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AN AI-ASSISTED QUALITATIVE ANALYSIS OF POST-MICRO-TEACHING FEEDBACK

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ABSTRACT

This study examines the pedagogical focus of formative feedback provided to trainee TESOL teachers following micro-teaching sessions in a university-based teacher education program in East Asia. The dataset consists of approximately 220 post-lesson feedback emails (around 40,000 words) written by a teacher educator across multiple cohorts and methodology courses, including teaching listening, speaking, grammar, and teaching young learners through storytelling. The trainees were a mixed group of pre-service and in-service teachers with varied levels of teaching experience, teaching contexts, and professional trajectories. Using an AI-assisted qualitative analytic approach, the feedback was systematically coded and analyzed to identify recurring pedagogical priorities and patterns. The findings indicate that feedback overwhelmingly targets transferable teaching competencies—such as instructional clarity, task design, scaffolding, alignment between lesson aims and enacted practice, and learner engagement—rather than framework-specific techniques. Persistent developmental tendencies included excessive teacher explanation, weak task setup, and misalignment between intended instructional focus and classroom activity. The study argues that AI can function as a reflective analytic tool for teacher educators, supporting large-scale pattern recognition while preserving human interpretive authority. Implications are discussed for TESOL teacher education, formative feedback practice, feedback literacy, and the ethical use of AI in pedagogical research.

KEYWORDS: TESOL teacher education; micro-teaching; formative feedback; AI-assisted qualitative analysis; pedagogical competence

1. INTRODUCTION

Micro-teaching has long been a central component of teacher education programs, offering trainee teachers structured opportunities to rehearse instructional practices in a controlled, low-risk environment (Wallace, 1991). Within TESOL teacher education, micro-teaching is commonly used to bridge theory and practice by requiring trainees to design and enact lessons based on established pedagogical frameworks. These may include Pre–During–Post (PDP) approaches to listening and speaking, inductive grammar instruction grounded in noticing and guided discovery, and storytelling-based pedagogy for young learners. Such frameworks provide conceptual scaffolds for lesson planning

and sequencing; however, their successful enactment depends on teachers' ability to translate abstract principles into effective classroom interaction.

A key mechanism supporting this translation from theoretical knowledge to practical competence is formative feedback provided by teacher educators following micro-teaching sessions. Feedback in teacher education contexts serves not only to identify areas for improvement but also to socialize trainees into particular ways of seeing teaching and learning. Through feedback, teacher educators implicitly communicate what "counts" as effective teaching, which pedagogical features are prioritized, and how teaching expertise is conceptualized. Research on formative feedback emphasizes its role in promoting reflection, self-regulation, and alignment between intended and enacted practice (Nicol & Macfarlane-Dick, 2006; Hattie & Timperley, 2007). In teacher education, feedback is therefore not merely corrective but constitutive of professional development.

Despite the centrality of feedback in micro-teaching contexts, relatively little research has examined the content of teacher educator feedback itself, particularly across different TESOL lesson types and teaching frameworks. Existing studies have tended to focus on trainee perceptions of feedback, feedback effectiveness, or reflective uptake, rather than on the pedagogical priorities embedded in feedback discourse. As a result, there remains limited empirical understanding of what teacher educators consistently attend to when observing trainee teaching, especially in contexts where trainees vary widely in experience, teaching settings, and professional goals.

At the same time, recent developments in artificial intelligence (AI) have created new possibilities for analyzing large qualitative datasets in education. AI-based tools can support pattern recognition, thematic clustering, and data reduction across extensive text corpora (Holmes et al., 2019). In teacher education research, such tools offer the potential to systematically examine naturally occurring pedagogical discourse—such as feedback emails—at a scale that would be difficult to manage through manual analysis alone. However, the use of AI in qualitative research also raises important questions about interpretive validity, ethical responsibility, and the preservation of professional judgment. Rather than replacing human analysis, AI may be most productive when used as a reflective analytic aid that supports, but does not supplant, expert interpretation (Luckin et al., 2016).

