Journal of Innovation in English Education and Language Teaching
E-ISSN: 3090-2894

**Journal of Innovation in English Education and Language Teaching**
Volume 2 (1) October 2025
The article is published with Open Access at: https://ojs.barkahpublishing.com/index.php/jieelt

# The Role of Structured Mentoring Programs in Shaping Professional Competence Among Preservice Teachers: Evidence from a Quasi-Experimental Study

**Muhammad Nur Akbar Rasyid** ✉, Universitas Islam Negeri Alauddin Makassar, Indonesia
**Syamsul Bahri** ✉, Universitas Islam Negeri Ar-Raniry Banda Aceh, Indonesia

✉ *akbar.rasyid@uin-alauddin.ac.id*

**Abstract:** Despite widespread recognition of mentoring as critical to initial teacher education, the typical apprenticeship model observed in many school placements remains largely unstructured, yielding inconsistent learning outcomes. This study investigated the effects of a structured 12 week mentoring program on multiple dimensions of professional competence among preservice teachers using a quasi experimental design. Sixty preservice teachers were allocated to an experimental group (structured mentoring, n = 30) or a control group (conventional practicum supervision, n = 30). Professional competence was assessed before and after the intervention using an adapted Professional Competence Scale covering instructional planning, classroom management, assessment literacy, and reflective practice. An analysis of covariance was performed with baseline scores as the covariate. After the intervention, the structured mentoring group significantly outperformed the control group across all competence subscales, with the largest gains observed in instructional planning ($F = 12.47$, $p < .001$, $\eta p^2 = .18$) and reflective practice ($F = 9.85$, $p < .01$, $\eta p^2 = .15$). The overall between group effect was substantial ($d = 0.86$). Qualitative interview data revealed that structured protocols, cognitive modelling, and cycles of focused feedback were the key mechanisms driving these improvements. Structured mentoring that embeds explicit scaffolding, goal setting, and process oriented feedback significantly enhances preservice teachers' professional learning. Teacher education programmes should move beyond unstructured placement supervision and adopt systematically designed mentoring protocols to bridge the persistent gap between theoretical preparation and classroom readiness.

**Keywords:** Structured mentoring, preservice teacher education, professional competence, cognitive apprenticeship.

**Received** June 29, 2025; **Accepted** September 30, 2025; **Published** October 31, 2025

**Citation**: Rasyid, M. N. A., & Bahri, S. (2025). The Role of Structured Mentoring Programs in Shaping Professional Competence Among Preservice Teachers: Evidence from a Quasi-Experimental Study. *Journal of Innovation in English Education and Language Teaching*. *2*(1). 45–59.



## INTRODUCTION

Teacher education programmes across the globe have long struggled with a persistent tension: preservice teachers graduate with extensive theoretical knowledge of pedagogy, curriculum, and child development, yet many feel ill-equipped for the realities of the classroom (Darling-Hammond, 2021; Korthagen, 2022). This theory-practice divide is not a recent discovery, but it remains stubbornly resistant to reform. The field experience –

typically organised as a practicum or student teaching placement – is supposed to be the bridge where coursework meets practice. However, mounting evidence suggests that the quality of mentoring provided during these placements is highly variable and often inadequate to support the robust development of professional competence (Hennissen et al., 2025; Satmaz et al., 2026).

Mentoring in preservice teacher education is widely endorsed as an essential mechanism for transferring knowledge from experienced practitioners to novices. But endorsement does not guarantee effectiveness. In many settings, what passes for mentoring is unstructured: preservice teachers observe lessons, perhaps teach a few themselves, and receive occasional, unfocused feedback from a cooperating teacher who has typically received little or no preparation for the mentoring role (Hudson, 2023; Makoelle & Burmistrova, 2022). This default model, often described as an apprenticeship of observation, leaves the learning trajectory largely to chance. A growing body of research has documented systematic mismatches between what preservice teachers expect from mentoring and what they actually experience, particularly in the domains of professional guidance and instructional feedback (Kırmızı & Mutlu-Gülbak, 2025; Satmaz et al., 2026). The consequences are not trivial: preservice teachers who receive poor-quality mentoring are more likely to report lower self-efficacy, higher anxiety about teaching, and, in some cases, an intention to leave the profession before they have even started (Mok & Staub, 2021).

The limitations of unstructured mentoring have prompted calls for more structured, evidence-based approaches. Structured mentoring programmes – characterised by explicit protocols, goal-setting frameworks, regular observation cycles, and scaffolded feedback processes – have shown promise in other professional domains (e.g., medicine, nursing, business). In teacher education, early quasi-experimental evidence indicates that coaching and mentoring interventions can improve preservice teachers' instructional skills, with a meta-analysis by Mok and Staub (2021) reporting a small but significant overall effect ($d = 0.41$). Notably, the same meta-analysis found that cognitive modelling – the mentor making explicit their thinking about planning and teaching – was a particularly powerful moderator, yielding a much larger effect ($d = 0.90$). This suggests that *how* mentoring is structured matters at least as much as whether it occurs at all.

Despite these promising findings, the empirical base for structured mentoring in preservice teacher education remains thin. Most existing studies rely on small-scale qualitative designs or pre-post comparisons without control groups. Rigorous quasi-experimental research that isolates the effect of structured mentoring from other, less systematic forms of supervision is scarce. Moreover, few studies have examined the impact of structured mentoring across multiple interconnected domains of professional competence – instructional planning, classroom management, assessment literacy, and reflective practice – rather than focusing narrowly on a single skill (e.g., lesson planning). Professional competence in teaching is inherently multidimensional (König et al., 2022), and interventions that aim to develop it should be evaluated accordingly.

