

Training Needs of Senior Teachers in the Sultanate of Oman: Perceptions, Demographic Patterns, and Implications for Professional Development Theory

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Abstract

The senior teacher position in the Sultanate of Oman is a hybrid role combining instructional delivery, onsite supervisory oversight, and educational leadership within a single job description. Institutional evaluation data show a decline in trainee satisfaction with training content, suggesting that programme design has not kept pace with role demands. This study examines the level of training need across four domains (teaching, supervisory, leadership, and research practices) as perceived by 485 senior teachers, and whether need varies by gender, experience, and qualification. A mixed methods design was used: a 32-item questionnaire ($\alpha = .963$) provided the quantitative strand, and 12 focus group interviews provided the qualitative strand. All four domains showed high need (overall $M = 3.85$), with leadership highest ($M = 3.95$) and teaching lowest ($M = 3.71$). A small but significant gender difference favoured female participants in supervisory practices ($t = 2.05$, $p = .040$, $d = 0.19$), and a small experience effect emerged for teaching practices ($\eta^2 = .025$); qualification produced no significant differences. Thematic analysis yielded four themes, including a reflective practice deficit and a demand for participatory programme design, neither captured by the questionnaire, which add interpretive depth to the quantitative findings. The results are broadly consistent with the teacher leadership literature's claim that pedagogical seniority does not automatically confer leadership or supervisory readiness (Wenner & Campbell, 2017; Abrahamsen & Helstad, 2024), and may be relevant to other developing country contexts with similar hybrid teacher leader roles, though this single institution sample limits generalisability beyond Oman.

Keywords: training needs analysis, senior teacher, teacher leadership, professional development, mixed methods, Sultanate of Oman

1. Introduction

Professional development in education has long operated on an assumption that is intuitive but not well supported by the empirical evidence reviewed below: that teachers who achieve instructional mastery are thereby equipped to assume supervisory and leadership responsibilities when these are formally added to their professional role. A substantial body of research in teacher leadership and professional learning now challenges this assumption. Wenner and Campbell (2017), in a systematic review of 54 empirical studies, documented a robust cross-contextual pattern: teachers occupying hybrid instructional leadership roles consistently experience role tensions arising from the mismatch between their instructional preparation and the qualitatively distinct demands of supervising, coaching, and leading colleagues. York-Barr and Duke (2004), reviewing two decades of teacher leadership literature, reached a comparable conclusion: the competencies required for teacher leadership team facilitation, professional coaching, institutional communication, and evidence-based decisionmaking are not developed through classroom experience alone and require targeted

professional preparation. The gap between instructional seniority and leadership readiness is not, therefore, a temporary developmental lag that experience will eventually close; it appears to be a recurring pattern in hybrid roles that formalise leadership functions without providing the corresponding training infrastructure.

In the Sultanate of Oman, this structural challenge is embodied in the position of the senior teacher (*almu'allim alawwal*), a formally designated career level established within the framework of Oman Vision 2040's educational reform agenda. Senior teachers are required to fulfil simultaneous instructional, supervisory, and administrative leadership functions within a single institutionalised role—teaching their own classes, conducting formal observation and evaluation visits to subject area colleagues, facilitating departmental professional learning, and contributing to school level decisionmaking (Institute Guide, 2019). Since 2013, the Specialized Institute for Professional Training of Teachers has carried primary institutional responsibility for the professional preparation of incumbents through a structured training programme. End of cycle evaluation data, however, record a sustained decline in trainee satisfaction with training content: from 76.7% in the second training period to 64.8% in the third a twelve percentage point drop that is difficult to attribute to measurement artefact alone (Ministry of Education, 2022). AlKiyumi and Hammad (2020) provided qualitative corroboration of this signal in a related study of Omani educational supervisors, finding that practitioners recognised the reform demands placed on them but reported inadequate practical preparation for meeting those demands.

The present study addresses this problem by conducting a systematic training needs analysis targeting senior teachers in Oman the first of its kind since AlKindi et al. (2003), a period during which the role has undergone substantial structural change. The study is framed by three gaps in the existing literature. First, studies of teacher professional development in Gulf and Arab educational contexts have relied predominantly on quantitative self-report designs (Bin Othayman et al., 2022; AlQasbi & AlGhaythi, 2018), a methodological limitation that forecloses access to the experiential texture of professional need and to latent needs not articulable through Likert scale responses. Second, the theoretical frameworks that have most productively structured international discussions of teacher professional development Desimone's (2009) five feature model of effective professional development, Wenner and Campbell's (2017) teacher leadership synthesis, and Spillane et al.'s (2001) distributed leadership theory have not been subjected to systematic empirical examination in Arab Gulf contexts, limiting their crosscultural generalisability. Third, training needs analysis methodology in education has largely neglected the metacognitive dimensions of professional need practitioners' capacity to accurately identify their own learning requirements despite evidence that this capacity is itself a critical determinant of professional development effectiveness (Schön, 1983; Korthagen, 2004).

