

Review

## Teacher Beliefs and Assessment Practices in Preschool Curriculum Reform

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**Abstract:** This mixed-methods study investigated how teacher beliefs and assessment procedures relate to the implementation of early childhood curriculum reform. The research used validated questionnaires, interviews, and observation of teaching and learning episodes to gather data from 300 teachers in 36 preschools at various reform levels. The findings showed a strong positive relationship between innovative assessment practices and reform beliefs, with the strongest correlation ( $r=0.72$ ,  $p<0.001$ ) between child-centered beliefs and observation-based assessment. Of the variance difference, 42% was mediated by administrative support and resource availability. Standardized testing adoption fell from 65% to 23% monthly usage, while daily use of observation-based assessment rose dramatically from 22% pre-reform to 82% full implementation settings. Differential adaptation patterns predominated at several career stages, and younger teachers showed 15% higher belief-practice alignment scores than their older counterparts. The study has implications for enabling sustainable education transformation at the early childhood education level and helps to translate teaching beliefs and belief-practice through institutional resources.

**Keywords:** teacher beliefs; assessment practices; early childhood curriculum reform; belief-practice alignment; professional development

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## 1. Introduction

In light of child-centered learning and multifaceted development perspectives, global early childhood education frameworks are implementing significant curriculum changes (Bingham & Gerde, 2023). Even South Korea has implemented broad reforms, such as the Nuri Curriculum, which significantly shifts the focus of teaching and learning from academics to play (Martinez et al., 2025). Similar shifts are seen in different educational systems as a result of policymakers' growing awareness that high-quality early childhood education must both support children's natural learning styles and prepare them for success in the classroom in the future (Clayback et al., 2023).

Teacher beliefs have the biggest influence on how well these reforms are implemented. According to research, pedagogical beliefs held by teachers influence classroom practices and their receptivity to changes in education (İnönü & Demircan, 2023). Deeply ingrained views about how young children learn are shaped by these beliefs, which in turn influence instructional choices and reactions to change brought about by outside forces (Zinsser et al., 2014). The interdependent nature of beliefs and practices is most evident during periods of systemic change, when educators struggle to reconcile their pedagogical preferences with the demands of the new curriculum (Hirose & Creswell, 2023).

One of the most insightful indicators of teachers' implicit pedagogical beliefs is their assessment work. Teachers' assumptions about children's learning and development as well as the goals of education are reflected in their calculations and documentation of the learning process (Jin et al., 2024). Despite the fact that education reform leans towards experimental modes of assessment like learning stories and computer-supported portfolios, to what extent teachers work with the study also depends upon their belief system (Mengstie, 2023). For the process of curriculum change, tracing out how work on assessment develops over time offers rich sites of entry into learning's transformative school process.

Despite increasing awareness of similar dynamics, little is known with regard to tracing the intersection of teacher beliefs and work of assessment in effecting curriculum change. Previous work has examined work and beliefs individually (Parker et al., 2022) or at predetermined education environments at a time that isn't

precisely one of transformation (Monteiro et al., 2021). Scant work has examined how teachers navigate tension between mandates for traditional testing and work toward reform (Wang et al., 2024), least of all in multicultural foreign environments going through rapid education transformation (Wieduwilt et al., 2023).

The study considers protracted belief and assessment practice interrelations at early childhood curriculum change implementation levels. A mixed-design approach has been adopted to consider teachers' teaching orientations and how they affect adoption of new assessment practices and predictors facilitating or obstructing belief-practice compatibility. The results provide valuable information to inform positive change implementation and allow assessment quality enhancement at early childhood education levels (Chen et al., 2024).