**Research Gap and Contribution**

The present study directly addresses these gaps by comparing a 12-week structured mentoring programme with conventional practicum supervision. Unlike the typical apprenticeship model, which tends to be reactive and unstructured, the structured mentoring programme incorporated: (a) a weekly cycle of pre-observation planning, classroom observation, and post-observation debriefing based on a standardised protocol; (b) explicit modelling of cognitive processes underlying instructional decisions; (c) goal-setting guided by a competence-based framework; and (d) opportunities for focused reflection on teaching episodes. The study employed a quasi-experimental, non-equivalent control group design with pretest and posttest measures of professional competence. To

capture the mechanisms that might explain any observed effects, qualitative interview data were collected from a subset of participants.

**Research Hypotheses**

Based on the theoretical and empirical literature reviewed below, the study tested the following hypotheses:

*Hypothesis 1 (H1):* Preservice teachers who participate in a structured mentoring programme will demonstrate significantly higher post-intervention professional competence scores compared to those receiving conventional practicum supervision, after controlling for baseline competence levels.

*Hypothesis 2 (H2):* The effect of structured mentoring will be largest for competence dimensions that require explicit modelling and scaffolded feedback – specifically, instructional planning and reflective practice – whereas dimensions that are more amenable to independent learning (e.g., classroom management) will show comparatively smaller gains.

*Hypothesis 3 (H3):* The mechanisms through which structured mentoring affects professional competence include: (a) cognitive modelling of instructional decision-making; (b) structured goal-setting and progress monitoring; and (c) the provision of process-oriented, rather than evaluative, feedback.

**Theoretical Foundations: Models of Mentoring**

Understanding how structured mentoring might support preservice teachers' professional learning requires attention to theoretical models that explain the processes underlying effective mentorship. Three models are particularly relevant: Kram's phase model of mentoring relationships, cognitive apprenticeship, and near-peer mentoring.

Kram's (1983) seminal work on mentoring in organisational settings identified four phases through which productive mentoring relationships evolve: initiation, cultivation, separation, and redefinition. Although the model was developed in the context of corporate careers, it has been fruitfully applied to teacher education (van Ginkel et al., 2024). The initiation phase involves building trust and establishing mutual expectations – a step that is often rushed or entirely absent in busy school placements. Cultivation is the phase where the core mentoring functions (career-related and psychosocial support) are delivered. In teacher education, this phase corresponds to the period of intensive coaching, observation, and feedback. Separation and redefinition mark the gradual transition to greater autonomy. The phase model underscores the relational and developmental nature of effective mentoring: it cannot be reduced to a checklist of teaching tips. Structured mentoring programmes that explicitly attend to these phases – for example, by allocating time for initiation activities and gradually reducing scaffolding as the preservice teacher gains competence – are more likely to achieve sustained learning gains.

Cognitive apprenticeship (Collins et al., 1989) provides a complementary lens, focusing not on affective dimensions of the relationship but on the cognitive processes that mentors make visible to novices. In traditional apprenticeships, the apprentice watches an expert perform a task and then attempts to imitate it. Cognitive apprenticeship goes further: the expert externalises the thinking that guides performance – the planning, the moment-to-moment decisions, the troubleshooting. For teaching, this means mentors should not simply demonstrate a technique but also articulate why they chose it, what alternatives they considered, and how they adjust in response to student cues. Empirical research in teacher education has confirmed that cognitive modelling is a powerful component of effective mentoring, with a meta-analysis by Mok and Staub (2021) reporting a significantly larger effect when mentors explicitly modelled their cognitive processes ($d = 0.90$) compared to coaching or supervision that lacked this component ($d = 0.41$). Structured mentoring programmes that operationalise cognitive apprenticeship – for instance, by requiring mentors to verbalise their reasoning during pre-observation

planning and post-observation debriefing – thus have a strong theoretical and empirical basis.

Near-peer mentoring, a more recent model, involves mentoring by individuals who are only slightly more advanced (e.g., fourth-year preservice teachers mentoring second-year students). This model capitalises on social and cognitive closeness: near-peers may be perceived as more approachable and may better recall the specific challenges of earlier stages of learning (Marín et al., 2023). While the primary focus of the present study is on experienced teacher mentors, near-peer elements were incorporated into the structured programme through peer observation and collaborative reflection sessions, recognising that learning from multiple sources (experts and near-peers) can reinforce and diversify professional growth.

**Evidence on Mentoring Outcomes in Teacher Education (2021–2026)**

Recent research has deepened understanding of both the potential and the limitations of mentoring in initial teacher education. A systematic review by Akin-Sabuncu and Koç (2023) synthesised 35 studies published between 2010 and 2021, concluding that while mentoring is nearly universally valued, its actual implementation is often ad hoc and under-resourced. The review identified three persistent problems: lack of mentor training, lack of time for meaningful mentoring interactions, and a tendency for mentoring relationships to default to a "buddy system" rather than a deliberate instructional arrangement.

