

Mapping Framework for Social Cognitive Behavior: Discovery of Cascading Interplays in Organizational Echelons for Orchestrated Collaboration and Engagement

Maria Cristina A. Obillo

Arellano University, Florentino Cayco Memorial School of Graduate Studies, Manila, Philippines

cristinaobillo@stcqc.edu.ph

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ABSTRACT

This study mapped the social cognitive behavior associated with workplace collaboration and engagement using the SCARF framework domains of Status, Certainty, Autonomy, Relatedness, and Fairness. An explanatory sequential mixed-methods design was employed in the Grade School and High School departments of a private integrated and basic education school in Quezon City during School Year 2024-2025. The quantitative phase used complete enumeration, with 123 of 125 administrators, academic and subject area coordinators, and teachers participating in the SCARF questionnaire. The qualitative phase involved 16 purposively selected participants in four focus group discussions organized according to organizational role and tenure. Quantitative data were analyzed using percentage, weighted mean, standard deviation, and t-tests, while

qualitative responses were transcribed, coded according to the SCARF domains and collaboration-engagement constructs, and interpreted through content and pattern analysis. Collaboration ratings were generally high, but administrators and teachers differed significantly in Certainty ($p = .002$), Autonomy ($p = .005$), and Relatedness ($p = .041$), while Status and Fairness did not differ significantly. Engagement showed the same pattern: significant differences in Certainty ($p = .004$), Autonomy ($p = .001$), and Relatedness ($p = .049$), but not in Status or Fairness. Qualitative findings showed a cascading gap between leadership intentions and teachers' lived experiences: Status remained visible at higher levels, Relatedness was strongest among subject area coordinators, and Certainty, Autonomy, and Fairness weakened as organizational practices reached teachers. The study therefore proposed a multi-tiered, feedback-informed alignment plan that strengthens voice, clarity, professional agency, relational support, transparency, and equitable access to opportunities across organizational echelons.

Keywords: *SCARF framework, teacher collaboration, work engagement, neuroleadership, social cognitive behavior, educational leadership*

INTRODUCTION

Collaboration and engagement are central to the capacity of schools to sustain improvement, respond to change, and implement institutional goals. Teacher collaboration has been associated with professional learning, job satisfaction, instructional improvement, and school development (Kolleck, 2019; Mostafa & Pál, 2018; Mora-Ruano et al., 2019). Philippine studies similarly describe collaboration as a means of strengthening school improvement, professional practice, and collective responsibility (Tiongson, 2018; Pagbilao et al., 2023). In private basic education, these concerns have become more pronounced as schools navigate post-pandemic enrollment pressures, technological change, teacher mobility, and increasingly complex organizational demands.

Leadership practices shape whether personnel experience the workplace as supportive, predictable, participatory, and fair. Supportive administrator behavior can strengthen teachers' professional belonging, motivation, and engagement (Özdoğan, 2022), while collaborative environments are reinforced when leaders create opportunities for shared planning, professional voice, and mutual support (Jones-Goods, 2018; Jalop & Paglinawan, 2025). Yet collaboration cannot be assumed simply because formal structures exist. Employees may participate procedurally while still experiencing limited agency, unclear expectations, or weak relational connection.

Neuroleadership provides a complementary perspective by examining how leadership behavior can trigger perceived social threat or reward. Gocen (2021) argued that neuroleadership can enrich educational leadership by connecting motivation and decision-making with brain-based processes, while Coetzer (2019) showed that learning about social cognitive neuroscience can facilitate changes in leaders' emotion regulation, relationship building, recognition, and trust. The SCARF model developed by Rock (2008, 2012) operationalizes five social drivers—Status, Certainty, Autonomy, Relatedness, and Fairness—that influence whether workplace interactions are experienced as threatening or rewarding.

The study addressed a contextual and organizational gap by examining how the SCARF domains were assessed and experienced across hierarchical levels in a private integrated and basic education school in Quezon City. It mapped similarities and differences between administrators and teachers, explored how social-cognitive conditions were translated through academic and subject area coordinators, and examined the cascading interplay of leadership structures and lived experiences. The study ultimately sought to develop an orchestrated, multi-tiered plan that would align leadership practices and organizational structures with the conditions necessary for meaningful collaboration and sustained engagement.