The study addresses four research questions: (1) What is the level of training need across four professional domains teaching practices, supervisory practices, leadership practices, and research practices as perceived by senior teachers in Oman? (2) Are there statistically significant differences in perceived training needs attributable to gender? (3) Are there statistically significant differences attributable to years of experience? (4) Are there statistically significant differences attributable to educational qualification? A convergent parallel mixed methods design (Creswell & Plano Clark, 2018) is employed to capture both the statistical structure of need across the population and the qualitative texture of professional challenge as experienced by individual practitioners.

2. Theoretical Framework

2.1 Training Needs Analysis: Conceptual Foundations

Training needs analysis is conceptualised as the systematic identification of discrepancies between current and desired professional performance, constituting both a diagnostic instrument and an evaluative baseline against which the effects of subsequent training can be assessed (McGhee & Thayer, 1961; Mager & Pipe, 1997; Boydell, 1976). In the context of teacher professional development, Desimone (2009) provided the most empirically grounded specification of what effective provision requires, identifying five structural features that distinguish programmes producing measurable changes in instructional practice from those that do not: content focus (concentration on subject matter and specific pedagogical approaches); active learning (opportunities to observe, practise, and receive structured feedback); coherence (alignment between training content, teachers' professional goals, and institutional priorities); collective participation (joint engagement of teachers from shared professional contexts); and sustained duration (sufficient time for deliberate practice and reflection). Desimone's synthesis established that these features are individually necessary but not individually sufficient, and that their combined presence is the most reliable predictor of genuine professional change. Crucially for the present study, coherence the alignment between training content and actual role demands is a feature that cannot be achieved without accurate prior needs analysis. Guskey's (2000) five level evaluation model reinforces this logic: the model specifies a causal chain from participants' initial reactions through learning, behaviour change, and organisational support to ultimate student outcomes, with each higher level contingent on the previous one. If training content does not address practitioners' actual professional needs, the chain of effects predicted by Guskey's model is broken at the first link.

2.2 Teacher Leadership Theory and the Hybrid Role

The teacher leadership literature provides the second theoretical pillar of the study. York-Barr and Duke (2004) identified three primary functions of the teacherleader role: the leadership of professional learning communities, contributions to curriculum development and schoollevel decisionmaking, and the coaching and mentoring of colleagues. Their review documented a consistent finding across two decades of research: teacher leaders require dedicated preparation for these functions, and the preparation that effective instructional performance provides does not transfer automatically to leadership and supervision. Wenner and Campbell (2017) updated and extended this synthesis through a systematic review of 54 empirical studies, documenting robust crosscontextual evidence that role tensions arising from the gap between instructional preparation and leadership demands are endemic to teacher leadership roles in the absence of targeted preparation. Abrahamsen and Helstad (2024) refined the argument further through longitudinal investigation of Norwegian middleleader teachers, demonstrating that the transition from expert classroom practitioner to facilitator of colleagues' professional learning constitutes a qualitative shift in role demands that necessitates advance, structured preparation rather than experiential learning alone.

Distributed leadership theory (Spillane et al., 2001; Spillane, 2006) provides a complementary theoretical lens. Distributed leadership reconceptualises leadership practice as an activity stretched across multiple agents and institutional affordances rather than concentrated in designated administrators. Within this framework, the Omani senior teacher position represents a formally institutionalised attempt to distribute instructional leadership capacity more broadly across the school system a strategy with substantial theoretical support. However, distributed leadership theory also specifies that the effectiveness of such arrangements is critically contingent on the competencies and role clarity of those to whom leadership functions are assigned (Spillane et al., 2001). When hybrid roles are established without commensurate training provision, the institutionalisation of distributed leadership may produce role ambiguity and fragmented practice rather than the expanded organisational capacity the theory envisions. The present study's findings speak directly to this risk.

2.3 The Omani Professional Development Context

AlMahdy et al. (2024) conducted the most comprehensive recent investigation of teacher professional learning in Oman, surveying 887 teachers across 78 schools. Their findings established that professional learning in Omani schools is most strongly predicted by the quality of instructional leadership and the level of collegial trust within school cultures. For senior teachers who constitute a formal bridge between administrative leadership and classroom practice this finding implies that their own professional preparation must address the interpersonal and relational dimensions of leadership as a primary priority. AlKiyumi and Hammad (2020), in a qualitative study of educational supervisors in Muscat Governorate, documented that supervisors recognised the professional demands of their expanded roles but consistently reported inadequate practical preparation for meeting those demands a pattern that the present study extends and corroborates for the senior teacher population specifically.

3. Review of Related Literature

3.1 Training Needs in Supervisory and Leadership Roles

The research literature on teachers in supervisory and leadership roles consistently identifies a characteristic cluster of training needs that is qualitatively distinct from instructional training needs. York-Barr and Duke (2004) identified changemanagement, professional coaching, and institutional communication as the domains of most persistent competency deficit among teacher leaders. Bush (2008), in a comparative review spanning SubSaharan Africa, the Middle East, and South and East Asia, concluded that hybrid teacherleader roles in developingcountry educational systems are systematically undersupported by formal training provision, producing a form of structural role ambiguity that burdens incumbents and undermines schoolimprovement objectives. Within Arab and Gulf contexts, AlQasmi and AlGhaythi (2018) surveyed 528 teachers in Abu Dhabi and found that perceived alignment between training content and actual professional challenges was the strongest predictor of training satisfaction and selfreported learning. Hammad et al.'s (2025) comparative analysis of teacher leadership perceptions across Qatar, Oman, and Egypt documented gender-linked variation in the supervisory and leadership dimensions of the teacher-leader role, with female teachers reporting differential perceptions of supervisory authority; Hammad et al. (2022) further identified gender as a persistent moderating variable in Gulf-region educational leadership research a theoretical context that will inform interpretation of the present study's gender findings.