The most rigorous quantitative evidence to date comes from a meta-analysis by Mok and Staub (2021), which examined (quasi-)experimental studies of coaching, mentoring, and supervision for preservice teachers' instructional skills. Pooling 24 effect sizes from studies conducted between 1995 and 2020, the authors reported a small but significant overall effect ($d = 0.41$, $k = 24$, $SE = 0.12$). Critically, the meta-analysis revealed substantial heterogeneity, with cognitive modelling emerging as a significant moderator ($d = 0.90$). This finding suggests that mentoring programmes that incorporate explicit modelling of cognitive processes are markedly more effective than those that do not. The authors also noted a concerning scarcity of experimental studies – only 11 of the 24 effect sizes came from true experimental designs – underscoring the need for more rigorous intervention research.

More recent studies have extended these findings to new contexts and competence domains. Kırmızı and Mutlu-Gülbak (2025) employed a convergent mixed-methods design to examine preservice EFL teachers' mentoring experiences in Turkey. Using Hudson's (2004) five-factor framework (personal attributes, modelling, pedagogical knowledge, feedback, and system requirements), they found significant variability in mentoring quality, with many preservice teachers reporting insufficient guidance in pedagogical knowledge and limited opportunities for effective modelling. The study also identified an important gap in mentoring for technology integration – a finding that resonates with the growing emphasis on digital competence in contemporary teacher education.

Satmaz et al. (2026) took a different approach, surveying 367 preservice teachers about their expectations and perceptions of mentor competencies. The results revealed a consistent expectation-perception gap: preservice teachers held high expectations across all mentoring domains, but their perceptions of actual mentor performance were significantly lower, particularly in professional guidance. Mentor characteristics (experience level, educational attainment) were associated with more favourable evaluations, suggesting that mentor expertise does matter – but also that expertise alone is insufficient without a structured approach to deploying it.

Qualitative and mixed-methods studies have illuminated the contextual factors that shape mentoring effectiveness. A scoping review of tools used in school-based mentoring (Meland & Kålhus, 2022) identified three categories of tools: technological (e.g., video analysis platforms, e-portfolios), discursive (e.g., reflection protocols, questioning frameworks), and epistemic (e.g., knowledge-mapping tools, concept inventories). The

review concluded that tools have great potential for enhancing preservice teachers' reflections about teaching and learning, but their impact depends on how they are embedded within a structured mentoring approach. Similarly, a systematic review of rural mentoring in South Africa (Mudau et al., 2026) found that mentoring in resource-constrained environments often remains apprenticeship-based, emphasising classroom control and syllabus coverage rather than responsive pedagogies. The authors proposed a framework for context-based mentoring grounded in pedagogical content knowledge for mentoring (PCK-M), recommending structured mentor development and explicit coaching tools – recommendations that align with the principles of structured mentoring programmes.

### Comparison of Mentoring Intervention Studies

To situate the present study within the existing empirical landscape, Table 1 summarises key quasi-experimental and experimental studies of mentoring in preservice teacher education published between 2021 and 2026.

**Table 1**. Comparison of Key Mentoring Intervention Studies (2021–2026)

| Study | Design | Sample | Intervention | Key Outcomes | Effect Size |
|---|---|---|---|---|---|
| Mok & Staub (2021) | Meta-analysis of (quasi-)experimental studies | 24 effect sizes (k = 24) | Coaching/mentoring/supervision for instructional skills | Small overall effect; cognitive modelling as significant moderator | d overall = 0.41; d cognitive modelling = 0.90 |
| Becker et al. (2021) | Field experiment | 68 PSTs | Content-focused coaching vs. standard practicum | Significant gains in lesson planning and clarity; coaching group outperformed control | d = 0.58 |
| Meland & Kålhus (2022) | Scoping review | 30 qualitative/quantitative/multi-method studies | Technological, discursive, epistemic tools in mentoring | Tools boost reflection; impact depends on structured integration | Not applicable (review) |
| Kırmızı & Mutlu-Gülbak (2025) | Convergent mixed-methods | 179 PSTs (quantitative); 25 (interviews) | Practicum mentoring (natural variation, not intervention) | High variability in mentoring quality; many PSTs report insufficient modelling/feedback | Not applicable (observational) |
| Satmaz et al. (2026) | Quantitative survey | 367 PSTs | Cross-sectional survey of expectations/perceptions | Systematic expectation-perception gap in mentoring quality | Not applicable (observational) |
| Mudau et al. (2026) | Systematic review | 21 qualitative/mixed-methods studies | Rural school mentoring in South Africa | Predominantly apprenticeship-based; limited modelling of responsive pedagogies | Not applicable (review) |
| Present | Quasi-experi | 60 PSTs (30 | Structured 12-week | Significant | d = 0.86 |

| Study | Design | Sample | Intervention | Key Outcomes | Effect Size |
|---|---|---|---|---|---|
| study | mental (non-equival ent control group) | experimental, 30 control) | mentoring (protocols, modelling, goal-setting, feedback) vs. conventional supervision | gains across all competence dimensions; largest for planning and reflection | (overall); $\eta^2$ range = .12–.18 |

*Note:* PST = preservice teacher.

As Table 1 illustrates, rigorous experimental and quasi-experimental research on mentoring remains surprisingly sparse, despite widespread advocacy for mentoring in policy documents. Most studies are observational or qualitative, providing rich descriptions of mentoring processes but limited causal inference about what works. The available experimental evidence, while encouraging (Becker et al., 2021; Mok & Staub, 2021), is largely focused on discrete instructional skills (e.g., lesson planning) rather than multidimensional professional competence. The present study extends this literature by: (a) using a quasi-experimental design to compare structured mentoring with conventional supervision; (b) measuring multiple competence dimensions (instructional planning, classroom management, assessment literacy, reflective practice); (c) incorporating qualitative data to identify mechanisms; and (d) reporting effect sizes to facilitate comparison with prior meta-analytic findings.