Literature Review

Teacher Collaboration and Workplace Engagement

Teacher collaboration is widely treated as an organizational resource for professional learning and school improvement. Kolleck (2019) emphasized motivational dimensions of collaboration, while Mora-Ruano et al. (2019) connected teacher collaboration with student achievement. Mostafa and Pál (2018) showed that teacher satisfaction is shaped by professional conditions, and Jones-Goods (2018) found that professional learning communities allowed teachers and school leaders to perceive collaboration as beneficial to instructional practice. Philippine evidence likewise indicates that structured collaboration supports shared knowledge construction and continuous improvement (Pagbilao et al., 2023).

Engagement is strengthened when employees experience support, recognition, meaningful participation, and opportunities to contribute beyond formal job requirements. Simbula et al. (2023) demonstrated longitudinal links between social support and work engagement, while Özdoğan (2022) highlighted the role of administrator behavior in teachers' professional belonging. Tiongson (2018) underscored the organizational and interactional dimensions of teacher collaboration in the Philippine context, and Lazo (2024) connected teacher efficacy with collaborative practices. Together, these findings indicate that collaboration and engagement are mutually reinforcing but remain sensitive to leadership structures and interpersonal experience.

Neuroleadership and Brain-Based Processing

Neuroleadership applies insights from social, cognitive, and affective neuroscience to leadership behavior. Wang (2019) discussed educational leadership from a neuroscience perspective and emphasized that decision-making is socially situated in organizational contexts. Gocen (2021) similarly argued that neuroleadership can help explain motivation, decision-making, and leader behavior in education. Coetzer (2019) reported that leaders exposed to social cognitive neuroscience demonstrated changes in emotion regulation, leadership style, relationship cultivation, recognition practices, and trust-building.

The educational application of neuroscience remains developing. Morris and Sah (2016) cautioned that a gap persists between neuroscience and education, while Dela Rosa (2023) argued that neuroleadership can strengthen decision-making, emotional regulation, and interpersonal communication among educational leaders.

Revilla-Briceño et al. (2025) further synthesized evidence that neuroleadership contributes to decision-making, emotional well-being, engagement, and organizational resilience. These perspectives support examining leadership not only through formal structures but also through the social signals that shape how members respond to authority, uncertainty, choice, relationships, and fairness.

SCARF Model, Social Threat, and Reward

Rock's SCARF model identifies Status, Certainty, Autonomy, Relatedness, and Fairness as recurring social domains that influence approach and avoidance responses in workplace interactions (Rock, 2008, 2012). Status concerns perceived importance; Certainty concerns clarity and predictability; Autonomy concerns choice and perceived control; Relatedness concerns belonging and trust; and Fairness concerns equitable exchanges. The model proposes that workplace conditions interpreted as rewards support openness, creativity, and collaboration, whereas perceived threats may narrow attention and promote withdrawal or defensiveness.

Empirical and applied work has used SCARF to interpret organizational engagement and change. Adams (2017) used the model to examine readiness for organizational change, while Forbes-Zeller (2020) explored social cognitive neuroscience as a basis for prosocial behavior. Risley (2020) described SCARF as useful for reflection, self-regulation, feedback, and engagement, and Sellars (2021) documented its application in developing belonging and well-being in school leadership. Tabibnia and Lieberman (2007) also provided neuroscientific evidence that fairness and cooperation are intrinsically rewarding, reinforcing the relevance of the fairness domain to trust and sustained collaboration.

Social Cognitive Behavior and Organizational Echelons

Social cognitive behavior emerges through the interaction of individual interpretation and organizational context. Scott (2018) connected neuroscience, complexity, and socially adept educational leadership, while Pope (2019) argued that effective school leaders need behavioral competencies that develop cognitive resources and understand how social positioning influences performance, engagement, motivation, and well-being. Subject area coordinators occupy a particularly important position because they translate institutional directives into day-to-day team practices, making them potential mediators between formal leadership intentions and teachers' experiences.

The study therefore conceptualized organizational echelons as interconnected levels through which SCARF conditions are created, translated, and experienced. Collaboration and engagement may weaken when information, decision-making authority, recognition, or opportunities become diluted as they move downward through the hierarchy. Conversely, mid-level relational leadership may strengthen trust and connection even when formal systems are incomplete. This framing supports a multi-level analysis that examines not only whether positive structures exist, but whether those structures are consistently experienced as clear, empowering, relational, and fair across the organization.