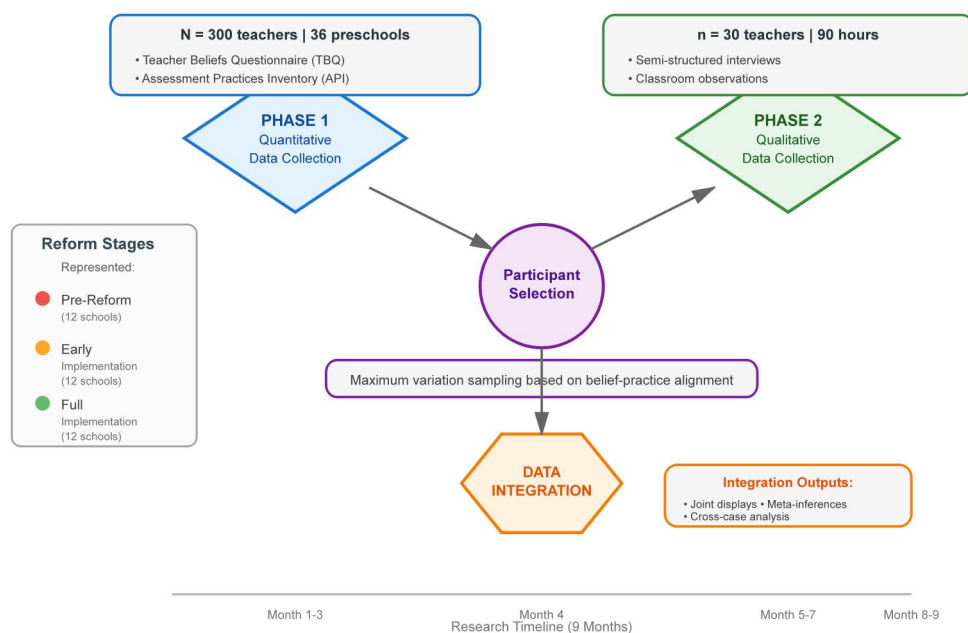
## **2. Data and Methods**

### **2.1. Participants and Mixed-Methods Framework**

The sequential explanatory mixed-methods design was undertaken by this work to study teacher belief and work of assessment at three points of implementation of curriculum reform. **Figure 1** describes the overall research setup and data collection procedure. The study was conducted in 36 preschool environments from urban and suburban school districts, with pre-reform (n=12), early implementation (n=12), and full implementation (n=12) environments. The choice of those environments was intentional with regard to time of reform and geographic variation to enable differences in history of implementation.

#### **Figure 1**

*Sequential Explanatory Mixed Methods Research Design*



There were 300 early childhood teachers from the quantitative phase, and the requirements for selection were at least two years of experience teaching and currently working in classrooms instructing children aged 3 to 6 years. The sample represented multiple levels of education, as 68% of the participants held bachelor's degrees in early childhood education and 32% held associate degrees or specialized certification. The teaching experience levels ranged from 2 to 20 years ( $M=7.8$ ,  $SD=4.6$ ).

Following initial quantitative analysis, 30 teachers were selected for in-depth qualitative investigation using maximum variation sampling. This subsample represented high, moderate, and low belief-practice alignment scores across all three reform stages. The sequential design allowed quantitative findings to inform qualitative participant selection and interview focus, enabling deeper exploration of factors influencing belief-practice relationships. Classroom observations totaling 90 hours were conducted across multiple sessions. Sample size determination followed established mixed-methods guidelines, ensuring adequate statistical power for quantitative analyses while maintaining manageable scope for rich qualitative data collection.

## 2.2. Measurement Instruments and Validation

The Teacher Beliefs Questionnaire (TBQ), adapted from established early childhood belief scales, consisted of 45 items measuring four dimensions:



child-centered beliefs, play-based learning orientation, academic preparation focus, and holistic development perspectives. Psychometric analysis revealed strong internal consistency across all TBQ subscales ( $\alpha = 0.82-0.89$ ). The Assessment Practices Inventory (API), a 38-item instrument developed for this study, measured frequency and types of assessment methods including observation-based strategies, portfolio documentation, standardized testing, and innovative digital approaches, demonstrating adequate reliability ( $\alpha = 0.78-0.85$ , test-retest  $r = 0.81$ ).

Qualitative protocols included semi-structured interview guides exploring teachers' rationales for assessment choices and factors influencing their practices. Classroom observation rubrics focused on documenting authentic assessment implementation during daily activities. Content validity was established through expert panel review involving five early childhood assessment specialists. Following their recommendations, instruments underwent refinement and pilot testing with 25 teachers from non-participating schools. Pilot data informed final revisions to enhance clarity and cultural appropriateness. Comprehensive analysis of the intricate connections between beliefs and practices across reform contexts was made possible by the combination of quantitative scales and qualitative protocols.