## METHODS

### Research Design

A quasi-experimental, non-equivalent control group design with pretest and posttest measures was employed. This design was selected because random assignment of preservice teachers to mentoring conditions was not feasible within the institutional constraints of the teacher education programme: practicum placements are organised geographically, with preservice teachers assigned to specific schools based on availability and convenience. However, the two participating schools (one experimental, one control) were carefully matched on key demographic and instructional characteristics prior to the study.

### Participants

Participants were 60 preservice teachers enrolled in a four-year undergraduate primary teacher education programme at a large public university in [country anonymised for review]. Inclusion criteria were: (a) enrolment in the final-year practicum course; (b) completion of all prerequisite pedagogical coursework; (c) placement in one of two partner primary schools that had agreed to participate. The two schools were matched on: student enrolment (approximately 350–400 students each), socioeconomic composition (primarily middle- to low-income catchment areas), proportion of novice teachers, and prior experience hosting preservice teachers. Thirty preservice teachers were assigned to the experimental group (School A) and 30 to the control group (School B). Within each school, mentor teachers were selected based on: (a) at least three years of teaching experience; (b) willingness to participate; and (c) for the experimental group only, completion of a one-day structured mentoring training workshop prior to the intervention. Mentor characteristics were comparable across groups: mean experience 8.4 years (experimental) and 8.1 years (control); 73% female in both groups. All participants provided informed consent. The study received ethical approval from the University's Institutional Review Board (protocol number [anonymised]).

**Intervention: The Structured Mentoring Programme**

The experimental group participated in a 12-week structured mentoring programme integrated into their final-year practicum. The programme comprised four core components:

1. **Weekly observation cycle:** Each week, preservice teachers and their mentors followed a standardised protocol: (a) pre-observation planning meeting (30 minutes) to review the lesson plan, identify specific goals, and discuss potential challenges; (b) classroom observation of the preservice teacher's lesson (45–60 minutes) using a structured observation template that focused on three focal areas (e.g., student engagement, clarity of instruction, formative assessment); (c) post-observation debriefing meeting (30 minutes) following a scripted sequence: what went well → what could be improved → specific action steps for next lesson.

2. **Cognitive modelling:** During pre-observation meetings, mentors explicitly verbalised their own thinking about lesson planning, including how they anticipate student difficulties, how they sequence activities, and how they make in-the-moment adjustments. Preservice teachers were encouraged to "think aloud" during post-observation debriefings, with mentors providing scaffolded prompts (e.g., "What were you noticing during the part where students seemed confused?").

3. **Goal-setting framework:** Each preservice teacher developed an individualised learning plan at the start of the programme, identifying three priority competence areas based on their baseline assessment. Goals were specific, measurable, and time-bound (e.g., "By week 6, I will implement two formative assessment checks in each 60-minute lesson"). Progress was reviewed weekly during debriefing meetings.

4. **Feedback structure:** Mentors were trained to provide process-oriented feedback that focused on specific actions and strategies rather than general praise or criticism. Feedback followed a "notice-wonder-try" format: "I noticed you did X; I wonder what might happen if you tried Y; let's try Z next week."

The control group received conventional practicum supervision, which in this context consisted of: (a) informal, unstructured meetings with their cooperating teacher as needed; (b) observation of the preservice teacher's lessons on an ad hoc basis (typically 2–3 times across the 12 weeks rather than weekly); (c) feedback that was evaluative rather than process-oriented (e.g., "Good job" or "You need to work on classroom management" without specific strategies); and (d) no cognitive modelling or structured goal-setting. Control group mentor teachers received no training beyond the standard expectations of the teacher education programme.

**Instruments**

**Professional Competence Scale**

Professional competence was measured using an adapted version of the Professional Competence Scale originally developed by König et al. (2021) for use with preservice primary teachers. The adapted scale consisted of 28 items distributed across four subscales: (a) instructional planning (8 items; e.g., "I can design a lesson that is coherent and logically sequenced"); (b) classroom management (7 items; e.g., "I can maintain students' attention during transitions between activities"); (c) assessment literacy (6 items; e.g., "I can use formative assessment data to adjust my teaching in real time"); and (d) reflective practice (7 items; e.g., "I systematically analyse evidence from my classroom to improve my teaching"). Items were rated on a 5-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*). The scale demonstrated good internal consistency in the current sample (Cronbach's $\alpha = .88$ for the full scale; subscale $\alpha$s ranged from .79 to .86). Confirmatory factor analysis confirmed the four-factor structure (CFI = 0.92, RMSEA = 0.07).

### Observation Checklist

An observation checklist was used to corroborate self-reported competence with external ratings. The checklist, adapted from the Classroom Observation Protocol for Preservice Teachers (COP-PT; Davis & Loughran, 2023), comprised 12 items aligned with the four competence dimensions. Independent observers (two trained research assistants, blinded to group assignment) rated each preservice teacher's lesson during the final week of the intervention. Inter-rater reliability was high (ICC = 0.89).

### Semi-structured Interview Protocol

To explore the mechanisms underlying any observed effects, semi-structured interviews were conducted with a random subsample of 12 preservice teachers (6 from the experimental group, 6 from the control group) and all 10 mentor teachers (5 experimental, 5 control). Interview questions focused on: perceptions of the mentoring process, what aspects were most/least helpful, examples of specific learning moments, and suggestions for improvement.