Conceptual Framework

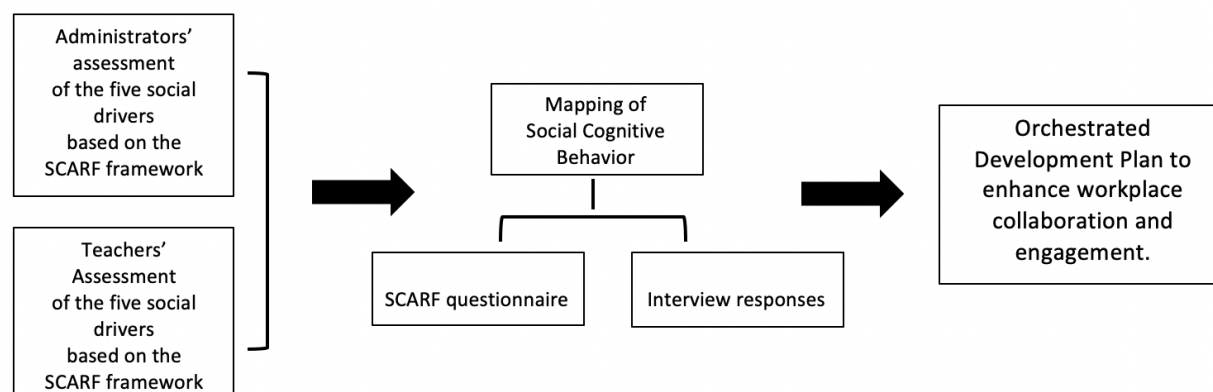


Figure 1. *Research Framework*

METHODS

Research Design

The study employed an explanatory sequential mixed-methods design. Quantitative data were collected first through the SCARF questionnaire and analyzed using descriptive statistics and tests of difference. The qualitative phase followed through focus group discussions designed to explore and explain the quantitative patterns. Findings from both phases were subsequently synthesized to provide a holistic interpretation of collaboration and engagement across organizational levels.

Research Locale

The research was conducted in the Grade School and High School departments of a private integrated and basic education school in Quezon City, National Capital Region, during School Year 2024-2025. The source dissertation intentionally described the site by institutional type and location rather than naming the school. The setting included a top administrative team, academic coordinators, subject area coordinators, and teachers, allowing the study to examine how SCARF-related conditions were shaped and experienced across organizational echelons.

Participants and Sampling Technique

Complete enumeration was used for the quantitative phase because the school population was manageable. Of 125 eligible personnel, 123 participated: three members of the administration, five academic coordinators, eight Grade School subject area coordinators, eight High School subject area coordinators, 46 Grade School teachers, and 53 High School teachers. Two teachers were on medical leave during survey administration.

For the qualitative phase, purposive sampling based on tenure and organizational role was used. Four focus group discussions were organized. FGD 1 included one member of the administrative team and one academic coordinator; FGD 2 included two Grade School and two High School subject area coordinators; FGD 3 included five Grade School teachers; and FGD 4 included five High School teachers. Thus, 16 participants contributed to the qualitative phase.

Research Instrument

The quantitative instrument was an adopted SCARF questionnaire based on Rock's (2008) theoretical framework. Part 1 contained 20 statements describing conditions influencing collaboration across the five SCARF domains, while Part 2 contained 10 statements addressing respondents' actual engagement experiences. Responses were recorded on a five-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

For the qualitative phase, SCARF-based focus group questions were constructed to explore the five social drivers in ways relevant to each organizational role. The interview questions were subjected to expert validation by three experts from Arellano University and one external expert. The questions were designed to clarify how recognition, predictability, decision-making freedom, relationships, and fairness were experienced in actual workplace interactions.

Data Gathering Procedure

With the approval of the School Directress, respondents were convened by group or subject area according to an agreed schedule. Printed questionnaires were administered from June 9 to 17, 2025 and were retrieved by the researcher immediately after completion. Respondents were not required to provide their names. After the quantitative phase, selected participants joined the scheduled focus group discussions. Participants were informed that the discussions would be recorded and were assured that recordings would be deleted after transcription.

Data Analysis

Quantitative data were summarized using percentage, weighted mean, and standard deviation. T-tests were used to determine whether administrators and teachers differed significantly in their assessment of collaboration and engagement across the SCARF domains, with significance evaluated at the .05 level. For the qualitative phase, recordings were transcribed verbatim, coded according to Status, Certainty, Autonomy, Relatedness, Fairness, collaboration, and engagement, and examined for recurring patterns and frequencies. Content analysis and pattern

analysis were used to interpret responses, after which quantitative and qualitative findings were compared and synthesized.