This study addresses these gaps by analyzing a large corpus of authentic post-micro-teaching feedback emails written to trainee TESOL teachers in a university-based teacher education program in East Asia. Using an AI-assisted qualitative analytic approach, the study seeks to identify dominant pedagogical concerns reflected in formative feedback, examine the balance between framework-specific and transferable teaching competencies, and explore the role of AI as a tool for reflective teacher education research.

The study is guided by the following research questions:

1. What pedagogical features are most frequently addressed in formative feedback on TESOL micro-teaching?
2. To what extent does feedback focus on framework-specific techniques versus transferable teaching competencies?
3. How can AI support the systematic analysis of formative feedback while maintaining human interpretive authority?

By foregrounding teacher educator feedback as an object of analysis, this study contributes to research on TESOL teacher education, formative feedback, and ethical, human-centered uses of AI in educational research.

2. LITERATURE REVIEW

2.1 Micro-teaching and Reflective Practice in TESOL

Micro-teaching has been widely adopted in teacher education as a means of linking theory and practice through structured rehearsal and feedback (Wallace, 1991). In TESOL programs, micro-teaching often requires trainees to demonstrate specific pedagogical approaches aligned with course content, such as skills-based instruction or learner-centered methodologies. These micro-teaching sessions typically involve short lessons taught to peers acting as students, followed by feedback from instructors and peers.

From a reflective practice perspective, micro-teaching provides a concrete site for teachers to examine the relationship between their pedagogical intentions and their enacted classroom behaviors (Farrell, 2015). However, research suggests that novice teachers frequently struggle to operationalize theoretical frameworks in practice, particularly in areas such as task design, classroom interaction, and scaffolding (Johnson, 2009). These struggles are often not due to a lack of theoretical knowledge, but rather to difficulties in translating that knowledge into real-time instructional decisions.

2.2 Formative Feedback and Feedback Literacy in Teacher Education

Formative feedback has been defined as information that enables learners to reduce the gap between current performance and desired goals (Hattie & Timperley, 2007). In teacher education, feedback serves both instructional and developmental functions, guiding immediate improvement while shaping longer-term pedagogical beliefs. Nicol and Macfarlane-Dick (2006) argue that effective feedback supports self-regulated learning by clarifying goals, providing information about performance, and encouraging reflection.

More recently, Carless and Boud (2018) have emphasized the concept of feedback literacy, highlighting the need for learners to actively interpret and use feedback rather than passively receive it. From this perspective, examining the content of teacher educator feedback provides insight into what aspects of teaching are made salient to trainees and how pedagogical priorities are communicated.

2.3 Teaching Frameworks and Pedagogical Enactment in TESOL

TESOL methodology courses often emphasize instructional frameworks as organizing principles for lesson design. PDP models for listening and speaking (Nation & Newton, 2009) structure lessons around preparation, comprehension, and response; inductive grammar approaches encourage learners to notice patterns and infer rules (Ellis, 2006); and storytelling-based pedagogy for young learners emphasizes engagement, repetition, and multimodal support (Cameron, 2001). Story-based pedagogy can be considered a flexible instructional framework, as it provides guiding principles and a loose structure for lesson design, though it is less procedurally defined than models such as PDP.

While these frameworks provide valuable guidance, several authors caution against superficial or procedural adoption. Harmer (2007) and Scrivener (2011) note that lessons may be labeled according to a framework without adequately operationalizing its underlying principles. This gap between planning and enactment underscores the importance of feedback that focuses not only on lesson structure but also on learner experience and task effectiveness.

2.4 AI in Educational Research and Teacher Education

AI has increasingly been positioned as a support tool for educational research, particularly in contexts involving large qualitative datasets (Holmes et al., 2019). In qualitative analysis, AI can assist with identifying recurring patterns, clustering semantically similar data, and managing analytic complexity. However, scholars emphasize that AI should not be treated as an autonomous analytic agent. Luckin et al. (2016) argue for human-centered approaches to AI in education, in which technology augments rather than replaces professional expertise.

In teacher education research, the use of AI raises particular ethical and methodological considerations, given the interpretive and value-laden nature of pedagogical discourse. Ensuring that interpretive authority remains with the human researcher could therefore be critical.