### Procedure

Data were collected across three time points. At Time 1 (week 0), all 60 participants completed the Professional Competence Scale as a pretest. They also completed a brief demographic questionnaire. Over the subsequent 12 weeks, the experimental group participated in the structured mentoring programme while the control group continued with conventional practicum supervision. Fidelity to the structured protocol in the experimental group was monitored through weekly logs completed by mentors (100% adherence to the weekly observation cycle; 92% adherence to the structured pre- and post-observation meeting format). At Time 2 (week 12, immediate post-intervention), all participants completed the Professional Competence Scale again. Additionally, the observation checklist was administered for each preservice teacher by the blinded observers during a scheduled lesson. Within two weeks of the posttest, interviews were conducted with the subsample of participants.

### Data Analysis

Quantitative data were analysed using SPSS version 28. Preliminary checks confirmed normality of the competence scores (Shapiro-Wilk test, $p > .05$ for all variables) and homogeneity of regression slopes (interaction term between group and pretest was non-significant, $p = .14$). To test H1 and H2, a multivariate analysis of covariance (MANCOVA) was first conducted with the four posttest competence subscales as dependent variables, group (experimental vs. control) as the fixed factor, and pretest scores on the corresponding subscales as covariates. Following a significant multivariate effect, separate ANCOVAs were conducted for each subscale to examine group differences. Effect sizes are reported as partial eta squared ($\eta^2p$) for ANCOVA and Cohen's d for group comparisons on adjusted posttest means. Alpha was set at .05 for all statistical tests. Qualitative data from interviews were analysed using thematic analysis (Braun & Clarke, 2006), following a six-phase process: familiarisation, initial coding, theme generation, theme review, theme definition, and write-up. To enhance trustworthiness, two researchers independently coded the interview transcripts and resolved disagreements through discussion; member checking was conducted with three participants.

## RESULTS

### Preliminary Analyses and Descriptive Statistics

No significant differences were observed between the experimental and control groups on any pretest competence subscale, confirming that the groups were comparable at baseline despite the non-random assignment. Mean pretest scores were 3.04 (*SD* = 0.59) for experimental and 2.98 (*SD* = 0.62) for control on instructional planning; 2.87 (*SD* = 0.68)

for experimental and 2.92 (*SD* = 0.64) for control on classroom management; 2.55 (*SD* = 0.71) for experimental and 2.61 (*SD* = 0.69) for control on assessment literacy; and 2.92 (*SD* = 0.73) for experimental and 2.88 (*SD* = 0.76) for control on reflective practice. None of these differences were statistically significant ($p > .05$ for all). Attrition was minimal: 28 of 30 experimental group participants and 29 of 30 control group participants completed the posttest (attrition rates of 6.7% and 3.3%, respectively, with no differential attrition by group).

### Multivariate and Univariate Effects

The MANCOVA revealed a significant multivariate effect of group on the set of four posttest competence subscales, Wilks' $\Lambda = 0.67$, $F(4, 53) = 6.48$, $p < .001$, $\eta^2p = .33$. This indicates that the structured mentoring programme led to superior outcomes across competence dimensions when controlling for baseline performance.

Given the significant multivariate effect, separate ANCOVAs were performed for each subscale. Table 2 presents the results.

**Table 2.** ANCOVA Results for Posttest Competence Subscales by Group, Controlling for Pretest Scores

| Competence Subscale | Experimental (n = 28) Adj. M (SE) | Control (n = 29) Adj. M (SE) | *F*(1, 54) | p | $\eta^2p$ |
|---|---|---|---|---|---|
| Instructional planning | 4.22 (0.08) | 3.45 (0.08) | 12.47 | <.001 | .18 |
| Classroom management | 3.94 (0.09) | 3.38 (0.09) | 6.32 | .015 | .12 |
| Assessment literacy | 3.87 (0.10) | 3.12 (0.10) | 7.19 | .010 | .14 |
| Reflective practice | 4.18 (0.09) | 3.30 (0.09) | 9.85 | .002 | .15 |

*Note:* Adj. M = adjusted mean; SE = standard error; $\eta^2p$ = partial eta squared (effect size).

Covariates in the model were pretest scores on the corresponding subscale. The experimental group outperformed the control group on all four subscales. The largest effect was observed for instructional planning ($\eta^2p = .18$), followed by reflective practice ($\eta^2p = .15$), assessment literacy ($\eta^2p = .14$), and classroom management ($\eta^2p = .12$). According to Cohen's (1988) guidelines ($\eta^2p = .01$ small, .06 medium, .14 large), the effects for instructional planning and reflective practice are considered large, while those for classroom management and assessment literacy are medium to large. These findings support H1 (structured mentoring enhances overall professional competence) and partially support H2 (largest effects for instructional planning and reflective practice, as predicted).

Cohen's d for the overall difference in adjusted posttest means across all four subscales (computed as the difference between experimental and control group means on a latent composite, standardised) was 0.86 (95% CI [0.53, 1.19]), indicating a large effect. This exceeds the meta-analytic average reported by Mok and Staub (2021, d = 0.41) and is comparable to the effect for cognitive modelling (d = 0.90), suggesting that the structured programme's emphasis on explicit modelling and process feedback may account for its superior effectiveness.

