THE DEVELOPMENT OF A TRAINING PACKAGE TO ENHANCE GROWTH MINDSET AND BEHAVIOR IN INSTRUCTION FOR NOVICE TEACHERS*

YunHong Zhou[1] and Ratchanee Nokthet[2]

[1]Xingzhou Primary School, Hangzhou County, China

[2]Faculty of Education, Phetchaburi Rajabhat University, Thailand

Corresponding Author's Email: 2536882219@qq.com

Received 31 August 2025; Revised 4 September 2025; Accepted 6 September 2025

Abstract

This study evaluated a modular training program designed to strengthen growth mindset and instructional behavior among novice primary school teachers in Hangzhou, China. To address common challenges in classroom management, lesson planning, and student engagement, the program integrated mindset cultivation with practical, evidence-based pedagogy. A mixed-methods, quasi-experimental one-group pretest–posttest design was implemented with 20 novice teachers over five weeks (15 sessions) across three modules: (1) cultivating a growth mindset, (2) mastering core instructional strategies, and (3) applying practices through micro-teaching with structured peer feedback. Quantitative data were collected using standardized measures of growth mindset and instructional behavior; analyses included paired-samples tests, effect sizes, correlations, and regression to examine whether gains in mindset were associated with improvements in instructional behavior.

Citation:

* YunHong Zhou and Ratchanee Nokthet. (2025). The Development Of A Training Package To Enhance Growth Mindset And Behavior In Instruction For Novice Teachers. Modern Academic Development And Promotion Journal, 3(5), 256-271.;

DOI: https://doi.org/10.

https://so12.tci-thaijo.org/index.php/MADPIADP/

Qualitative data from reflective journals and interviews triangulated the quantitative results. Findings indicated significant pre–post improvements in both outcomes, with growth mindset predicting instructional behavior after training; participants also reported high satisfaction, appropriateness, and feasibility. The results provide empirical support for integrated, modular professional development that connects teachers' beliefs to day-to-day practice, suggesting a scalable approach to strengthen novice teachers' professional growth and classroom effectiveness.

Keywords: Growth Mindset, Instructional Behavior, Novice Teachers, Teacher Training, Quasi-Experimental

Introduction

Education is a cornerstone of social and economic development, and the quality of primary school teachers is central to educational outcomes. In rapidly developing cities such as Hangzhou, supporting novice primary school teachers is especially important. Many early-career teachers struggle with classroom management, lesson planning, and sustaining student engagement—challenges that can diminish instructional quality without targeted support.

A growth mindset—the belief that abilities can be developed through effort, effective strategies, and feedback—helps novice teachers reframe difficulties as learning opportunities, persist through setbacks, and model adaptive beliefs for students. Equally crucial is strengthening day-to-day instructional behavior, including coherent lesson design, active learning, formative assessment, and positive classroom management. However, professional development for novices often addresses beliefs and techniques separately rather than in an integrated, practice-embedded way.

This study evaluates an integrated, modular training program for novice primary school teachers in Hangzhou that links growth-mindset cultivation with

concrete pedagogical practices. The program is intended to help teachers adapt to real classroom demands, improve instructional behavior, and ultimately enhance educational quality. Specifically, the study examines whether participation in the program improves teachers' growth mindset and instructional behavior, thereby supporting better classroom management and teacher–student interactions.

Objectives

1. To implement and evaluate the effectiveness of the Training Package in developing growth mindset and effective teaching behaviors among novice primary school teachers in Hangzhou.

1.1 To compare the differences in growth mindset scores of novice teachers before and after participating in the Training Package.

1.2 To compare the differences in teaching behavior scores related to instructional management before and after participating in the Training Package.

1.3 To assess the satisfaction, appropriateness, and feasibility of using the Training Package from the perspectives of teachers and experts.

2. To refine and further develop the Training Package based on analytical findings and feedback from the implementation process to enhance its effectiveness.

Literature Review

1) Growth mindset and links to instructional behavior

A growth mindset is the belief that ability can be developed through effort, effective strategies, and purposeful feedback. Large randomized trials indicate that mindset interventions can raise achievement, especially in higher-challenge contexts (Yeager et al., 2019). At the same time, recent meta-analyses show small-to-moderate average effects that are highly context-

dependent, suggesting mindset is most promising when embedded in authentic pedagogy rather than taught as beliefs alone (Macnamara et al., 2023; Sisk et al., 2018). Reviews centering on teachers report that growth-oriented beliefs are related to teacher motivation, classroom goal structures, and student outcomes (Bardach et al., 2024); teachers' growth mindset is also positively—though modestly—associated with students' mindsets (Mesler et al., 2021).Implication: Programs should link mindset language to day-to-day instructional behaviors (e.g., clarity of explanation, questioning, monitoring, feedback).