3. METHODOLOGY

3.1 Context and Participants

The study was conducted within a university-based TESOL teacher education program in East Asia, where methodology courses focused on teaching listening, speaking, grammar, and young learners, including the use of storytelling-based pedagogy. The participants were trainee TESOL teachers drawn from a mixed cohort of pre-service and in-service educators. The group represented a range of professional backgrounds: while many trainees had accumulated several years of teaching experience—often in private language academies—others were working in, or preparing to work in, public or private school contexts. A smaller number of participants had little to no prior teaching experience, while others brought more extensive professional expertise to the program.

Participants were enrolled in graduate-level TESOL programs or short-term intensive TESOL programs. Class sizes were relatively small, typically ranging from 6 to 16 trainee teachers, allowing for individualized attention and detailed feedback. Micro-teaching formed a central component of the

methodology courses and was conducted individually. In these sessions, each trainee delivered a short lesson segment, usually lasting between 15 and 20 minutes, to their peers, who acted as students. Trainees were not required to complete a full lesson within the allotted time; instead, the focus was on demonstrating specific pedagogical techniques and instructional decisions, rather than achieving full lesson closure. These micro-teaching sessions were typically incorporated into midterm or final assessments.

The dataset for this study consists of approximately 220 post-micro-teaching feedback emails, totaling around 40,000 words, written by a teacher educator to trainee TESOL teachers over multiple academic years. The feedback was generated as part of routine formative assessment practices within the program and was intended to support trainees' ongoing pedagogical development. As such, the dataset provides a longitudinal and naturally occurring record of how instructional feedback was delivered in relation to trainee performance, offering insight into both pedagogical enactment and the ways in which teaching frameworks were interpreted and applied in practice.

3.2 Data Source

The dataset consists of approximately 220 post-micro-teaching feedback emails, totaling around 40,000 words, written by the course instructor to trainees following their micro-teaching sessions. The emails were produced as part of routine formative assessment and were not originally intended for research purposes. Individual emails varied in length and focus and often addressed multiple aspects of teaching practice.

All data were anonymized prior to analysis.

3.3 Analytic Procedure

The analysis followed an iterative qualitative process informed by thematic analysis (Braun & Clarke, 2006) and supported by AI-assisted text analysis. The analytic unit was the individual feedback comment, rather than the email as a whole.

The analytic process involved:

1. Familiarization through repeated analysis of the full dataset.
2. Initial descriptive coding based on pedagogical focus.
3. Categorization of codes into framework-specific, inferred framework-linked, and general pedagogical feedback.
4. Identification of recurring patterns across lesson types and cohorts.
5. Interpretation and refinement through sustained human judgment.

AI was used to support pattern recognition and categorization across the large corpus, while all interpretive decisions were made by the human researcher.

3.4 Initial Coding of Feedback Comments Based on Pedagogical Focus

The first stage involved initial coding of individual feedback comments according to their primary pedagogical focus. Rather than treating each email as a single unit, the analysis focused on discrete feedback moves, as individual emails often addressed multiple aspects of teaching practice.

During this stage, feedback comments were coded descriptively using short, functional labels such as:

- task instructions
- modeling
- teacher explanation
- student engagement
- checking understanding
- lesson sequencing
- scaffolding
- learner level appropriacy

Coding was intentionally broad at this stage, with the aim of capturing what the feedback was addressing, rather than why it was significant. AI was used to assist in identifying recurrent lexical and functional patterns across the corpus; however, all initial codes were reviewed and refined by the human researcher to ensure pedagogical accuracy and contextual appropriacy.

3.5 Categorization into Framework-Specific, Inferred, and General Pedagogical Feedback

In the second stage, initial codes were grouped into three higher-order categories, reflecting differing levels of contextual specificity:

1. **Framework-specific feedback**, where comments clearly referred to established TESOL teaching frameworks (e.g. PDP listening stages, inductive grammar procedures, storytelling techniques for young learners).
2. **Inferred framework-linked feedback**, where comments did not explicitly name a framework but could reasonably be associated with one based on pedagogical conventions and contextual clues (e.g. references to prediction, noticing, or guided discovery).

