. At the same time, theory and practice should be closely integrated so that kindergarten teachers understand and enact child-centered principles through practice.

Second, researchers can further explore the contextualization and cultural adaptation of the MMCI program within the Chinese educational setting. Incorporate more video cases drawn from Chinese kindergarten settings into the MMCI curriculum. At the same time, facilitate in-depth exchange and discussion around teachers' concrete classroom practices, and provide targeted guidance on enacting child-centered principles in practice.

Thirdly, the government and education authorities should create a more supportive educational environment for kindergarten teachers, encourage child-centered practice, and align instructional evaluation with child-centered principles. Finally, researchers can conduct randomized experimental studies across multiple regions in China with larger sample sizes to enhance the generalizability of the findings.

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No additional data are available.

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