Ethical Consideration

The dissertation reported that ethical considerations were upheld in both phases. Survey respondents were not asked to identify themselves, supporting anonymity of questionnaire responses. Focus group participants were informed of audio recording, and the researcher committed to deleting recordings after transcription. These procedures were intended to protect participants while allowing the study to examine potentially sensitive perceptions of leadership, workplace relationships, and organizational practices.

RESULTS AND DISCUSSION

SCARF Domains and Workplace Collaboration

Table 1. *Administrators' and Teachers' Assessments of Collaboration Across SCARF Domains*

Domain	Administrators M	Teachers M	p	Interpretation
Status	4.08	4.10	.900	Not significant
Certainty	4.22	4.50	.002	Significant
Autonomy	3.06	3.35	.005	Significant
Relatedness	4.24	4.02	.041	Significant
Fairness	4.48	4.56	.326	Not significant
Overall	4.02	4.11	—	High agreement

Both groups reported generally positive collaboration, with overall means of 4.02 for administrators and 4.11 for teachers. Status was closely aligned (4.08 versus 4.10), and Fairness received high ratings from both groups (4.48 versus 4.56). These aligned domains suggest shared recognition of respect, voice, transparency, and equitable treatment as desirable conditions for collaboration. This is consistent with SCARF's emphasis on social recognition and fair exchange as conditions that reduce perceived threat (Rock, 2008, 2012; Tabibnia & Lieberman, 2007).

However, significant differences were found in Certainty ($p = .002$), Autonomy ($p = .005$), and Relatedness ($p = .041$). Teachers rated Certainty higher than administrators, but both groups rated Autonomy comparatively lower, indicating that clarity and control were not experienced uniformly. The difference in Relatedness likewise suggested variation in belonging, accessibility, and interpersonal support. These results indicate that collaboration was functionally present but structurally uneven, a pattern compatible with studies showing that leadership support and collaborative structures must be translated into meaningful day-to-day participation (Kolleck, 2019; Jalop & Paglinawan, 2025).

SCARF Domains and Workplace Engagement

Table 2. *Administrators' and Teachers' Assessments of Engagement Across SCARF Domains*

Domain	Administrators M	Teachers M	p	Interpretation
Status	4.11	3.94	.401	Not significant
Certainty	4.38	4.15	.004	Significant
Autonomy	4.34	3.87	.001	Significant
Relatedness	4.38	4.09	.049	Significant
Fairness	4.05	3.82	.100	Not significant
Overall	4.25	3.94	—	High agreement

Engagement was also generally positive, but administrators consistently reported stronger experiences than teachers. Overall engagement was 4.25 among administrators and 3.94 among teachers. Relatedness ranked highly for both groups, yet the difference remained statistically significant. Fairness was the lowest engagement domain for both groups, and although the difference was not statistically significant, the lower teacher mean

indicated that recognition, access to responsibilities, and equitable opportunities were less compelling as engagement drivers.

The significant differences in Certainty ($p = .004$), Autonomy ($p = .001$), and Relatedness ($p = .049$) indicate that administrators' perceptions of clarity, opportunity to innovate, professional leadership, and relational support did not fully match teachers' experiences. The pattern supports the distinction between formal availability of structures and the lived quality of those structures. When teachers experience limited clarity, bounded autonomy, or insufficient relational support, engagement may remain compliant rather than discretionary and generative. This aligns with evidence linking supportive social conditions to sustained work engagement (Simbula et al., 2023) and with neuroleadership arguments that reward-oriented conditions support adaptive participation (Gocen, 2021; Ruiz-Rodríguez et al., 2023).

Qualitative Mapping of Social Cognitive Behavior Across Organizational Echelons

Table 3. *Qualitative Mapping of SCARF Conditions Across the Three Organizational Echelons*

SCARF Domain	Administrators	Subject Area Coordinators	Teachers
Status	Listening, recognition, planning inclusion; system-oriented	Accessible, relational mediators	Voice valued, but follow-through and personal recognition perceived as limited
Certainty	Schedules, meetings, goals and formal updates	Clarify directives but depend on information received	Role overlap, delayed changes, unclear expectations and career progression
Autonomy	Innovation allowed within approval and institutional guidelines	Guided flexibility; implementer role	Limited flexibility, approval-driven processes, "back to you" culture
Relatedness	Positive culture acknowledged, but organization-wide relational design weak	Strongest relational leadership; mediation and team bonding	Limited cross-area connection and inconsistent relational follow-through
Fairness	Structured tasking and formal systems; transparency constrained by confidentiality	Balance workload and opportunity within directives	Uneven leadership opportunities, workload concerns, and unclear growth pathways

The focus group findings clarified the gap between leadership intentions and teachers' lived experiences. Administrators generally described structures intended to support recognition, clarity, controlled innovation, positive school culture, and fair processes. Subject area coordinators frequently acted as translators and relational mediators, converting broad directives into day-to-day communication and team practices. Teachers, however, often evaluated these conditions based on visible outcomes: whether ideas were acted upon, whether roles were clear, whether they could exercise meaningful judgment, whether relationships extended beyond formal tasking, and whether opportunities were distributed transparently.