### **2.3. Analytical Framework and Integration Strategies**

To investigate the connections between teacher beliefs and assessment practices across reform stages, quantitative data analysis used multivariate techniques. While correlation analyses investigated preliminary associations, descriptive statistics described belief profiles and practice patterns. After adjusting for teacher experience, educational attainment, and school context, multiple regression modeling revealed predictors of the adoption of innovative assessments. Through mediating factors like institutional support and participation in professional development, structural equation modeling tested hypothesized pathways connecting beliefs to practices.

Throughout the analytical process, integration was carried out. For cross-method comparison, composite displays combined descriptive qualitative sections with graphic representations of quantitative patterns. Convergent and divergent findings were discussed as a team to create meta-inferences. Triangulation across data sources, member checking, and the establishment of inter-rater reliability for the code ( $\kappa=0.82$ ) were used to ensure the method's soundness. Analytical choices and researcher frames of reference were recorded through reflexive journaling. Overall, these

comprehensive approaches achieved a nuanced understanding of the teacher experience at various stages of implementation and guaranteed a thorough examination of the intricate relationship between beliefs and practices during the curriculum reform implementation process.

## 3. Results

### 3.1. Teacher Belief Profiles and Patterns

Analysis of pedagogy belief questionnaires revealed pedagogical orientation patterns at different stages of reform implementation. According to **Table 1**, child-centered beliefs showed progressively stronger evolutions from pre-reform (M=3.21) to full implementation (M=4.38), indicating significant shifts in fundamental approaches to education. Parallel upward changes were seen in the learning-through-playing orientation, with the most notable changes taking place during the initial stages of implementation. As part of the transition away from deeply embedded didactic orientations, the subject-centered emphasis on academic grounding drastically decreased throughout the reform stages.

**Table 1**

*Teacher Belief Orientations Across Reform Implementation Stages*

Belief Dimensions	Pre-Reform (n=100)	Early Implementation (n=100)	Full Implementation (n=100)	F	p
Child-centered beliefs	3.21 (0.82)	3.89 (0.76)	4.38 (0.54)	62.47	<.001
Play-based learning	2.95 (0.91)	3.72 (0.83)	4.41 (0.62)	84.23	<.001
Academic preparation	4.12 (0.73)	3.56 (0.88)	2.89 (0.95)	49.56	<.001
Holistic development	3.45 (0.79)	3.98 (0.71)	4.52 (0.48)	58.91	<.001

*Note.* Means are represented by values, and standard deviations are enclosed in parenthesis. Scale ranges from 1 (strongly disagree) to 5 (strongly agree). Bold values indicate highest scores for each dimension.

There were three broad belief groupings from the clustering procedure. The “traditional-academic” group (28% of respondents) stressed structured learning and



academic readiness, most characteristic of pre-reform school settings. The “transitional-balanced” group (45%) exhibited teachers trapped between conservative and progressive philosophies, most characteristic of initial implementation school settings. The “reform-aligned” group (27%) stressed most child-centered and play-based philosophies, most concentrated among fully implemented school settings.

Teaching experience significantly influenced belief patterns. Novice teachers (2-5 years) demonstrated greater openness to reform-oriented beliefs regardless of school context, while veteran teachers (15+ years) showed more variability in their adaptations. Educational background also mattered, with specialized early childhood degree holders exhibiting stronger alignment with reform principles.

Emerging trends indicated growing recognition of holistic development and decreased reliance on academic readiness as the primary goal. Qualitative data revealed that exposure to reform practices and targeted professional development catalyzed belief transformations, particularly regarding play-based learning and authentic assessment methods in supporting children’s comprehensive development.

### **3.2. Assessment Practice Typologies**

Analysis of the Assessment Practices Inventory revealed substantial variations in assessment approaches across reform implementation stages. Traditional assessment methods, including standardized testing and teacher-directed evaluations, remained prevalent in pre-reform contexts (78% weekly usage), while schools in full implementation demonstrated significant shifts toward observation-based and child-initiated assessment strategies (82% daily usage). The frequency of formal testing decreased markedly as reform progressed, with monthly standardized assessments dropping from 65% in pre-reform schools to 23% in full implementation settings.