3. **General pedagogical feedback**, where comments addressed transferable teaching competencies applicable across lesson types and frameworks (e.g. task clarity, scaffolding, interaction patterns).

Where categorization required inference, such cases were explicitly marked as inferred rather than definitive. This distinction was maintained throughout the analysis to ensure transparency and methodological rigor.

3.6 Identification of Recurring Patterns Across Lesson Types

Following categorization, the dataset was examined for recurring patterns across lesson types, including teaching listening, speaking, grammar, and young learners. This stage focused on identifying pedagogical concerns that appeared consistently regardless of course focus or instructional framework.

AI-assisted analysis supported this process by:

- grouping semantically similar feedback comments,
- identifying high-frequency pedagogical concerns,
- surfacing patterns that were distributed across multiple emails and cohorts.

This enabled the identification of dominant themes—such as instructional clarity, over-explanation, and alignment between aims and tasks—that might not be apparent when feedback is considered on an email-by-email basis.

3.7 Interpretation and Refinement Through Human Judgement

The final stage involved interpretation and refinement of emerging themes through sustained human judgement. As the original author of the feedback, the researcher was able to draw on insider knowledge of course aims, teaching frameworks, and assessment practices to contextualize and validate the analytic categories.

During this stage:

- overlapping categories were merged where appropriate,
- overly broad categories were refined,
- and themes were reviewed for pedagogical coherence and explanatory power.

AI-generated groupings were treated as provisional and subject to revision. Interpretive authority remained with the human researcher throughout, ensuring that analytic decisions reflected pedagogical intent rather than surface textual similarity.

3.8 Summary of the Analytic Process

In summary, the analysis combined:

- human-led pedagogical interpretation,
- AI-supported pattern detection,
- and iterative refinement across multiple analytic passes.

This hybrid approach allowed for systematic analysis of a large qualitative dataset while preserving contextual sensitivity and interpretive validity.

3.9 Ethical Considerations and Role of AI

AI was used exclusively as an analytic support tool to assist with pattern recognition, categorization, and data management. It did not generate interpretations, evaluate teaching quality, or influence assessment decisions. All analytic decisions were reviewed and finalized by the human researcher.

Because the feedback was originally produced for formative teaching purposes, ethical considerations focused on anonymization, non-evaluative use of data, and transparency regarding inference. The study does not retroactively assess trainee performance and does not make claims about instructional effectiveness beyond the scope of feedback content.

4. FINDINGS

This section presents the findings from the qualitative analysis of approximately 220 post-micro-teaching feedback emails (around 40,000 words). The analysis focused on identifying recurring pedagogical concerns across lesson types, instructional frameworks, and course contexts, with attention to the pedagogical content of feedback rather than individual teacher performance.

While some feedback comments were explicitly linked to TESOL frameworks—such as PDP sequencing in listening lessons, inductive grammar approaches, or storytelling techniques for young learners—the dominant pattern across the dataset was an emphasis on transferable pedagogical competencies. These competencies cut across lesson types, cohorts, and levels of trainee experience, suggesting shared developmental challenges rather than framework-specific weaknesses.

Five interrelated themes emerged consistently: instructional clarity and task setup; the balance between teacher explanation and student-centered learning; alignment between lesson aims and enacted practice; scaffolding and management of cognitive load; and learner interaction and engagement. These are presented below.

4.1 Instructional Clarity and Task Setup

The most frequent and salient theme across the dataset concerned clarity of instructions and task setup. Feedback repeatedly highlighted issues such as unclear instructions, excessive teacher talk during explanations, insufficient modeling, and weak sequencing of task procedures.

Across listening, speaking, grammar, and storytelling lessons, trainees were consistently reminded that learners must clearly understand what they are expected to do before meaningful learning can occur. Typical feedback emphasized explaining procedures before tasks begin, modeling expected outcomes, sequencing instructions clearly, and checking understanding prior to task execution.

A recurring issue was the tendency to describe tasks abstractly rather than demonstrate them concretely. In many cases, activities that appeared well-designed in lesson plans failed during delivery because learners were unsure how to proceed. This was particularly evident in inductive grammar lessons, where unclear examples or overly complex instructions undermined opportunities for pattern noticing and guided discovery.