3.2 MixedMethods Approaches to Training Needs Analysis

Witkin and Altschuld (1995), in the foundational methodological treatment of needs assessment, argued that quantitative selfreport instruments systematically underestimate the complexity of professional need by restricting respondents to rating the intensity of prespecified items rather than generating accounts of professional challenge from

their own experience. Mixedmethods designs address this limitation by combining statistical precision with the generative capacity of qualitative inquiry (Creswell & Plano Clark, 2018; Teddlie & Tashakkori, 2009). Ghamrawi et al. (2024) demonstrated the practical significance of this approach in Lebanese secondary schools, finding that teacherled needs identification produced significantly stronger participant commitment and more durable changes in practice than externally designed provision. Abu AlRab (2021) corroborated these findings in a Jordanian inservice teacher education context, documenting that practitioner involvement in selfdiagnosis was associated with higher posttraining implementation rates. Both studies point toward a conclusion that is directly relevant to the Omani context: the process of needs identification is not merely a methodological upstream step but is itself a form of professional development.

3.3 Research Gap

Three specific lacunae in the existing literature establish the necessity of the present study. First, no investigation has systematically examined the training needs of senior teachers in Oman as a distinct professional category since AlKindi et al. (2003)—a period of more than two decades during which the role has undergone substantial structural change, including the formal delegation of onsite supervisory responsibilities not present in the role's original specification. Subsequent Omani investigations have examined instructional supervisors (AlKiyumi & Hammad, 2020) and the general teacher population (AlMahdy et al., 2024) without targeting this hybrid category. Second, the Gulf region professional development literature remains methodologically thin, with quantitative designs predominating and qualitative dimensions of professional need largely undocumented. Third, the international theoretical frameworks most relevant to the present study's concerns Desimone's (2009) model, Wenner and Campbell's (2017) synthesis, and Spillane et al.'s (2001) distributed leadership theory have not been subjected to systematic empirical examination in Arab Gulf educational contexts.

4. Methodology

4.1 Research Design

A convergent parallel mixedmethods design (Creswell & Plano Clark, 2018) was adopted, in which quantitative and qualitative data are collected concurrently and independently, analysed separately using strandappropriate procedures, and merged at the interpretation stage. The design was selected for two reasons: it enables corroboration of questionnaire-derived needlevel estimates through qualitative accounts of professional experience, and it provides access to dimensions of professional need particularly the reflective practice deficit documented below that are not identifiable through structured selfreport instruments. Both strands were implemented simultaneously during February and March 2025 at the Specialized Institute for Professional Training of Teachers, Muscat.

4.2 Participants

The study population comprised 2499 Omani senior teachers recorded in the Ministry of Education's (2022) Annual Statistical Yearbook. Minimum quantitative sample size was determined by Krejcie and Morgan's (1970) formula, which specifies 333 as the minimum required sample at 95% confidence with a $\pm 5\%$ margin of error. Of 502 questionnaires distributed to senior teachers enrolled in the programme during data collection, 485 were returned complete and usable (response rate: 96.6%). Questionnaires were distributed and completed during scheduled training sessions at the Institute, which likely contributed to this high response rate; we cannot fully rule out some perceived pressure to participate, despite the voluntary and confidential nature of participation described in Section 4.5. We also note that this sample was drawn from senior teachers enrolled in the Institute's programme during the datacollection window rather than randomly sampled from the full population of 2499 senior teachers, which may limit generalisability beyond this enrolled population (see Limitations). Table 1 presents the demographic profile of the quantitative sample. For the qualitative strand, 60 participants who had completed the questionnaire were purposively selected to maximise demographic variation across gender, experience, and educational qualification, and organised into 12 focus groups of five participants each. All sessions were conducted in Arabic, lasted 60–90 minutes, and were audiorecorded with written consent.

Table 1. Demographic Profile of the Quantitative Sample (N = 485)

Variable	Category	n (%)
Gender	Male	159 (32.8%)
	Female	326 (67.2%)
Years of experience	5 to <10 years	42 (8.7%)
	10 to <15 years	150 (30.9%)
	15 to <20 years	189 (39.0%)
	20 to <25 years	87 (17.9%)
	25 years or more	17 (3.5%)
Educational qualification	Bachelor's degree	418 (86.2%)
	Master's degree	56 (11.5%)
	Doctorate	5 (1.0%)
	Other	6 (1.2%)

Note. Percentages may not sum to 100 due to rounding. The sample is predominantly female (67.2%); whether this reflects the national gender composition of senior teachers or a sampling imbalance could not be established from the data available to us. The ≥ 25 year experience group ($n = 17$) and the doctorate ($n = 5$) and "Other" qualification ($n = 6$) subgroups are small, which limits the stability of ANOVA comparisons involving these groups; this is noted where relevant below.

