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Beyond Scores: A Mixed-Methods Investigation of Teachers' Instructional Efficacy, Support Systems, and Grade 6 Learner Proficiency in SOCCSKSARGEN

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Abstract: ***This concurrent mixed-methods study examined the relationship and influence of teachers' instructional efficacy and support systems on the proficiency levels of Grade 6 learners in core subjects across four school divisions in the SOCCSKSARGEN region of the Philippines, while simultaneously exploring the good instructional practices teachers employ and the challenges they face. In Phase 1 (quantitative), 303 Grades 4–6 teachers responded to validated Likert-scale instruments, and Grade 6 proficiency data were extracted from the 2024 National Achievement Test (NAT). In Phase 2 (qualitative), 16 purposively selected teachers participated in key informant interviews (KII) analyzed through thematic analysis. Quantitative results revealed high instructional efficacy ($M = 4.58$) and high support system levels ($M = 4.45$), contrasted with moderately proficient learner outcomes ($M = 45.52$). Regression analyses identified teachers' personality as a significant predictor of Filipino proficiency ($R^2 = 0.411$), and teaching methods with the use of learning resources as significant predictors of Science proficiency ($R^2 = 0.581$). Instructional supervision significantly predicted both Filipino and Science proficiency. Qualitative findings provided explanatory depth, revealing two major pedagogical themes—learner-centered pedagogy and instructional innovation—alongside challenges in resource access and psychosocial support. Mixed-methods integration demonstrated that teacher-reported good practices in differentiated instruction, active learning, and technology integration converge with quantitatively significant predictors, producing a coherent and actionable explanatory model. The study proposes a modified instructional support framework emphasizing subject-specific supervision, personality-informed teacher development, and resource-enabled pedagogical innovation.***

Keywords: ***mixed methods, instructional efficacy, support systems, learner proficiency, thematic analysis, triangulation, SOCCSKSARGEN***

I. INTRODUCTION

Grade 6 learner proficiency in the Philippines remains a persistent educational concern. National Achievement Test (NAT) data for 2024 show mean percentage scores of 61.01% in Filipino, 58.14% in English, 50.71% in AralingPanlipunan, 47.30% in Science, and 46.93% in Mathematics—all below the 75% national proficiency threshold. These figures place the Philippines among the lowest-performing nations in international assessments such as PISA, raising fundamental questions about the factors that mediate between teaching quality and learning outcomes.

While teacher instructional efficacy and institutional support systems have been identified internationally as critical determinants of learner achievement (Darling-Hammond, 2017; Hattie, 2009), the specific mechanisms through which these teacher-level variables translate into subject-specific proficiency remain under-theorized in the Philippine elementary context. Quantitative approaches can establish the strength and direction of associations, but without qualitative insight into the lived pedagogical realities of teachers, the explanatory framework remains incomplete. A mixed-methods approach addresses this gap by integrating the breadth of survey-based data with the depth of narrative inquiry.

Significance

This study contributes to the limited body of mixed-methods research on teacher effectiveness in Philippine elementary education. For education program supervisors and division planners, it offers empirically grounded direction for the design of professional development programs and supervisory frameworks. For school administrators, it clarifies which specific teacher competencies and support provisions are most strongly linked to learner outcomes. For classroom teachers, it validates evidence-based practices and signals areas requiring institutional support. For researchers, it demonstrates the explanatory value of concurrent mixed-methods triangulation in complex educational contexts.

II. METHODS

A. *Research Design: Concurrent Mixed-Methods*

The study employed a concurrent mixed-methods design (Creswell & Plano Clark, 2018), in which quantitative and qualitative data were collected simultaneously, analyzed separately, and integrated at the interpretation stage. This design was selected to produce complementary perspectives on the same phenomena—quantitative data providing breadth and generalizability, qualitative data providing depth and contextual meaning. The integration strategy was convergent: qualitative themes were used to explain, enrich, and contextualize the statistically significant quantitative findings.