Importantly, this theme appeared regardless of trainee experience level, suggesting that instructional clarity represents a foundational teaching competency that must be explicitly constructed through language, timing, and demonstration rather than assumed from content knowledge alone.

4.2 Teacher Explanation Versus Student-Centered Learning

A second highly recurrent theme involved excessive teacher explanation, often at the expense of learner engagement and discovery. Feedback frequently noted that trainees tended to explain concepts, language forms, or answers rather than designing tasks that enabled students to notice, infer, and practice independently.

This pattern was evident across lesson types:

- grammar lessons where rules were explained before engagement with examples,
- listening lessons dominated by explanation rather than comprehension tasks, and
- storytelling lessons where meaning was explained rather than supported through interaction, visuals, or repetition.

Across the dataset, feedback consistently encouraged trainees to reduce teacher talk time and rely more on elicitation, task design, and guided discovery. This tendency appeared across proficiency levels and course types, indicating a persistent developmental pattern rather than an issue tied to specific frameworks.

4.3 Alignment Between Lesson Aims and Enacted Practice

A further recurring theme concerned misalignment between stated lesson aims and actual classroom practice. Feedback frequently highlighted mismatches between what trainees intended to teach and what learners were required to do.

Common examples included listening lessons focusing primarily on discussion, speaking lessons with limited opportunities for extended output, and grammar lessons lacking clear form-focused practice. In some cases, inductive lesson aims shifted toward deductive explanation during delivery, particularly when learners appeared uncertain.

Feedback typically framed this not as failure but as a developmental issue, encouraging trainees to either redesign tasks to better align with lesson aims or reconsider how lessons were labelled. Reflection on whether classroom activity genuinely supported intended outcomes was consistently emphasized, positioning alignment as a skill developed over time.

4.4 Scaffolding, Sequencing, and Cognitive Load

Scaffolding and the management of cognitive load emerged as central concerns across all lesson types. Feedback frequently addressed how tasks were sequenced, whether learners had sufficient support, and how linguistic or conceptual difficulty was introduced.

Comments focused on factors such as the number of task steps, pacing, readiness for less controlled practice, and the balance between support and independence. In some cases, excessive scaffolding limited learner autonomy, while in others, insufficient support led to confusion or disengagement.

In grammar lessons, scaffolding was closely tied to inductive processes, requiring careful balance between guiding learners and allowing discovery. In listening tasks, feedback highlighted the need to prepare learners without reducing authenticity through over-pre-teaching. Across contexts, feedback consistently foregrounded learner processing and experience rather than teacher performance alone.

4.5 Interaction, Engagement, and Learner Focus

Learner engagement and classroom interaction formed another major theme. Feedback frequently addressed the balance between teacher talk and learner participation, encouraging increased opportunities for pair work, group work, and meaningful language use.

Across lesson types, trainees were urged to ensure that learners were actively processing language—making choices, negotiating meaning, and engaging cognitively—rather than passively receiving input. In some cases, tasks designed as communicative were implemented in ways that limited genuine interaction, for example through over-scaffolding or premature correction.

In young learner and storytelling contexts, engagement was further linked to the use of voice, gesture, repetition, visuals, and questioning techniques. Feedback emphasized maintaining attention through interaction during storytelling rather than treating stories as purely receptive activities.

Overall, engagement was consistently framed not as entertainment, but as active linguistic and cognitive involvement.

4.6 Framework-Specific Versus Transferable Feedback

Although the micro-teaching sessions were linked to specific instructional frameworks, framework-specific feedback constituted a relatively small proportion of the dataset. References to frameworks such as PDP, inductive grammar teaching, or storytelling were typically used as interpretive tools rather than prescriptive checklists.

The majority of feedback addressed general pedagogical principles—such as clarity, alignment, scaffolding, and engagement—that applied across lesson types. This suggests that teacher educator feedback prioritizes adaptive pedagogical competence over procedural fidelity, with frameworks functioning as analytical lenses rather than endpoints.