4.3 Instruments

Questionnaire development. Following a review of the theoretical literature and an analysis of the official senior teacher job description, an initial pool of 56 items was generated and submitted to seven specialist referees (academic faculty in educational administration and curriculum studies) for content validity evaluation using a fourpoint relevance rating. Items with mean ratings below 3.0 or attracting substantive reviewer concerns were revised or removed. The resulting 32item instrument covers: teaching practices (13 items), supervisory practices (7 items), leadership practices (6 items), and research practices (6 items), rated on a fivepoint Likert scale (1 = strongly disagree to 5 = strongly agree). Need level was classified as: 1.00–2.33 = low; 2.34–3.67 = moderate; 3.68–5.00 = high.

Psychometric properties. Itemdomain Pearson correlations ranged from .59 to .94 (all $p < .01$), supporting construct validity. Cronbach's alpha was .963 for the overall scale; domainlevel values were $\alpha = .945$ (teaching), .939 (supervisory), .914 (leadership), and .939 (research) all substantially exceeding the thresholds of .70 (Nunnally & Bernstein, 1994) and .80 recommended for group comparison purposes (DeVellis, 2017). The itemdomain correlations at the upper end of this range, together with the very high overall alpha, may partly reflect item overlap or redundancy rather than reliability alone. An exploratory factor analysis was not conducted in the present study to empirically verify the fourdomain structure; this is acknowledged as a psychometric limitation and a priority for future validation of the instrument.

Focus group protocol. Four openended questions were developed, piloted with five nonsample senior teachers, and refined. Questions elicited: (1) perceived professional challenges; (2) domains of most strongly felt training need; (3) adequacy of current programme provision; and (4) recommendations for programme improvement. Sessions were conducted in Arabic, transcribed verbatim, and translated into English by the first author; a bilingual assistant conducted independent backtranslation to verify semantic fidelity.

4.4 Data Analysis

Quantitative data were analysed using IBM SPSS Statistics version 26. Descriptive statistics (means, standard deviations, relative weights) were computed for each domain. An independentsamples ttest examined gender differences, with Cohen's d as the effectsindex (small = .20, medium = .50, large = .80; Cohen, 1988). Oneway ANOVA with posthoc Scheffé tests examined differences by years of experience and educational qualification, with η^2 as the effectsindex (small = .01, medium = .06, large = .14; Richardson, 2011). Qualitative data were analysed using Braun and Clarke's (2006) sixphase reflexive thematic analysis: familiarisation, initial coding, theme search, theme review, theme definition and naming, and report production. A second researcher independently coded 30% of the transcripts (four focus groups); Cohen's kappa was .84, indicating strong interrater agreement (Landis & Koch, 1977).

4.5 Ethical Considerations

The study was conducted in accordance with the ethical guidelines of the Specialized Institute for Professional Training of Teachers. Completion of the trainingneeds questionnaire and participation in the focusgroup interviews were conducted as an official component of enrolment in the Institute's Senior Teacher Training Programme, undertaken to inform the ongoing development of the Institute's training curricula; participation in this datacollection exercise was

therefore a required programme activity rather than an independently recruited voluntary research sample. Individual responses were treated as confidential and had no bearing on trainees' performance evaluation or certification outcomes; participants were informed of the purpose of the data collection and were free to decline to answer any specific item without consequence. Audio recordings are stored on encrypted devices accessible only to the research team and will be deleted following publication.

5. Findings

5.1 Research Question 1: Level of Training Need Across the Four Domains

Table 2 presents descriptive statistics for each domain. Relative weight (RW) expresses the domain mean as a percentage of the maximum possible score of 5.00.

Table 2. Descriptive Statistics and Training Need Level by Domain (N = 485)

Domain	M	SD	RW (%)	Level	Rank
Teaching Practices	3.71	0.87	74.2	High	4
Supervisory Practices	3.91	0.89	78.2	High	2
Leadership Practices	3.95	0.91	79.0	High	1
Research Practices	3.84	0.92	76.8	High	3
Overall scale	3.85	0.89	77.0	High	—

Note. RW = relative weight = $(M / 5) \times 100$. Need level: 1.00–2.33 = Low; 2.34–3.67 = Moderate; 3.68–5.00 = High.

All four domains exceed the highneed threshold. Leadership practices rank highest ($M = 3.95$, $RW = 79.0\%$), followed by supervisory practices ($M = 3.91$, $RW = 78.2\%$), research practices ($M = 3.84$, $RW = 76.8\%$), and teaching practices ($M = 3.71$, $RW = 74.2\%$). The 0.24point spread between the highest and lowestranked domains carries substantive significance: participants locate their greatest training deficits in the leadership and supervisory functions most distal from their established instructional competencies and most central to the expanded demands of the senior teacher role. The comparatively lower though still high ranking of teaching practices is consistent with the expectation that practitioners appointed to a senior role have developed solid instructional foundations through years of classroom experience.