Documentation practices evolved considerably throughout the reform process. Pre-reform teachers primarily relied on numerical scores and brief written reports, whereas those in reform-oriented schools adopted comprehensive documentation strategies including learning stories (68%), digital portfolios (54%), and photographic documentation (71%). Portfolio practices shifted from product-focused collections to process-oriented documentation that captured children’s learning journeys, thinking processes, and social interactions.



The balance between formative and summative assessment underwent notable transformation. While pre-reform schools emphasized summative evaluations for reporting purposes (70% of assessment time), full implementation schools prioritized formative assessment integrated into daily activities (85% of assessment time). This shift reflected deeper philosophical changes in understanding assessment as a tool for supporting rather than merely measuring learning.

Innovation emerged through technology integration and collaborative assessment approaches. Digital documentation apps, video analysis tools, and parent-teacher co-assessment platforms gained prominence in reform-oriented schools. Particularly noteworthy were child self-assessment practices and peer feedback systems, which appeared almost exclusively in full implementation contexts, representing fundamental reconceptualization of assessment ownership and purpose.

### 3.3. Belief-Practice Relationships and Influencing Factors

The relationship between teacher beliefs and assessment practices demonstrated robust positive correlations across all reform stages. As shown in **Figure 2a**, reform-oriented beliefs showed strong positive correlation with innovative assessment practices, with clear clustering patterns distinguishing pre-reform, early implementation, and full implementation contexts. The scatter plot reveals progressive alignment as teachers moved through reform stages, suggesting that institutional reform contexts facilitate belief-practice coherence.

Correlation analysis revealed multiple levels of association between beliefs and practices. Among all belief-practice pairs examined, child-centred beliefs demonstrated the strongest correlation with observation-based assessment practices ( $r = 0.72$ ,  $p < 0.001$ ), as shown in **Figure 2d**. This particular correlation exemplifies the maximum alignment between reformed pedagogical beliefs and innovative assessment methods.

Teaching experience emerged as a significant factor in belief-practice alignment patterns. **Figure 2b** illustrates differential alignment scores across experience groups through grouped bar charts, with younger teachers (2-5 years) demonstrating consistently higher mean alignment indices ( $M = 4.35$ ,  $SE = 0.04$ ) compared to veteran teachers (16+ years;  $M = 3.85$ ,  $SE = 0.05$ ) across all reform stages. The progressive increase in alignment scores from pre-reform to full implementation contexts was most pronounced among early-career educators, with a 15% greater



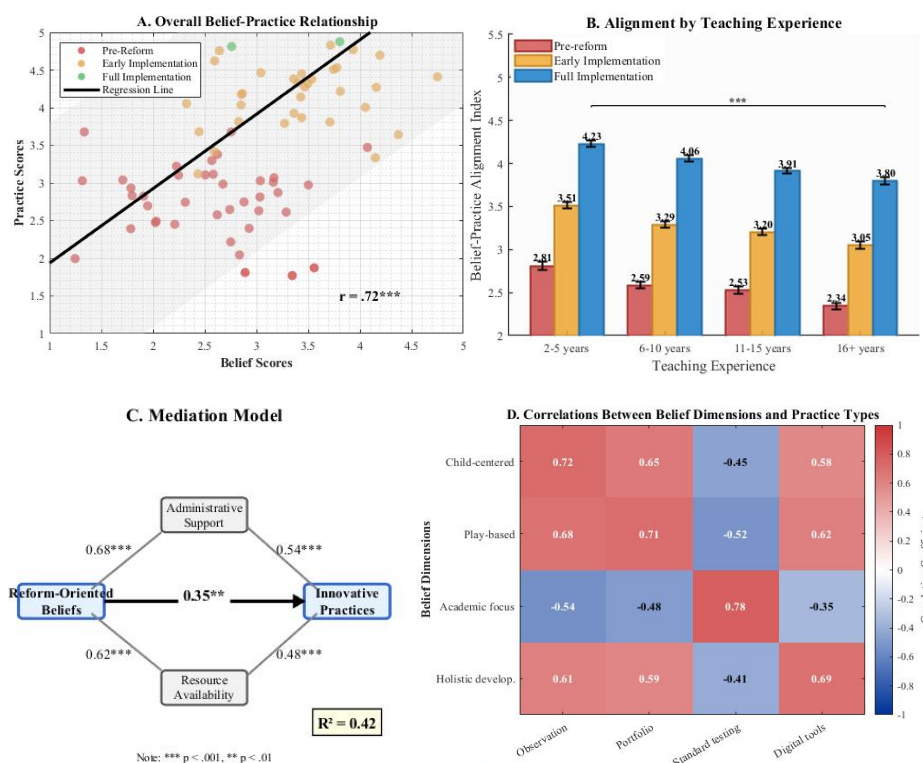
improvement rate compared to experienced colleagues, indicating that younger teachers more readily translated progressive beliefs into innovative practices.