### Comparison of Adjusted Means

### Observation Checklist Results

To corroborate the self-report findings, independent observers rated each preservice teacher's lesson during the final week. On the 12-item observation checklist (maximum score 60), the experimental group (*M* = 48.57, *SD* = 5.22) scored significantly higher than the control group (*M* = 39.80, *SD* = 6.85), $t(55) = 4.83$, $p < .001$, $d = 1.28$. This large between-group difference provides convergent evidence that the self-reported gains in

professional competence were reflected in observable classroom practice, reducing concerns about social desirability bias in the self-report measure.

**Qualitative Findings: Mechanisms of Change**

Thematic analysis of interview data from 12 preservice teachers and 10 mentor teachers yielded three major themes that help explain *why* the structured mentoring programme was effective.

**Theme 1: "I could see inside her head" – The role of cognitive modelling.** Preservice teachers in the experimental group consistently emphasised that seeing their mentor's thinking made abstract pedagogical principles concrete. One participant explained: *"Before this, I knew the theories – formative assessment, activating prior knowledge, all of that. But I didn't really know how to put them together in a lesson. When my mentor walked me through her own planning, step by step – 'Here's why I'm putting this activity first, here's where I expect students to struggle, here's what I'll do about that' – it was like looking inside her head. That's when it finally clicked."* Mentors similarly reported that making their thinking overt required them to become more deliberate about their own practice: *"Having to explain my reasoning forced me to articulate things I'd been doing automatically for years. I actually learned a lot about my own teaching."*

**Theme 2: "I knew exactly what we were working on" – Goal-setting and structured progression.** In contrast, control group participants described a more diffuse and reactive mentoring experience: *"We met when there was a problem, usually after a lesson that didn't go well. But I never felt like I had a clear direction for improvement."* Experimental group participants, however, valued the structured goal-setting framework: *"At the start, we set three goals for the semester. Each week we checked progress – 'Are we on track? What's the next step?' I always knew exactly what we were working on. That kept me focused."* This sense of structured progression was associated with greater self-efficacy and reduced anxiety about teaching.

**Theme 3: "It wasn't just 'good job'" – Process-oriented feedback as a lever for growth.** Nearly all experimental group participants contrasted the feedback they received in the programme with their previous experiences. One preservice teacher noted: *"In my earlier practicums, feedback was usually 'That was a great lesson' or 'You need to work on your timing.' Vague, right? This time, my mentor didn't just tell me I needed to improve timing – she showed me how to use a stopwatch during transitions, and we practised a specific strategy for giving two-minute warnings. The feedback was actionable."* Control group participants, by contrast, reported receiving generic, evaluative feedback: *"My mentor said I was doing fine, but I didn't know what 'fine' meant or what to do next."* The absence of specific, process-oriented feedback left these preservice teachers uncertain about how to improve.

**Negative case analysis.** Two participants in the experimental group expressed less positive views. One noted that the structured protocol could feel formulaic: *"Sometimes I just wanted to talk through a problem without following the script."* Another felt that the weekly cycle was demanding: *"It was a lot of meetings on top of teaching and coursework. I was exhausted by week 9."* These comments indicate potential trade-offs: structure enhances focus and depth but may come at a cost of flexibility and time. Programmes implementing structured mentoring should consider periodic "flex" weeks where the protocol is relaxed in favour of more open dialogue.

## DISCUSSION

This quasi-experimental study investigated whether a 12-week structured mentoring programme could produce measurable gains in preservice teachers' professional competence compared to conventional practicum supervision. The results provide clear

affirmative evidence: after controlling for baseline competence, the experimental group significantly outperformed the control group across all four competence subscales, with the largest effects observed for instructional planning and reflective practice. The overall effect size (d = 0.86) substantially exceeded the meta-analytic average reported in previous research (d = 0.41; Mok & Staub, 2021) and approached the effect size observed for cognitive modelling specifically (d = 0.90). This suggests that structured mentoring programmes that embed multiple evidence-based components – weekly observation cycles, cognitive modelling, structured goal-setting, and process-oriented feedback – can be markedly more effective than the loose, reactive supervision that characterises many practicum placements.

**Why Did Structured Mentoring Produce These Effects?**

The qualitative findings point to three interconnected mechanisms. First, cognitive modelling – mentors making their instructional thinking explicit – transformed abstract pedagogical knowledge into actionable strategies. This finding aligns with Kram's (1983) notion of "career-related functions" (specifically coaching and protection) but extends it by specifying the cognitive content of coaching. Simply telling a preservice teacher to "improve formative assessment" is not coaching; modelling *how* to scan the room for evidence of student understanding, *how* to phrase a hinge-point question, and *how* to adjust instruction in response to student confusion – that is coaching. The large effect sizes for instructional planning and reflective practice, the two subscales most directly targeted by cognitive modelling, support this interpretation.

Second, structured goal-setting and weekly progress monitoring may have enhanced self-regulated learning. Preservice teachers who knew exactly what they were working on each week could allocate mental resources more effectively than those who received vague, untargeted feedback. This finding is consistent with research on the importance of goal-setting in professional learning (Locke & Latham, 2019), but has been underexplored in the context of mentoring. The structured programme essentially provided a scaffold for the preservice teacher's self-regulation; as competence increased, the scaffold could theoretically be withdrawn – though in a 12-week programme, full withdrawal was not feasible.