5.2 Research Question 2: Gender Differences

Table 3 presents the independentsamples ttest results.

Table 3. Independent Samples tTest Results by Gender

Domain	M (M)	M (F)	SD (M)	SD (F)	t	p	D
Teaching Practices	3.77	3.69	.86	.90	0.92	.354	0.09
Supervisory Practices†	3.79	3.96	.87	.90	2.05	.040	0.19
Leadership Practices	3.91	3.97	.83	.90	0.72	.472	0.07
Research Practices	3.84	3.84	.92	.91	.002	.998	< .01

Note. M (M) = male mean ($n = 159$); M (F) = female mean ($n = 326$). d = Cohen's d . † $p < .05$. Formal tests of normality and homogeneity of variance were not conducted for these comparisons; results, particularly for groups of unequal size, should be interpreted with this caveat in mind.

A statistically significant difference emerged only in supervisory practices, with female participants reporting higher need ($M = 3.96$ vs. 3.79 ; $t[483] = 2.05$, $p = .040$, $d = 0.19$). Cohen's d of 0.19 indicates a small effect (Cohen, 1988), and both group means fall within the highneed range: the difference is one of degree within a shared profile of high supervisory training need. No significant gender differences were found for teaching, leadership, or research practices (all $p > .05$, all $d < .10$).

5.3 Research Question 3: Differences by Years of Experience

Tables 4 and 5 present the ANOVA results and posthoc comparisons respectively.

Table 4. OneWay ANOVA Results by Years of Experience

Domain	F	df	p	η^2	Significance
Teaching Practices†	3.106	4, 480	.015	.025	Significant (small effect)
Supervisory Practices	1.74	4, 480	.141	.014	Not significant
Leadership Practices	1.21	4, 480	.305	.010	Not significant
Research Practices	0.89	4, 480	.469	.007	Not significant

Note. η^2 = eta squared. † $p < .05$.

Table 5. PostHoc Scheffé Comparisons for Teaching Practices by Experience Group

Comparison	Means (I vs. J)	Mean diff.	p	Sig.
5-<10 yrs vs. 10-<15 yrs	3.61 vs. 3.90	0.29	.118	ns
5-<10 yrs vs. 15-<20 yrs	3.61 vs. 3.60	0.01	>.999	ns
10-<15 yrs vs. 15-<20 yrs	3.90 vs. 3.60	0.30	.041	*
10-<15 yrs vs. 20-<25 yrs	3.90 vs. 3.74	0.16	.512	ns
10-<15 yrs vs. ≥25 yrs	3.90 vs. 3.71	0.19	.621	ns

Note. ns = not significant. * $p < .05$.

A statistically significant difference by years of experience emerged only in teaching practices ($F[4, 480] = 3.106$, $p = .015$, $\eta^2 = .025$). Scheffé posthoc comparisons localised this to the contrast between the 10–15 and 15–20 year groups (mean difference = 0.30, $p = .041$); no other pairwise comparison reached significance. No significant differences by experience were found for supervisory, leadership, or research practices (all $p > .05$, all $\eta^2 < .015$).

5.4 Research Question 4: Differences by Educational Qualification

Oneway ANOVA revealed no statistically significant differences in any domain by educational qualification (teaching practices: $F[3, 481] = 1.43$, $p = .232$, $\eta^2 = .009$; supervisory practices: $F[3, 481] = 0.87$, $p = .455$, $\eta^2 = .005$; leadership practices: $F[3, 481] = 1.12$, $p = .340$, $\eta^2 = .007$; research practices: $F[3, 481] = 0.98$, $p = .401$, $\eta^2 = .006$). All η^2 values are negligible ($< .01$). This pattern is theoretically coherent: the senior teacher job description specifies identical role demands for all incumbents regardless of academic credentials, and training provision is uniform across qualification levels.

5.5 Qualitative Findings: Thematic Analysis

Thematic analysis of the 12 focusgroup transcripts (corpus: approximately 68 000 words in Arabic) yielded four main themes presented in Table 6. Themes are ordered by prominence across the data corpus.

Table 6. Main Themes and Illustrative Quotations from FocusGroup Analysis (N = 60 participants, 12 groups)

#Theme	Key subthemes	Illustrative quotation
1 Reflective practice deficit	Difficulty diagnosing own training needs; limited selfevaluation capacity; absence of structured reflection in current training	"I have taught for fourteen years and I genuinely do not know where my weaknesses are. I think I teach well but nobody has ever shown me how to verify that." (FG4, Participant 2)
2 Priority of applied supervisory competencies	Supervisory conferencing; classroom observation protocols; developmental feedback writing; evaluation instrument design	"The theory modules are fine. But when I sit down with a colleague after an observation visit, I freeze. I need supervised practice, not more lectures." (FG7, Participant 4)
3 Applied leadership competencies as highest urgency	Facilitating team meetings; managing professional conflict; communicating decisions; leading without formal authority	"Leading a team of teachers with far more experience than me requires skills nobody prepared me for. You cannot teach that in a workshop you need to practise it with support." (FG1, Participant 3)
4 Demand for participatory programme design	Involvement in needs identification; codesign of content; peer learning circles; peer mentorship structures	"We know what we need far better than the people who designed this programme. We are professionals why is nobody asking us?" (FG9, Participant 1)

Note. FG = focus group number. Quotations translated from Arabic by the first author; independently backtranslated for verification. Interrater Cohen's $\kappa = .84$.