4.7 Recurring Developmental Tendencies and Summary

Across the dataset, several recurring developmental tendencies were observed: over-reliance on teacher explanation, difficulty sustaining inductive approaches under time pressure, task designs that did not fully operationalize stated aims, and underestimation of the importance of clear instructions and modeling. These patterns appeared across experience levels, suggesting persistent challenges rather than isolated novice errors.

In summary, the analysis revealed that instructional clarity and task setup were the most consistently emphasized aspects of teaching, alongside concerns about excessive teacher talk, misalignment between aims and practice, scaffolding and cognitive load, and learner engagement. Across all themes, transferable pedagogical competencies dominated feedback more than framework-specific techniques, providing insight into the core priorities that underpin teacher educator feedback in TESOL micro-teaching contexts.

5. DISCUSSION

This study set out to examine the content of formative feedback provided to trainee TESOL teachers following micro-teaching sessions, with particular attention to recurring pedagogical concerns and the role of AI in supporting qualitative analysis. The findings reveal that teacher educator feedback overwhelmingly prioritizes transferable pedagogical competencies over framework-specific techniques, suggesting that effective teaching is perceived as grounded in core instructional principles rather than strict adherence to prescribed lesson models.

5.1 Instructional Clarity as a Foundational Teaching Competency

One of the most prominent findings was the frequency with which feedback addressed instructional clarity and task setup, identified as the most recurrent theme in the analysis. This aligns with research on formative feedback that emphasizes clarity of goals, procedures, and expectations as prerequisites for effective learning (Hattie & Timperley, 2007; Nicol & Macfarlane-Dick, 2006). In the context of

micro-teaching, unclear instructions often undermined otherwise well-designed activities, highlighting the centrality of procedural competence in early-stage teacher development.

From a teacher education perspective, this finding supports the view that novice teachers may possess theoretical knowledge of teaching frameworks but struggle to enact that knowledge through clear, actionable classroom practices (Johnson, 2009). The prominence of this theme across lesson types suggests that instructional clarity functions as a threshold competency: without it, other pedagogical strengths are difficult to realize.

5.2 Over-Explanation and Novice Teacher Cognition

The tendency toward excessive teacher explanation observed across the dataset reflects a well-documented feature of novice teacher cognition. Research in second language teacher education suggests that beginning teachers often equate teaching with explaining, particularly in contexts where they feel responsible for ensuring student understanding (Farrell, 2015). However, such practices can reduce opportunities for learner engagement, discovery, and meaningful interaction.

The feedback analyzed in this study consistently encouraged trainees to replace explanation with task design, elicitation, and guided discovery. This emphasis aligns with communicative and task-based approaches to language teaching (Ellis, 2003; Scrivener, 2011) and reflects a pedagogical orientation in which learning is mediated through activity rather than transmission.

5.3 Framework Knowledge Versus Pedagogical Enactment

Another significant finding was the recurrent misalignment between stated lesson aims and enacted classroom practice. Lessons labelled as listening, grammar, or speaking frequently functioned in ways that did not fully operationalize the intended skill in practice. This supports previous critiques of framework-driven teaching, which caution that frameworks can be adopted superficially without sufficient attention to task-level implementation (Harmer, 2007).

The findings suggest that framework knowledge alone is insufficient to ensure effective teaching. Instead, trainees must develop the ability to translate abstract principles into concrete tasks that align with learning objectives. This reinforces the importance of feedback that foregrounds what students are actually doing, rather than how closely a lesson conforms to a prescribed structure.

5.4 Transferable Pedagogical Competencies and the Nature of Teaching Expertise

The predominance of general pedagogical feedback across the dataset suggests that teacher educators may conceptualize teaching expertise as grounded in transferable competencies rather than framework-specific techniques. Skills such as scaffolding, managing cognitive load, fostering interaction, and checking understanding were consistently prioritized, regardless of lesson focus.

This finding resonates with Shulman's (1987) concept of pedagogical content knowledge, which emphasizes the integration of subject matter understanding with instructional strategy. It also supports

views of teacher development as a process of increasing pedagogical flexibility and adaptability rather than mastery of discrete methods (Wallace, 1991).