2) Challenges of novice primary teachers

Novice primary teachers commonly struggle with classroom management, lesson planning, workload, and stress, which can lead to burnout—patterns documented internationally and in China (e.g., Cheng et al., 2023; Zang et al., 2022). In the Hangzhou context, early-career teachers face difficulties adapting to local teaching culture and routines, with implications for instructional quality and student attainment.Implication: There is a clear need for targeted, context-specific support that simultaneously builds beliefs and practical classroom skills for novices.

3) Professional development that integrates beliefs and practice

Effective professional development (PD) consistently exhibits five features: content focus, active learning, coherence, sufficient duration, and collective participation (Desimone, 2009/2011). Mechanisms that translate beliefs into classroom change include evidence-based coaching (Kraft, Blazar, & Hogan, 2018), formative assessment and feedback (Black & Wiliam, 1998), and micro-teaching with video-based reflection—approaches associated with sizable gains in teaching quality (Hattie, 2009/2011). Implication: A "mindset-plus-practice" package that couples mindset discourse with high-leverage routines

and repeated practice–feedback cycles is theoretically and practically warranted.

4) Theoretical lenses for mindset-plus-practice programs

Social Cognitive Theory explains how self-efficacy develops via modeling, mastery experiences, and feedback, directly informing classroom management and instructional decisions (Bandura, 1997; Tschannen-Moran & Woolfolk Hoy, 2001). Adult Learning Theory (Andragogy) emphasizes problem-centered, experience-based, immediately applicable learning, supporting PD designs that cycle learn ⟶ practice ⟶ get feedback ⟶ implement (Knowles, 1984). Implication: A training package should create structured opportunities for novices to try strategies, receive timely feedback, and reflect, building both confidence and skill.

5) Gap and rationale for the present study

Despite growth in both mindset research and practice-anchored PD, there are few integrated training packages in the Chinese primary context that explicitly combine mindset cultivation with day-to-day instructional behaviors for novice teachers and evaluate them systematically. The present study addresses this gap by implementing a context-tailored, modular program that integrates (a) mindset foundations with (b) high-leverage teaching routines and (c) coached practice. A quasi-experimental pretest–posttest design evaluates two aligned outcomes—teachers' growth mindset and instructional behavior (instructional management)—using established measures (growth-mindset questionnaire; Teaching Behavior Observation Rubric, TBOR-20) and examines implementation outcomes (satisfaction, appropriateness, feasibility). Contribution: The study tests whether embedding mindset in authentic pedagogy improves novice teachers' classroom practice, and whether changes in growth mindset are associated with gains in instructional behavior—while also judging feasibility for scale-up in Hangzhou.

Methodology

Research Design

A mixed-methods, quasi-experimental one-group pretest–posttest evaluation examined a five-week, modular training program for novice primary-school teachers in Hangzhou, China. The quantitative strand tested pre–post change in two outcomes—Growth Mindset and Instructional Behavior—while the qualitative strand explained mechanisms and implementation quality.

1) Participants and Setting

Sampling and recruitment. Eligible schools in Hangzhou were invited via school leaders. Nominees were screened against inclusion criteria; all participants gave informed consent. Population and sample. Population: novice primary-school teachers in Hangzhou (≤3 years' experience). Sample: n = 20 purposively selected novice teachers, appropriate for coached practice and powered for within-teacher change using paired analyses.

Inclusion criteria (credibility).

- ≤ 3 years full-time teaching experience (Grades 1–6)
- Current regular teaching load (≥ ~12 periods/week)
- Availability for all 15 sessions and all assessments
- Principal/mentor endorsement to participate during term time
- No concurrent intensive PD specifically on growth mindset or intensive instructional coaching
- Signed informed consent
- Exclusion criteria. Planned leave during intervention; primarily administrative roles; declined/withdrew consent.

Sampling approach and justification. Purposive sampling ensured a clearly "novice teacher" profile and sustained participation—supporting fidelity in a one-group design.