The mechanisms underlying belief-practice relationships were further elucidated through path analysis. As depicted in **Figure 2c**, administrative support and resource availability served as critical mediators between reform-oriented beliefs and innovative practices, collectively explaining 42% of the variance in practice adoption. The direct effect of beliefs on practices ( $\beta = 0.35$ ,  $p < 0.01$ ) was substantially augmented by indirect pathways through institutional support ( $\beta = 0.68$ ,  $p < 0.001$ ) and resources ( $\beta = 0.62$ ,  $p < 0.001$ ).

Examination of specific belief-practice correlations revealed nuanced patterns. **Figure 2d** presents a comprehensive heatmap showing that child-centred beliefs most strongly predicted observation-based assessment adoption ( $r = 0.72$ ), while traditional academic preparation beliefs negatively correlated with all innovative practices. Notably, play-based learning beliefs showed uniformly positive associations with portfolio documentation, digital assessment tools, and child self-assessment practices, underscoring the coherence between progressive pedagogical orientations and authentic assessment approaches.

**Figure 2**

*Teacher Belief-Practice Alignment Patterns*



## **4. Discussion**

This study's findings reveal complex dynamics between teacher beliefs and assessment practices during early childhood curriculum reform, with the strong correlation ( $r = 0.72$ ) aligning with international research demonstrating belief-practice connections in educational contexts. The mediation model illuminates how administrative support and resource availability serve as crucial bridges between reform-oriented beliefs and innovative practices, explaining 42% of variance—a finding that extends previous work by identifying specific pathways through which beliefs translate into action.

However, this research uniquely captures these dynamics within an active reform context, revealing how institutional factors can either amplify or constrain belief-practice coherence. The prominence of child-centred and play-based beliefs correlating with innovative assessment approaches mirrors trends in Nordic and Reggio Emilia-inspired systems, yet the persistence of traditional practices among some reform-oriented teachers highlights universal challenges in educational transformation.

While this study advances understanding of belief-practice relationships through its mixed-methods approach and reform-specific focus, several limitations warrant consideration. In order to track belief-practice trajectories across reform phases, analyse various cultural contexts, and look into how digital assessment tools might alter these relationships, future research should use longitudinal designs. Supporting significant educational change still requires an understanding of the mechanisms that maintain belief-practice alignment.

## **5. Conclusion**

This study's findings are corroborated by the fact that significant pedagogical change involves many people in addition to isolated Reform-Oriented beliefs and creative practices.

According to the study, the alignment of beliefs and practices varies over the course of a career, with novices reporting 15% higher aligned scores than veterans.



Based on current teaching inclinations, the results indicate that positive reform is only possible through professional development for experiential differences. Policy interventions must be implemented at the institutional level, involving time commitment for planning, teamwork, and ICT access, all of which greatly aid educators in putting progressive ideas into practice.

Future educators must be ready for collaborative work settings that actually improve learning rather than just assess it, according to teacher education programs. A shift from the widespread use of standard testing (65% to 23% of months) to interactive recording methods holds the potential to significantly rethink how children learn. In order to achieve harmony between beliefs and practices, teachers are eventually able to resolve conflicts between the old and the new through professional learning communities and curriculum changes, which in turn restructure the educational experience.

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