This pattern demonstrates the importance of organizational echelons. Status remained strong and visible at higher levels, while Relatedness became strongest at the subject area coordinator level because of proximity and relational leadership. As the conditions cascaded to teachers, Status and Relatedness weakened and Certainty, Autonomy, and Fairness were experienced as insufficient. The findings suggest that hierarchical transmission by itself did not guarantee alignment; leadership intent could be diluted, centralized, or inconsistently translated. Mid-level coordinators therefore emerged as pivotal integrators between institutional structures and teacher experience, consistent with the study's social-cognitive and neuroleadership framing (Pope, 2019; Scott, 2018).

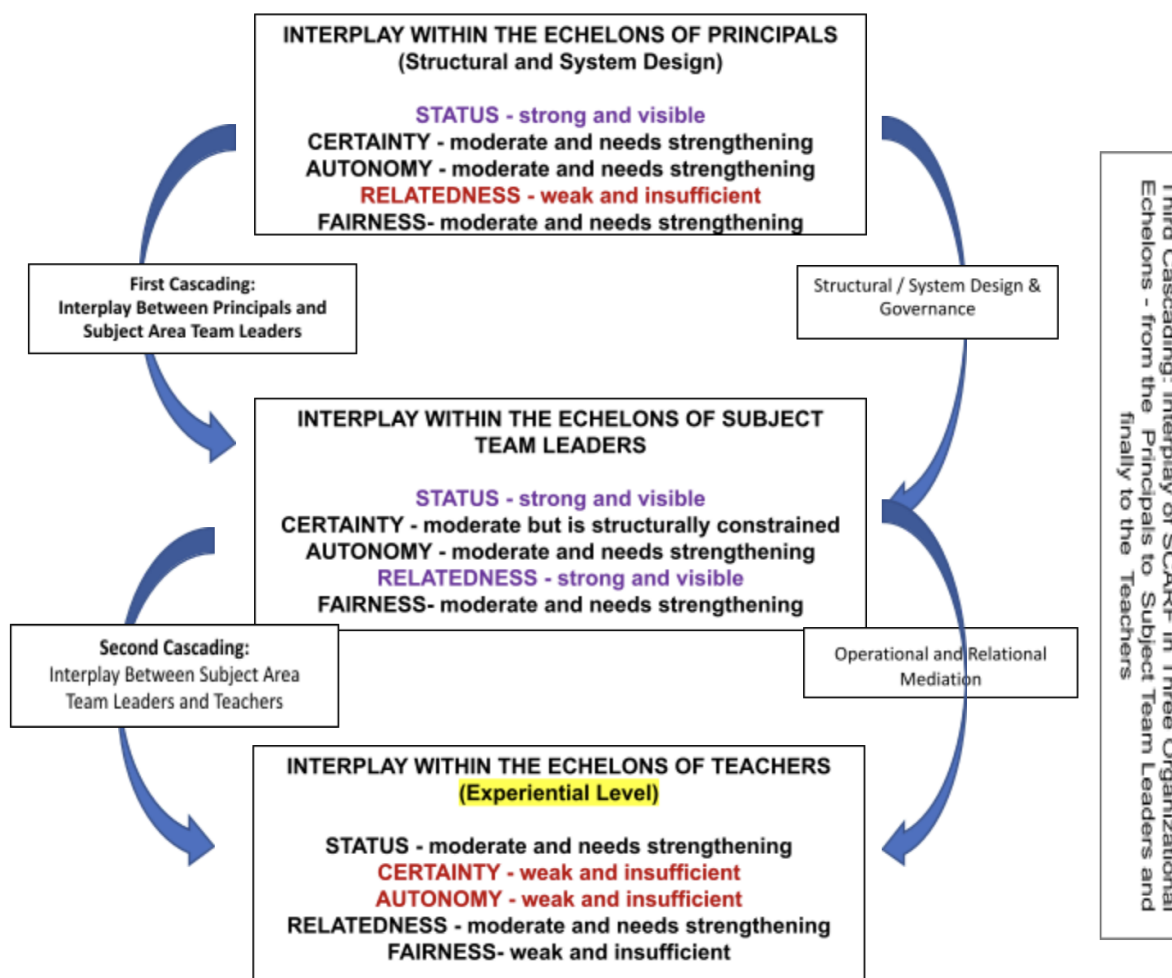


Figure 2. Cascading Interplay of SCARF in Three Organizational Echelons

Orchestrated Multi-Tiered Alignment Plan

Table 4. Core Components of the Orchestrated Alignment Plan

SCARF Domain	Alignment Focus	Priority Strategies
Status	Visible value and significance leadership	Reduce status distance; balance recognition; document post-consultation actions; widen leadership and growth opportunities
Certainty	Predictable and transparent structures	Clarify roles and timelines; protect collaboration time; communicate changes early; map staff support and career pathways
Autonomy	Guided professional agency	Create innovation windows; clarify decision boundaries; establish idea-sharing forums; expand teacher-led initiatives within agreed parameters
Relatedness	Intentional relational cohesion	Provide confidential check-ins; cross-area bonding; mentoring and peer-support structures; strengthen conflict follow-through
Fairness	Transparent and equitable governance	Map workload and leadership assignments; track access to training; clarify selection criteria; conduct professional growth and transparency dialogues

The proposed plan shifts the organization from one-way cascading toward a multi-level, feedback-informed alignment model. At the institutional level, administrators recalibrate systems to make expectations, decision processes, opportunities, and professional pathways clearer. At the translational level, subject area coordinators function as active integrators rather than passive implementers, using their relational proximity to foster psychological safety, recognition, coordination, and two-way communication. At the experiential level, teachers are expected to gain greater clarity, agency, inclusion, and trust because leadership intentions are linked to visible processes and feedback.

The plan is consistent with the SCARF principle that social conditions can be deliberately redesigned to reduce threat and increase reward. It also reflects evidence that leadership awareness of social-cognitive processes can support trust, emotional regulation, engagement, and organizational resilience (Coetzer, 2019; Revilla-Briceño et al., 2025). Rather than treating each domain as an isolated intervention target, the plan recognizes their interplay: clearer systems can strengthen fairness, greater autonomy can raise status, stronger relatedness can improve communication, and transparent feedback can reinforce both certainty and engagement.