Theme 1: Reflective practice deficit. Appearing prominently in 11 of the 12 focus groups, this was the most pervasive theme in the corpus. Participants across experience levels and gender articulated a fundamental difficulty in evaluating their own professional performance and in identifying the specific domains where further development was most needed. This metacognitive gap is particularly consequential for practitioners whose role requires them to facilitate the professional learning of others: a senior teacher who cannot accurately diagnose their own learning needs is poorly equipped to support colleagues in doing so.

Theme 2: Priority of applied supervisory competencies. Participants consistently distinguished between the theoretical content of existing supervisory training modules and the practical, relational demands of actual supervisory work. Supervisory conferencing, developmental feedback writing, and classroom observation protocols were most frequently identified as inadequately addressed. This pattern closely mirrors AlKiyumi and Hammad's (2020) findings regarding Omani educational supervisors and corroborates the questionnaire's Rank 2 position for supervisory practices.

Theme 3: Applied leadership competencies as highest urgency. The leadership dimensions of the role facilitating team meetings, managing professional disagreements, communicating institutional decisions, and exercising influence over more experienced colleagues without formal administrative authority were consistently identified as the primary source

of professional challenge and the domain of greatest felt training need. This theme maps directly onto the questionnaire's Rank 1 result for leadership practices ($M = 3.95$) and provides qualitative depth to that statistical finding: senior teachers are not merely rating leadership items highly on a scale; they are experiencing leadership demands as the most significant source of professional difficulty in their current roles.

Theme 4: Demand for participatory programme design. All 12 focus groups surfaced a strong, consistent demand for practitioner involvement in the identification of training needs and the design of programme content. Participants viewed their professional knowledge as the most reliable source of information about what training was needed and expressed frustration that this knowledge was not systematically consulted by programme designers. This theme aligns with the participatory professional development literature (Ghamrawi et al., 2024; Abu AlRab, 2021) and has direct implications for how the Institute conducts future programme design cycles.

6. Integration of Quantitative and Qualitative Findings

Table 7. Convergence Matrix: Integration of Quantitative and Qualitative Strands

Integration type	Quantitative finding	Qualitative finding	Interpretive implication
Convergence	Leadership: $M = 3.95$, Rank 1	Theme 3: applied leadership as highest urgency need	Priority of leadership training is robustly confirmed across both methodological strands
Convergence	Supervisory: $M = 3.91$, Rank 2	Theme 2: applied supervisory skills consistently prioritised	Theory practice gap in supervisory training confirmed through independent methods
Convergence	Teaching: $M = 3.71$, Rank 4	Teaching challenges cited less frequently in focus groups	Relative adequacy of instructional preparation corroborated qualitatively
Qualitative extension	Not captured by questionnaire	Theme 1: reflective practice deficit across 11/12 groups	Reveals a metacompetency gap that would undermine effectiveness of all content-focused training
Qualitative extension	Not captured by questionnaire	Theme 4: demand for participatory programme design of professional development	Implies that design process is itself a form of professional development

Note. Convergence = both strands independently confirm the same conclusion; Qualitative extension = qualitative strand identifies dimensions invisible to the quantitative instrument.

The two strands converge in confirming the priority ranking of training domains: both independently establish leadership and supervisory practices as the areas of greatest need and teaching practices as comparatively lower priority. This convergence strengthens the confidence with which the priority ranking can inform programme revision decisions. However, the qualitative strand adds two dimensions that add meaningful interpretive depth to the prescriptive implications of the findings. The reflective practice deficit (Theme 1) reveals a metacompetency gap that is not detectable through a Likertscale questionnaire and that, if unaddressed, would systematically limit the effectiveness of any content-focused training intervention: senior teachers who cannot accurately diagnose their own learning needs are unlikely to actively engage with let alone transfer to practice training provision that addresses those needs. The participatory design demand (Theme 4) suggests that the process of programme design, not only its content, is a significant determinant of participant engagement and learning transfer. Together, these qualitative extensions imply that effective programme reform cannot be achieved through content revision alone; it requires structural changes to how needs are identified and how programme content is coconstructed with practitioners.

7. Discussion

7.1 Domain Structure and Theoretical Significance

The finding that all four domains register high training need, with leadership practices highest and teaching practices lowest, provides direct empirical support for the core theoretical claim of the teacher leadership literature: that hybrid teacherleader roles generate training needs that are structurally distinct from, and not reducible to, instructional needs (Wenner & Campbell, 2017; York-Barr & Duke, 2004). The ranking pattern is precisely what the distributed leadership framework (Spillane et al., 2001) would predict in a context where leadership functions have been formally distributed to practitioners without commensurate training provision: those most recently acquired and least supported functions leadership and supervision are experienced as the most pressing training priorities, while the function most deeply embedded in practitioners' professional histories instruction is experienced as comparatively less urgent. This structural interpretation is supported by Abrahamsen and Helstad's (2024) Norwegian longitudinal evidence, which demonstrated that even highly accomplished instructional practitioners consistently struggled with facilitation and leadership functions unless they had received targeted preparation for them.