B. *Quantitative Strand: Participants and Instruments*

The study population comprised 1,241 Grades 4–6 teachers across 16 public elementary schools in four SOCCSKSARGEN divisions. Using Slovin's formula at a 5% error margin, 303 participants were selected through proportional stratified random sampling: Cotabato ($n = 79$), Kidapawan City ($n = 79$), Sultan Kudarat ($n = 85$), Tacurong City ($n = 70$). Two validated Likert-scale instruments measured instructional efficacy (30 items, 6 dimensions) and support systems (25 items, 5 dimensions). Both instruments underwent expert content validation and Cronbach's alpha reliability testing. Grade 6 proficiency was operationalized using the official NAT 2024 mean percentage scores obtained from the four divisions.

C. *Qualitative Strand: Participants and Data Collection*

Sixteen teachers were selected using purposive criterion-based sampling (4 per division; 1 per school): permanent Key Stage 2 teachers, minimum of 3 years' service, Master Teacher or Teacher I–III, and grade level leaders. Data were collected through semi-structured key informant interviews (KII) of 45–75 minutes each, conducted in the participants's preferred language. Responses in regional languages (Cebuano, Hiligaynon, Ilocano) were transcribed verbatim and translated into English. Audio recordings were made with written consent.

D. *Analysis Procedures*

Quantitative analysis employed descriptive statistics (weighted means), Spearman rho correlation (to accommodate ordinal-level predictor variables), and multiple regression. Significance was set at $\alpha = 0.05$. Qualitative analysis followed Braun and Clarke's (2006) thematic analysis protocol: familiarization, initial coding, theme generation, theme review, and naming. An audit trail and member checking were employed to establish credibility and confirmability. Integration was performed through a joint display approach (Fetters et al., 2013), wherein quantitative results and qualitative themes were arrayed side-by-side to identify convergence, divergence, and elaboration.

III. QUANTITATIVE RESULTS

A. *Instructional Efficacy and Support System Levels*

Teachers demonstrated a consistently highly efficient level of instructional efficacy (grand mean = 4.58) across all six dimensions, with teachers' personality rated highest ($M = 4.66$) and ICT utilization rated lowest ($M = 4.50$). Support systems were rated as highly supported overall (grand mean = 4.45), with peer support highest ($M = 4.56$) and psychosocial intervention lowest ($M = 4.33$). Grade 6 learners were moderately proficient across core subjects with an overall mean of 45.52—below the 75% proficiency threshold.

B. *Relationships and Predictive Influence*

Selected instructional efficacy dimensions demonstrated significant correlations with Science and Filipino proficiency. Teaching methods ($r = 0.538$, $p = 0.026$), ICT utilization ($r = 0.536$, $p = 0.027$), teachers' personality ($r = 0.540$, $p = 0.025$), use of learning resources ($r = 0.649$, $p = 0.005$), and classroom assessment ($r = 0.520$, $p = 0.032$) were significantly correlated with Science proficiency.

Classroom management was significantly related to Filipino proficiency ($r = -0.582$, $p = 0.014$). Regression analyses confirmed that teachers' personality was the sole significant predictor of Filipino proficiency ($R^2 = 0.411$, $\beta = 17.786$, $t = 4.245$, $p = 0.011$), while teaching methods and the use of learning resources jointly predicted Science proficiency ($R^2 = 0.581$). For support systems, instructional supervision was the only dimension with significant predictive influence on Filipino ($R^2 = 0.508$, $t = 2.453$, $p = 0.026$) and Science proficiency ($R^2 = 0.374$, $t = 3.572$, $p = 0.015$).

IV. QUALITATIVE RESULTS

A. *Theme 1: Learner-Centered Pedagogy*

Three organizing themes emerged under this overarching category. Differentiated Instruction was described by all participants as a foundational practice adapted to learners' varying readiness levels, learning styles, and interests through tiered tasks, flexible grouping, manipulatives, and leveled materials. Active Learning Strategies—including peer tutoring, hands-on activities, problem-solving tasks, inquiry-based learning, and interactive games—were consistently cited as drivers of engagement and retention. Inclusive Teaching Practices emphasized real-world contextualization, localization of mathematical concepts, scaffolded feedback, and the deliberate celebration of incremental progress to build learner confidence and reduce academic anxiety.