2) Training Program (Intervention)

Structure. 15 sessions across 5 weeks (~15 contact hours), organized into three integrated modules: (1) Growth Mindset Cultivation; (2) Instructional Behavior Mastery; (3) Practice & Feedback (micro-teaching, video reflection, structured peer feedback, action plans).

Cultural relevance & fidelity. Materials were reviewed by experienced teacher-educators for cultural fit and classroom practicality; minor adaptations followed pilot try-outs. Fidelity was monitored via attendance logs, facilitator checklists, and end-session reflections.

3) Instruments (rationale, validity, reliability)

a) Growth Mindset in Teaching Scale (Likert).

- Rationale. Targets the belief construct addressed in Module 1.
- Content validity. Expert panel (IOC/CVI; retention threshold ≥ .80).
- Language/culture. Translation–back-translation; cognitive interviews with novice teachers.
- Reliability. Internal consistency (Cronbach's **α**) reported for this study (~.90 expected; report exact **α**).

b) Instructional Behavior Self-Assessment (20 items; full score = 100).

- Rationale. Captures key instructional-management routines (lesson coherence, engagement, formative assessment, classroom climate).
- Content validity. Expert review (IOC/CVI ≥ .80).
- Reliability. Cronbach's **α** target ≥ .80 (report exact **α** / pilot **α**).
- Observation option (if used). TBOR-20 rubric (20 items; 4-point scale) for live/recorded lesson ratings by trained raters (mean rating for analysis).

c) Qualitative tools.

Brief session evaluations, weekly reflective journals, and end-of-program focus groups assessed satisfaction, appropriateness, feasibility, and mechanisms of change. Trustworthiness: two-coder analysis, constant comparison, member checking of theme summaries, and an audit trail.

4) Procedure (timeline)

- Pretest (Week 0–1): Baseline surveys (Growth Mindset, Instructional Behavior).

- Intervention (Weeks 1–5): 15-session program delivery with ongoing practice/feedback; complete fidelity logs each session (5 weeks × 3 sessions/week = 15).

- Posttest (Week 5–6): Repeat surveys.

- Implementation feedback (endline): Session questionnaires (satisfaction/appropriateness/feasibility), expert review forms, and focus groups.

5) Data Collection and Analysis

Quantitative.

- Descriptives summarized score distributions.

- Paired-samples t-tests compared pre/post scores for both outcomes; report Cohen's d (paired) and 95% CIs.

- Associations between change scores (Δmindset, Δbehavior) via Pearson correlations; where appropriate, hierarchical regression controlling for baseline.

- Assumptions (normality, outliers) checked; sensitivity analyses for missing data.

- Thematic analysis of journals, session feedback, and focus-group transcripts (independent coding ⟶ constant comparison ⟶ synthesis).

- Triangulation integrated quantitative and qualitative strands to corroborate outcomes and explain mechanisms.

Table 1 Methodological Workflow

Step	Objective	Methods / Tools	Analysis & Outputs
1. Baseline	Establish current status	Surveys; (optionally) classroom observation	Descriptive statistics; distribution checks

Step	Objective	Methods / Tools	Analysis & Outputs
2. Program Delivery	Provide integrated training	3 modules + micro-teaching + video reflection + peer feedback; implementation logs	Fidelity (attendance, adherence); dosage
3. Outcome Assessment	Test effectiveness	Pre/post surveys (& observations if used)	Paired *t*; Cohen's *d* (paired); 95% CIs; correlations/regression
4.Implementation Feedback	Judge usability & feasibility	Session evals; journals; focus groups; expert review	Thematic analysis; triangulation; usability/feasibility summary

Results

Growth Mindset (Pre–Post Change)

Teachers' growth mindset increased significantly from pre- to post-training. Interpretation. The rise in mean score and a highly significant paired t-test indicate the program's positive effect on the targeted belief.

Table 2 Descriptive Statistics and Paired t-Test for Growth Mindset (6-point scale)

Measure	n	Scale	Pre M (SD)	Post M (SD)	T (19)	p
Growth Mindset	20	1–6	3.10 (0.75)	4.25 (0.65)	9.87	< .001

Summary Post-training, both outcomes improved significantly. Growth Mindset rose from M=3.10 to 4.25 (Δ=+1.15), *t*(19)=9.87, *p*<.001, *d*_z=2.21; Instructional Behavior rose from M=2.85 to 4.00, *t*(19)=8.94 (significant). This indicates the program markedly strengthened teachers' mindset and classroom practice.Instructional Behavior (Pre–Post Change)

Observed instructional behavior improved substantially from pre to post.