5.5 AI as a Reflective Analytic Tool in Teacher Education

The use of AI-assisted analysis in this study enabled systematic examination of a large corpus of naturally occurring feedback data. AI-supported pattern detection facilitated the identification of recurring pedagogical concerns that might have been less visible through manual analysis alone, particularly given the size of the dataset (approximately 220 emails; 40,000 words).

However, the study also highlights the necessity of maintaining human interpretive authority in pedagogically sensitive contexts. AI was effective in supporting categorization and pattern recognition but relied on human judgement to interpret intent, context, and pedagogical significance. This finding aligns with human-centered approaches to AI in education, which emphasize collaboration rather than automation (Luckin et al., 2016; Holmes et al., 2019).

5.6 Implications for TESOL Teacher Education

The findings of this study have several implications for TESOL teacher education programs. First, they suggest a need to make core pedagogical expectations more explicit to trainees, particularly in relation to instructional clarity, task design, and student-centered learning. Second, the dominance of transferable competencies in feedback highlights the value of designing courses that emphasize pedagogical principles alongside frameworks.

Finally, the study demonstrates the potential of AI as a tool for reflective practice among teacher educators. By analyzing accumulated feedback data, educators can gain insight into recurring trainee needs and adjust course design, assessment criteria, and instructional focus accordingly.

Beyond its role in supporting analysis, AI was also explored as a tool for re-presenting pedagogical knowledge in student-facing formats, as discussed in the following section.

5.7 Development of AI-Assisted Student-Facing Pedagogical Guides

As an extension of the primary qualitative analysis, two student-facing pedagogical guides were developed using separate large language models (LLMs) trained on the same corpus of formative feedback. The purpose of this phase was to examine how different AI systems synthesize and represent pedagogical priorities when provided with identical source data, and to explore how these representations reflect, transform, or foreground particular aspects of teacher educator feedback.

Both AI systems were provided with access to the same dataset: approximately 220 post-micro-teaching feedback emails (around 40,000 words) written by the course instructor. In each case, the models were instructed to generate a practical guide for trainee TESOL teachers that distilled the key lessons and recurring pedagogical advice embedded in the feedback. No additional pedagogical

frameworks, exemplars, or external sources were supplied, ensuring that both outputs were grounded in the same empirical material.

Following the generation of the two guides, a qualitative comparative analysis was conducted to identify areas of convergence and divergence in how the feedback corpus was interpreted and operationalized. This comparison was not intended to evaluate the relative effectiveness of the AI systems. Rather, it functioned as an analytic tool for examining how pedagogical knowledge embedded in formative feedback can be recontextualized into student-facing guidance through different AI-mediated lenses.

The comparison revealed substantial convergence between the two guides in terms of core pedagogical priorities. Both emphasized the importance of clear task setup, explicit modeling, reduced teacher talk, purposeful scaffolding, and the need to maintain learner engagement through interaction and meaningful task design. These shared emphases closely mirror the dominant themes identified in the primary qualitative analysis, reinforcing the robustness of the findings and suggesting that the pedagogical signals in the feedback corpus were sufficiently strong to be consistently detected and synthesized across systems.

Despite this convergence, notable differences emerged in the framing, tone, and pedagogical orientation of the two guides. The guide generated using ChatGPT tended to present feedback themes in a reflective and interpretive manner, emphasizing pedagogical reasoning, responsiveness to learner behavior, and alignment between lesson aims and enacted classroom practices. Advice was often framed in terms of decision-making processes (e.g., why a task might fail, how learner confusion signals instructional issues), reflecting the analytic nature of the original feedback discourse.

In contrast, the guide generated using Gemini exhibited a more procedural and technique-oriented representation of the same feedback themes. Pedagogical advice was frequently articulated as actionable rules, protocols, or heuristics (e.g., step-by-step task setup sequences, named classroom techniques, or operational “rules” for interaction management). While these strategies were traceable to the feedback dataset, they reflected a stronger tendency to repackage pedagogical judgement into discrete, transferable teaching moves.

This divergence highlights an important distinction between pedagogical knowledge as situated professional judgement and pedagogical knowledge as codified instructional technique. Although both guides were grounded in the same empirical feedback data, they differed in how that data was transformed into guidance: one privileging interpretive flexibility and contextual responsiveness, the other emphasizing procedural clarity and replicability.