The high ranking of research practices ($M = 3.84$, Rank 3) is a finding with direct policy implications. The expansion of

senior teachers' expected contributions to school selfevaluation and evidencebased practice under Vision 2040 reform objectives has generated a genuine training need that Desimone's (2009) coherence criterion would predict: when institutional priorities assigned to a professional role are not matched by corresponding training provision, perceived need escalates. Addressing this gap would require the integration of research literacy content action research methodology, data interpretation, professional writing into the core training curriculum, a step that the current programme has not taken.

7.2 Gender Differences: Interpretation and Limits

The statistically significant gender difference in supervisory practices ($d = 0.19$) is consistent with Hammad et al.'s (2022) systematic review of educational leadership research in the Arabian Gulf, which identified gender as a persistent moderating variable in supervisory role perceptions across Arab educational contexts, and by Hammad et al.'s (2025) comparative analysis of teacher leadership perceptions in Qatar, Oman, and Egypt, which documented genderlinked variation in the supervisory and leadership dimensions of the teacherleader role. Two interpretations are plausible and not mutually exclusive. A competency interpretation suggests that female practitioners may have had fewer opportunities to observe, practise, and receive feedback on supervisory functions before assuming senior teacher roles in Oman's educational system. An authority interpretation, drawing on Hammad et al.'s (2022) analysis, suggests that the higher perceived need reflects uncertainty about the social legitimacy of the supervisory role a relational challenge specific to female practitioners supervising colleagues in professional environments where supervisory authority has historically been maledominated. The small effect size ($d = 0.19$) counsels against prescribing separate training tracks for male and female participants; both groups report supervisory needs in the high range. A more constructive response would be the inclusion of roleauthority development activities facilitated role play, coached observation visits, structured peer feedback within the supervisory training strand to address the relational and authority dimensions of the function alongside its technical content.

7.3 CareerStage Patterns and Teaching Practice Needs

The finding that teachers with 10–15 years of experience report significantly higher teaching practice training needs than those with 15–20 years of experience ($\eta^2 = .025$) is consistent with Fuller's (1969) developmental model of teacher concerns. The 10–15-year experience band may correspond to what Fuller identified as the impact and refinement phase of career development, characterised by heightened attention to the gap between current and desired instructional performance. Teachers with 15–20 years of experience, by contrast, appear to have largely resolved the instructional concerns of the midcareer phase and shifted professional attention toward supervisory and leadership functions a pattern consistent with Huberman's (1989) documentation of professional diversification trajectories in the middle career phase and with AlKiyumi and Hammad's (2020) observation that training priorities in Oman evolve systematically with career stage. The small effect size warrants caution in prescriptive inference but points to the potential value of careerstagesensitive needs assessment as a complement to programmewide curriculum revision.

7.4 The Reflective Practice Deficit: Beyond the Omani Context

The pervasive reflective practice deficit documented across 11 of 12 focus groups is arguably the study's most theoretically significant finding, because it identifies a secondorder need a need for the capacity to identify and respond to one's own professional learning needs that is invisible to conventional training needs analysis instruments. Schön (1983) identified reflectiononaction as the foundation of professional artistry: the capacity to learn from practice experience in a deliberate, generative way that produces transferable professional knowledge rather than merely reinforcing habituated behaviour. Korthagen (2004) extended this argument specifically to teacher education through the ALACT model, demonstrating that the capacity for systematic selfassessment is a learnable professional competency that must be explicitly taught and scaffolded. The present study's qualitative findings suggest that this competency is underdeveloped among Omani senior teachers a gap with direct practical implications, since senior teachers are expected to facilitate the professional reflection of the colleagues they supervise. A practitioner who cannot engage in disciplined selfevaluation is unlikely to be effective in supporting others to develop this capacity.

The professional development literature provides wellevenced tools for developing reflective capacity: structured reflective journals with peer response protocols (Farrell, 2013), lesson study cycles adapted to supervisory contexts (Lewis et al., 2006), videostimulated recall (Rosaen et al., 2008), and professional learning communities organised around systematic enquiry into practice (Stoll et al., 2006). Integrating these tools into the Omani senior teacher training programme as a foundational, sustained strand rather than a single workshop would address the reflective practice deficit directly while simultaneously providing the applied, experiencebased learning that Themes 2 and 3 identify as the most valued mode of professional development.

8. Conclusions

This study has examined the training needs of senior teachers in Oman through a convergent parallel mixed methods design, combining questionnaire data from 485 participants with thematic analysis of 12 focus groups. Five principal conclusions emerge.