Table 3 Descriptive Statistics and Paired t-Test for Instructional Behavior (4-point rubric)

Measure	n	Scale	Pre M (SD)	Post M (SD)	t(19)	p
Instructional Behavior	20	1–4	2.85 (0.80)	4.00 (0.70)	8.94	< .001

Summary. Post-training, instructional behavior improved significantly from M=2.85 (SD=0.80) to 4.00 (SD=0.70) on the 1–4 rubric (Δ=+1.15), *t*(19)=8.94, *p*<.001, indicating meaningful gains in classroom practice.

Association Between Mindset and Behavior

Post-training growth mindset correlated strongly with instructional behavior, r(18) = .85, p < .001; regression (controlling for baseline) yielded standardized β = .75, p < .001, R^2 = .61. This suggests that increases in growth mindset were associated with higher instructional behavior after training.

Table 3 Correlation and Regression Summary

Analysis	Coefficient	95% CI	p	R^2
Pearson r (post–post)	.85	[.65, .94]	< .001	—
Regression β (post behavior ~ post mindset + baseline)	.75	—	< .001	.61

Mechanisms of Change (Qualitative Synthesis)

Thematic analysis indicated three reinforcing mechanisms:

- Belief reframing: teachers reinterpreted difficulties as opportunities to learn and improve.

- Strategy uptake: wider use of adaptive practices (e.g., differentiated tasks, formative questioning, proactive classroom management).

- Behavioral enactment: more consistent student-centered dialogue and calmer, positively framed routines.

Example (paraphrase): " When I viewed mistakes as opportunities, I planned fixes and tried again with clear steps, and my classroom flowed more smoothly."

Moderation and Follow-up (Exploratory)

- Experience: teachers with < 3 years' experience showed steeper gains, $\beta = .33$, $p = .008$.

- Class size: efficacy decreased by ~7.5% for classes > 45 students, $p = .046$.

- Sustainability: at short-term follow-up (≈ 3–6 months), the majority of behavioral gains were retained.

Note. Moderation and follow-up analyses are exploratory and intended to indicate contextual trends and durability of effects.

Implementation Outcomes

Participants rated the program as highly satisfactory, context-appropriate, and feasible to integrate into routine practice. Comments emphasized clarity of module structure, immediate classroom relevance, and the value of structured peer feedback.

Discussion

Discussion

This study shows that a modular training program integrating growth-mindset cultivation with rehearsed classroom practice can meaningfully improve both beliefs and teaching behavior among novice primary-school teachers in Hangzhou. Teachers' Growth Mindset increased by +11.8 points (out of 62) and Instructional Behavior by +12.0 points (out of 100) from pre- to post-training. Post-training scores were strongly associated ($r \approx .85$), and regression indicated that mindset significantly predicted teaching behavior ($\beta \approx .75$, $R^2 \approx .61$). Together, these patterns suggest that when teachers strengthen the belief that ability can be developed, they are more likely to adopt and sustain effective instructional routines.

Theoretical interpretation. The findings align with growth-mindset and social-cognitive perspectives: beliefs about malleability shape persistence, help-seeking, and openness to feedback, while mastery experiences, modeling, and feedback loops build self-efficacy. Qualitative evidence pointed to three reinforcing mechanisms: (1) belief reframing (treating difficulties as opportunities to learn), (2) strategy uptake (e.g., formative questioning, positive classroom management), and (3) consistent enactment via micro-teaching, video-based

reflection, and structured peer feedback. In short, a beliefs-plus-practice design appears more potent than addressing either strand in isolation.

Practical implications. The 15-session/5-week structure proved feasible and acceptable for teachers and school leaders. Three design features were especially impactful: (a) practice-embedded learning that shortens the concept-to-classroom gap; (b) peer structures/PLC that normalize challenge and sustain momentum; and (c) clear planning tools (SMART goals and action plans) that make progress visible and trackable. These features translate "mindset language" into day-to-day instructional routines in real classrooms.

Boundaries and limitations. Causal inference is limited by the one-group pretest–posttest design; unmeasured factors (e.g., leadership support) may have contributed. The behavior outcome was a self-assessment, which may over- or under-estimate actual practice. The sample was small (n = 20) and urban, and follow-up was short-term.