From a methodological perspective, this comparative exercise illustrates how AI can function as a reflective analytic lens rather than as an evaluative authority. By examining multiple AI-generated syntheses of the same dataset, the researcher was able to triangulate the pedagogical priorities

embedded in the feedback and to surface implicit dimensions of teaching expertise that may otherwise remain tacit. Importantly, interpretive authority remained with the human researcher throughout; AI outputs were treated as analytic artifacts to be examined, compared, and contextualized rather than accepted uncritically.

In the context of TESOL teacher education, this approach suggests a potential role for AI-assisted synthesis in supporting feedback literacy and pedagogical transparency. Student-facing guides derived from accumulated feedback can make teacher educator expectations more explicit, while comparative analysis across AI systems can help educators reflect on how pedagogical knowledge is framed, simplified, or operationalized. Used in this way, AI supports reflective practice and curriculum refinement without displacing professional judgement or contextual expertise.

5.8 SUMMARY

In summary, the discussion highlights that formative feedback on TESOL micro-teaching consistently targets foundational teaching competencies that transcend individual frameworks. The study contributes to research on teacher education and feedback by foregrounding the pedagogical priorities embedded in teacher educator feedback and by illustrating how AI can support reflective, large-scale qualitative analysis without displacing human expertise.

6. LIMITATIONS AND FUTURE RESEARCH

This study is subject to several limitations. First, the dataset reflects feedback from a single teacher educator within a specific institutional context, which limits the generalizability of the findings. However, the depth and consistency of the dataset offer valuable insight into authentic pedagogical practice and align with the aims of qualitative, practice-based research.

Second, the study analyzes the content of feedback rather than trainee uptake. As such, it does not account for how trainees interpret, respond to, or implement feedback in subsequent teaching. Future research could examine this dimension through interviews, classroom observations, or reflective journals to better understand the relationship between feedback and pedagogical development.

A further limitation concerns the use of AI-assisted qualitative analysis and the interpretive constraints associated with it. While AI tools were effective in supporting pattern recognition, clustering, and data management across a large corpus, they operate primarily on surface-level textual features and cannot fully account for contextual nuance, pedagogical intent, or the relational dimensions of feedback. As a result, there is a risk that AI-supported analysis may privilege frequency over pedagogical significance or flatten subtle distinctions in meaning.

In addition, the interpretation of feedback comments was shaped by the researcher's dual role as both analyst and original author of the feedback. While this insider perspective enabled contextually informed interpretation, it also introduces the possibility of interpretive bias, particularly in relation to inferred pedagogical intent or the categorization of feedback types. Although efforts were made to

maintain transparency and analytic rigor, alternative interpretations of the data remain possible. These considerations reinforce the importance of treating AI outputs as provisional analytic supports rather than authoritative accounts, and of maintaining critical, reflexive engagement throughout the research process.

Future research could extend this work by comparing feedback practices across multiple teacher educators, institutions, or cultural contexts to examine the extent to which similar pedagogical priorities emerge. Longitudinal studies could also explore how feedback influences teacher development over time. Finally, further research is needed to investigate how AI tools might support feedback literacy among trainees and contribute to reflective practice in teacher education.

7. CONCLUSION

This study examined formative feedback on TESOL micro-teaching through an AI-assisted qualitative analysis of 220 feedback emails. The findings indicate that teacher educator feedback prioritizes transferable pedagogical competencies over framework-specific techniques, emphasizing clarity, alignment, engagement, and scaffolding.

The study contributes to TESOL teacher education research by illuminating the pedagogical values embedded in feedback discourse and demonstrating the potential of AI as a reflective analytic tool. By making feedback practices visible and analyzable at scale, AI offers new opportunities for teacher educators to reflect on and refine their professional practice.

The study also contributes methodologically by illustrating how AI can be used not only for large-scale qualitative analysis but also as a reflective lens for examining how pedagogical knowledge is represented and recontextualized. This highlights the potential of AI to support, rather than replace, professional judgement in teacher education research.

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