First, a uniformly high level of training need is documented across all four professional domains (overall $M = 3.85$), with all domain means exceeding the high need threshold of 3.68. This pattern is consistent with a perceived misalignment between existing training provision and the professional demands of the senior teacher role a misalignment corroborated by institutional satisfaction data and by qualitative accounts of felt professional challenge. Second, the domain ranking leadership first, supervisory second, research third, teaching fourth provides empirical support for the theoretical claim that hybrid teacherleader roles generate training needs qualitatively distinct from instructional needs, and is consistent with the teacher leadership literature (Wenner & Campbell, 2017; Abrahamsen & Helstad, 2024) and extends distributed leadership theory (Spillane et al., 2001) to an Arab Gulf context in which these frameworks have not previously been systematically tested. Third, gender and careerstage differences in training needs are statistically significant but small in effect, implying nuanced programme adjustments within a shared high need profile rather than wholesale differentiation of provision. Fourth, educational qualification produces no significant variation in training needs, a pattern consistent with the standardised role demands and uniform training provision applicable to all senior teachers. Fifth and most distinctively the qualitative strand reveals a reflective practice deficit that is entirely invisible to the questionnaire instrument and that, if unaddressed, would systematically undermine the effectiveness of any contentfocused training intervention. This finding demonstrates the necessity, rather than the mere desirability, of mixed methods designs for training needs analysis in professional development contexts where the most consequential needs may be precisely those that practitioners cannot articulate through structured selfreport.

The study's contributions extend beyond the immediate Omani context. Any educational system expanding the scope of hybrid teacherleader roles whether under the designation of senior teacher, middle leader, instructional coach, or department head faces the structural challenge documented here: instructional experience does not automatically generate the leadership, supervisory, and reflective competencies demanded by expanded roles, and training provision must be specifically designed to address this gap. The reflective practice deficit documented in this study is plausibly not unique to Oman, though this would need to be tested through comparative research; it is a plausible structural consequence of any professional development system that treats hybridrole training as a contentdelivery problem rather than as a process of developing practitioners' capacity to learn from their own professional experience.

9. Limitations

Four limitations warrant acknowledgement. First, the quantitative and qualitative samples were drawn from senior teachers enrolled in the Institute's programme during February and March 2025 and may not fully represent those not currently participating in training. While the programme's high enrolment rate limits the likely extent of this bias, it cannot be fully discounted. Second, all training need measures are selfreported and are therefore subject to social desirability bias and as the reflective practice deficit finding makes particularly salient—to the limits of practitioners' selfknowledge. A combination of selfreport with external observation or supervisor assessment would provide a more comprehensive need estimate. Third, the qualitative strand was conducted exclusively in Muscat Governorate; senior teachers in more rural, remote, or culturally distinct governorates may experience their professional roles and training needs differently. Fourth, the study captures training needs at a single point in the programme cycle; needs may vary across different stages of the annual training calendar, and longitudinal design would provide a more complete and temporally valid account. Fifth, the study relies exclusively on senior teachers' selfreport; it does not include principals, supervisors, trainers, students, or classroom observation data, which limits any claim about actual (as opposed to perceived) professional performance and training need.

9. Recommendations

9.1 For Programme Content and Design

The senior teacher training curriculum should be restructured to prioritise leadership and supervisory content assigning the greatest proportion of curriculum time to these domains and developing them through practised application rather than didactic instruction. We note that a fully specified timeallocation across the curriculum would require a more detailed evaluation of existing programme content than was undertaken in this study; the following points describe priority areas rather than a complete redesign. Specifically: (a) leadership development should centre on team facilitation, professional dialogue, distributed decisionmaking, and conflict navigation, delivered through role play, professional learning community facilitation, and coached team leadership experiences; (b) supervisory training should include supervised observation visits, coached conferencing, and structured feedback writing exercises, so that participants practise the full supervisory cycle before undertaking it independently; (c) a research literacy strand

encompassing action research, data interpretation, and professional writing should be integrated into the core curriculum; and (d) a reflective practice thread should be woven throughout the entire programme, using structured journals, peer observation protocols, and professional learning community activities to develop the metacompetency of selfdirected professional learning.

9.2 For Programme Governance

The Institute should adopt a participatory needs analysis process in which senior teachers are formally consulted through focus groups, structured surveys, or professional learning community deliberations before each programme cycle begins. This process would both improve content alignment and constitute an early reflective practice activity, beginning to develop the selfdiagnostic capacity that the programme aims to build. Programme design teams should include practising senior teachers as codesigners rather than only as endusers of training provision.

9.3 For Policy

The Ministry of Education should consider introducing careerstage differentiation within the senior teacher professional development pathway, acknowledging that practitioners in the 10–15 year experience band have different instructional development priorities from those with longer experience. The gender finding, while modest in effect, suggests the value of ensuring that supervisory training activities explicitly address the relational and authority dimensions of the supervisory role alongside its technical content.

9.4 For Future Research

Future investigations should: (1) triangulate selfreport data with external performance observation to obtain need estimates not subject to selfassessment bias; (2) conduct a multisource needs analysis that includes school principals' and Ministry inspectors' perceptions of senior teacher training needs; (3) undertake comparative studies across Gulf Cooperation Council countries to examine the generalisability of the present findings and identify systemlevel moderating factors; and (4) conduct longitudinal research tracking how training needs evolve following programme revision, to establish whether curriculum changes grounded in the present findings produce measurable improvements in professional practice and institutional outcomes.

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Author contributions

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