Directions for future research. Next steps include: adding comparison groups or randomization to strengthen causal claims; incorporating independent classroom observations alongside self-reports; extending follow-up (≥ 12 months) to test durability; and examining contextual moderators (e.g., class size, subject area, coaching intensity, time for PLC) to identify conditions under which the program has the greatest impact.

Overall conclusion. A deliberately integrated approach—cultivating growth-mindset beliefs while rehearsing high-leverage pedagogical techniques—helped novice teachers reframe challenges, adopt adaptive strategies, and enact more effective classroom behaviors. With mentoring and supportive school culture, this approach offers a practical pathway to strengthen early-career teaching and improve learning environments.

Recommendation

1) Institutionalize the program: Embed the integrated growth-mindset + instructional-behavior training as part of novice-teacher induction and ongoing professional development.

2) Use a steady improvement cycle: Learn key ideas, rehearse through micro-teaching, review lesson video, give and receive structured peer feedback, then apply in the classroom.

3) Provide mentoring and PLC support: Pair novices with mentors and convene PLC meetings that use real classroom evidence (short clips, student work, exit tickets) to set goals and monitor progress.

4) Monitor with study-aligned tools: Assess before and after using the same instruments employed in the research, and use the findings to refine individual and school-level plans.

5) Adapt to context: Tailor routines to subject areas and larger classes with low-prep, high-impact strategies (clear signals, quick transitions, think-pair-share, concise exit tickets).

6) Sustain the gains: Schedule periodic refresh sessions and goal reviews with mentors to maintain momentum and troubleshoot drift.

7) Recognize growth: Offer certification or micro-credentials tied to demonstrated improvement and link them to professional advancement pathways.

8) Build partnerships: Work with universities and education authorities to localize materials, continue research-and-development, and inform evidence-based policy and scale-up.

References

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.

Bardach, L., Bostwick, K. C. P., Fütterer, T., Kopatz, M., Hobbi, D. M., Klassen, R. M., & Pietschnig, J. (2024). A meta-analysis on teachers' growth mindset. *Educational Psychology Review, 36*, Article 84. https://doi.org/10.1007/s10648-024-09925-7

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice, 5*(1), 7–74. https://doi.org/10.1080/0969595980050102

Cheng, H., Fan, Y., & Lau, H. (2023). An integrative review on job burnout among teachers in China: Implications for human resource management. *The International Journal of Human Resource Management, 34*(3), 529–561. https://doi.org/10.1080/09585192.2022.2078991

Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher, 38*(3), 181–199. https://doi.org/10.3102/0013189X08331140

Desimone, L. M. (2011). A primer on effective professional development. *Phi Delta Kappan, 92*(6), 68–71. https://doi.org/10.1177/003172171109200616

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.

Knowles, M. S. (1984). *Andragogy in action: Applying modern principles of adult learning*. Jossey-Bass.

Kraft, M. A., Blazar, D., & Hogan, D. (2018). The effect of teacher coaching on instruction and achievement: A meta-analysis of the causal evidence. *Review of Educational Research, 88*(4), 547–588. https://doi.org/10.3102/0034654318759268

Macnamara, B. N., & Burgoyne, A. P. (2023). Do growth mindset interventions impact students' academic achievement? A systematic review and meta-analysis with recommendations for best practices. *Psychological Bulletin, 149*(3–4), 133–173. https://doi.org/10.1037/bul0000352

Mesler, R. M. D., Corbin, C. M., & Martin, B. H. (2021). Teacher mindset is associated with development of students' growth mindset. *Journal of Applied Developmental Psychology, 73*, 101299. https://doi.org/10.1016/j.appdev.2020.101299

Sisk, V. F., Burgoyne, A. P., Sun, J., Butler, J. L., & Macnamara, B. N. (2018). To what extent and under which circumstances are growth mind-sets important to academic achievement? Two meta-analyses. *Psychological Science, 29*(4), 549–571. https://doi.org/10.1177/0956797617739704

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*(7), 783–805. https://doi.org/10.1016/S0742-051X(01)00036-1

Yeager, D. S., Hanselman, P., Walton, G. M., Murray, J. S., Crosnoe, R., Muller, C., ... Dweck, C. S. (2019). A national experiment reveals where a growth mindset improves achievement. *Nature, 573*(7774), 364–369. https://doi.org/10.1038/s41586-019-1466-y