CONCLUSION

The study established that administrators and teachers generally recognized the importance of all five SCARF domains for collaboration and engagement, but their experiences were not fully aligned. Status and Fairness showed no significant differences between groups, whereas Certainty, Autonomy, and Relatedness differed significantly in both collaboration and engagement. Autonomy emerged as a persistent area of weakness in collaboration, and teachers' engagement ratings were consistently lower than administrators' ratings. These results indicate that formal structures were present, but they did not always translate into meaningful professional voice, predictable processes, decision-making agency, sustained relational support, or equitable access to opportunities.

The qualitative findings demonstrated that organizational conditions were shaped at the administrative level, translated through subject area coordinators, and ultimately experienced by teachers. The cascading process weakened several positive conditions, while relational strengths were often localized at the mid-level. The study therefore contributes a multi-tiered alignment perspective in which effective collaboration and sustained engagement depend on the fit among institutional structure, leadership practice, and lived experience. Its orchestrated plan responds directly to the observed gaps by embedding feedback, clarity, agency, relational cohesion, transparency, and equitable opportunity across organizational echelons.

Recommendation

1. The school should institutionalize structured feedback loops and participatory consultation mechanisms so that teachers' professional voice is not only solicited but is visibly considered in decisions and follow-through actions.
2. Policies and procedures should be vertically aligned across organizational echelons by clarifying roles, decision boundaries, accountability, timelines, and career-development pathways, particularly in the domains of Certainty, Autonomy, and Relatedness.
3. School leaders and mid-level coordinators should undergo leadership development using the SCARF framework to strengthen awareness of recognition, psychological safety, professional agency, relational support, and fairness as social drivers of collaboration and engagement.
4. The proposed multi-tiered alignment plan should be implemented in phases and evaluated through regular monitoring, transparent reporting, and feedback from administrators, coordinators, and teachers. Evaluation evidence should be used to recalibrate structures and practices continuously.
5. Future research may examine the long-term effects of SCARF-based leadership interventions on instructional practice, teacher retention, organizational outcomes, and student achievement, and may test the framework in other Philippine educational contexts.

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