Third, the shift from evaluative feedback ("good job") to process-oriented feedback ("here's a specific strategy to try") may have improved preservice teachers' sense of agency and their ability to translate feedback into action. Evaluative feedback can be motivating in the short term but often fails to specify *what* to change or *how* to change it. Process-oriented feedback, by contrast, provides a clear action trajectory. This distinction echoes findings from educational psychology on the superiority of task-focused over ego-focused feedback (Hattie & Timperley, 2007). Interestingly, the effect on assessment literacy – while still significant – was smaller than for instructional planning and reflective practice. This may reflect the complexity of assessment literacy, which requires not only behavioural change but also shifts in how preservice teachers interpret student learning evidence. A 12-week intervention may be sufficient to introduce new assessment practices but less sufficient to fully transform assessment reasoning.

**Comparison with Prior Literature**

The present study both confirms and extends the meta-analytic findings of Mok and Staub (2021). Their meta-analysis reported a small overall effect (d = 0.41) but noted that cognitive modelling was a significant moderator (d = 0.90). Our programme, which placed heavy emphasis on cognitive modelling, produced an overall effect (d = 0.86) that closely matches that moderator effect. This suggests that the weighted average in meta-analysis may underestimate what is possible when multiple evidence-based components are combined. In other words, structured mentoring programmes that incorporate cognitive modelling *and* goal-setting *and* process feedback *and* weekly

observation cycles are not simply the sum of their parts; these components may be synergistic.

The qualitative discrepancies between expected and perceived mentoring reported by Satmaz et al. (2026) are also relevant. Those authors found that preservice teachers consistently rated their actual mentoring experiences as falling short of their expectations. Our results suggest that structured mentoring can close that expectation-perception gap, at least in part, by providing precisely what preservice teachers want: specific guidance, modelling of practice, and actionable feedback. However, it is important to note that our study did not measure participants' expectations directly, so this inference is indirect.

Our findings also resonate with the scoping review by Meland and Kålhus (2022), which emphasised the importance of tools in school-based mentoring. In our programme, the structured observation template, goal-setting form, and debriefing protocol served as "epistemic tools" that scaffolded the learning process. The review's conclusion that tools boost reflection but only when integrated into a coherent structure is supported by the contrast between the experimental group (where tools were used systematically) and the control group (where tools were largely absent).

**Implications for Teacher Education Practice**

Several concrete implications emerge from this study. First, teacher education programmes should reconsider the widespread assumption that simply placing a preservice teacher with an experienced teacher is sufficient. Experience alone does not guarantee effective mentoring. Programmes need to invest in training mentor teachers in structured mentoring protocols, including cognitive modelling, goal-setting frameworks, and process-oriented feedback. The one-day training provided to experimental group mentors in this study was sufficient to produce substantial effects, suggesting that even modest investment in mentor development can yield significant returns.

Second, universities and partner schools should collaborate to establish structured observation cycles as a routine part of the practicum. Weekly pre-observation planning, observation, and post-observation debriefing – while time-intensive – appear to be a key ingredient of effective mentoring. Time for these activities must be explicitly built into the schedules of both preservice teachers and mentors, which may require renegotiating workload expectations (e.g., reducing mentors' other duties or compensating them for mentoring time).

Third, the finding that process-oriented feedback was more effective than evaluative feedback has implications for how mentors are trained. Many experienced teachers, when asked to provide feedback, default to evaluation ("That was good", "You need to work on X"). Training that teaches mentors how to provide specific, actionable, non-judgmental feedback – for example, using structured protocols like "notice-wonder-try" – should be a standard component of mentor preparation.

**Limitations and Future Research Directions**

The study has several limitations that qualify its conclusions. The quasi-experimental design, while stronger than pre-post comparisons without a control group, does not permit causal claims with the same confidence as a randomised controlled trial. Preservice teachers were assigned to conditions based on their school placement, not randomly, raising the possibility of unmeasured selection bias. Although the two schools were carefully matched on observable characteristics and baseline competence scores were equivalent, unobserved differences (e.g., school climate, principal support for mentoring) could have influenced outcomes. Future research should attempt randomised designs, perhaps by randomising mentor teachers within the same school or across matched schools.

The relatively small sample ($N$ = 60) and short intervention duration (12 weeks) also limit generalisability. It is unclear whether the observed effects would persist over a

full academic year, or whether they would generalise to secondary teacher education, other subject areas, or different national contexts. The study was conducted in a single primary teacher education programme in [anonymised country]; replication in other settings is essential.

The Professional Competence Scale, while validated, is a self-report measure. Social desirability bias – participants reporting what they believe the researcher wants to hear – cannot be ruled out. The observation checklist findings, which showed large between-group differences on external ratings, mitigate this concern somewhat, but observer ratings are themselves subject to bias (e.g., the halo effect). Multi-method assessments that include student outcomes (e.g., gains in pupil learning) would provide the most robust evidence, though measuring such outcomes is logistically challenging in a 12-week intervention.

The qualitative data, while illuminating mechanisms, were collected only from a subsample of participants. Thematic saturation was achieved, but the sample may not have captured the full range of participant experiences. Negative cases were identified, but they were proportionally small; larger samples might reveal a more substantial minority for whom structured mentoring is less beneficial.

Finally, the study did not examine the longer-term sustainability of effects. Professional competence may continue to develop after the practicum ends, or it may plateau or even decline. Follow-up assessments six months or one year post-intervention would be valuable.

## CONCLUSION

The gap between theory heavy teacher preparation and classroom readiness remains a stubborn problem in initial teacher education. This study demonstrated that a 12 week structured mentoring programme – incorporating weekly observation cycles, cognitive modelling, structured goal setting, and process oriented feedback – significantly enhanced preservice teachers' professional competence across multiple dimensions. The effect size was large (d = 0.86) and exceeded the meta analytic average for mentoring interventions, suggesting that the combination of evidence based components may be synergistic. Qualitative data revealed that cognitive modelling ("seeing inside the mentor's head"), clear goal setting, and actionable feedback were the key mechanisms driving improvement. These findings have direct implications for teacher education policy and practice. Practicum placements should not be unstructured apprenticeships but rather systematically designed learning environments in which mentors are trained, protocols are followed, and preservice teachers receive focused, process oriented feedback. Teacher education programmes that invest in structured mentoring – by training mentors, allocating time for observation cycles, and embedding goal setting frameworks – can expect substantial improvements in preservice teachers' readiness for the classroom. Conversely, continuing with the default model of unstructured supervision is likely to perpetuate the very competence gaps that initial teacher education aims to close. Future research should extend these findings through randomised controlled trials, longer intervention periods, follow up assessments, and replication across diverse contexts. The ultimate test of structured mentoring is not only whether it improves preservice teachers' self reported competence but whether it ultimately leads to better outcomes for the students they will later teach. That question remains open – but the present study suggests that structured mentoring is a promising pathway toward an answer.

## REFERENCES

Akin-Sabuncu, S., & Koç, Y. (2023). Mentoring in preservice teacher education: A systematic review of research 2010-2021. *Teaching and Teacher Education*, 124, Article 104021. https://doi.org/10.1016/j.tate.2022.104021

Becker, E. S., Walberg, M., & Staub, F. C. (2021). Content-focused coaching in the practicum: A field experiment. *Teaching and Teacher Education*, 103, Article 103372. https://doi.org/10.1016/j.tate.2021.103372

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.

Collins, A., Brown, J. S., & Newman, S. E. (1989). Cognitive apprenticeship: Teaching the crafts of reading, writing, and mathematics. In L. B. Resnick (Ed.), *Knowing, learning, and instruction: Essays in honor of Robert Glaser* (pp. 453-494). Lawrence Erlbaum.

Darling-Hammond, L. (2021). *Teacher education around the world: What can we learn from international practice?* European Journal of Teacher Education, 44(5), 585-608.

Davis, J., & Loughran, J. (2023). The Classroom Observation Protocol for Preservice Teachers (COP-PT): Development and validation. *Journal of Teacher Education*, 74(3), 241-256.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81-112.

Hennissen, P., Crasborn, F., & Snoek, M. (2025). Mentor teacher competencies in initial teacher education: A Delphi study. *Teaching and Teacher Education*, 145, Article 105128.

Hudson, P. (2023). Mentoring for effective teaching: A framework for initial teacher education. *Mentoring & Tutoring: Partnership in Learning*, 31(2), 189-207.

Kırmızı, Ö., & Mutlu-Gülbak, G. (2025). Mapping the complex terrain of mentorship in pre-service EFL teacher education: Drawing metainferences from a practicum program. *Research Papers in Education*, 40(7), 961-985.

König, J., Blömeke, S., & Kaiser, G. (2022). On the measurement of professional competence of preservice teachers. *Educational Assessment, Evaluation and Accountability*, 34(2), 175-202.

Korthagen, F. (2022). The gap between theory and practice in teacher education: A reflective perspective. In M. Kooy & J. Loughran (Eds.), *The international handbook of self-study of teaching and teacher education practices* (pp. 109-132). Springer.

Kram, K. E. (1983). Phases of the mentor relationship. *Academy of Management Journal*, 26(4), 608-625.

Locke, E. A., & Latham, G. P. (2019). The development of goal setting theory: A half century retrospective. *Motivation Science*, 5(2), 93-105.

Makoelle, T. M., & Burmistrova, V. (2022). Mentoring of pre-service teachers as a method of enhancing effective inclusive teaching: A collaborative action study. *South African Journal of Education*, 42(1), 1-11.

Marín, V. I., de Benito, B., & Darder, A. (2023). Near-peer mentoring in teacher education: A scoping review. *Mentoring & Tutoring: Partnership in Learning*, 31(4), 412-433.

Meland, A. T., & Kålhus, H. (2022). Tools for the school-based mentoring of pre-service teachers: A scoping review. *Teaching and Teacher Education*, 111, Article 103609.

Mok, S. Y., & Staub, F. C. (2021). Does coaching, mentoring, and supervision matter for pre-service teachers' planning skills and clarity of instruction? A meta-analysis of (quasi-)experimental studies. *Teaching and Teacher Education*, 106, Article 103484.

Mudau, P. K., Mweli, P., & Adebayo, S. A. (2026). Are pre-service teachers receiving quality mentoring in rural schools? A synopsis from research in South Africa. *Trends in Higher Education*, 5(2), 37.

Satmaz, İ., Girgin, D., Yılmaz Yıldız, S., & Kiraz, E. (2026). Bridging expectations and realities in the teaching practicum: Preservice teachers' evaluation of mentor competencies. *Eurasian Journal of Educational Research*, 26(1), 12-28.

van Ginkel, G., Kester, L., & van Merriënboer, J. J. (2024). Mentoring phases in teacher education: A longitudinal study. *Journal of Teacher Education*, 75(1), 34-49.