Participant 6 captured the inclusive orientation of participants' feedback practices:

> *"Ginaselebrarnakobisan ang gamay ngakausaban kay nagtuo ko ngamataglakangpaabanteangaygyudngapasidunggan... ang mgasayopkabahinsapagkat-on ug dilikapakyasan." ("I celebrate even small improvements... errors are part of learning, not failure.") P6*

B. *Theme 2: Instructional Innovation*

Technology Integration was identified as a transformative practice, with participants describing the use of interactive quizzes, educational apps, video lessons, and adaptive digital tools. Technology was valued for its capacity to provide immediate feedback, extend practice beyond the classroom, and make abstract concepts visually accessible. Authentic and Real-World Application was articulated as a central strategy for enhancing relevance and motivation, with participants connecting mathematical, scientific, and language concepts to community scenarios, practical problems, and learners' daily lives.

C. *Challenges*

Persistent challenges identified included: unequal access to digital devices in remote schools; difficulty in sustaining differentiated instruction in large heterogeneous classes; insufficient planning time for resource-intensive lesson preparation; and gaps in psychosocial support, described as intermittent and not sufficiently responsive to teachers' emotional and mental health needs.

V. MIXED-METHODS INTEGRATION: CONVERGENCE AND DIVERGENCE

A. *Joint Display and Interpretation*

The integration of quantitative and qualitative findings reveals substantive convergences that strengthen the study's explanatory model, alongside productive divergences that enrich rather than undermine it.

Table 4. Joint Display: Convergence and Divergence of Quantitative and Qualitative Findings

Domain	Quantitative Finding	Qualitative Finding	Integration
Teaching Methods	Significant predictor of Science (R^2=0.581)	Active learning, hands-on tasks, problem-solving cited by all 16 participants	CONVERGENCE: Qualitative practices explain quantitative effect
Teacher Personality	Sole predictor of Filipino (R^2=0.411)	Inclusive feedback, warmth, encouragement consistently described	CONVERGENCE: Affective dimensions corroborated qualitatively
ICT Utilization	Correlated with Science (r=0.536)	Technology integration widely practiced; access	ELABORATION: Qualitative data adds

Domain	Quantitative Finding	Qualitative Finding	Integration
		challenges also noted	implementation constraints
Instructional Supervision	Sole significant support predictor for Filipino & Science	Not prominently featured as a good practice theme	DIVERGENCE: Statistical significance vs. low qualitative salience
Psychosocial Support	Lowest rated support dimension (M=4.33)	Described as insufficient and intermittent	CONVERGENCE: Both data strands signal a gap

B. Explaining the Efficacy-Proficiency Gap

A central integrative finding is the paradox of high perceived instructional efficacy (grand mean = 4.58) alongside low learner proficiency (mean = 45.52). Qualitative data provide two complementary explanations. First, teacher self-reports of instructional efficacy may reflect confidence in practice rather than measured impact—a distinction supported by Pajares' (1996) concept of "inflated" efficacy beliefs that do not align with objective performance indicators. Second, qualitative accounts reveal that even highly skilled practitioners face structural barriers (resource gaps, large class sizes, limited technology access) that constrain the translation of pedagogical knowledge into consistent learner gains. The implication is that the efficacy-proficiency gap is not primarily a teacher competency problem but a systemic enablement problem.

C. Explaining Subject-Specific Variation

The differential predictive patterns across subjects—with significant results for Filipino and Science but not for Mathematics, English, or AralingPanlipunan—also gain interpretive clarity through the qualitative strand. Participants' innovation narratives were concentrated in mathematics and science, the subjects with the most active learning and technology integration accounts. Filipino and Science, as subjects with strong affective and relational instructional components (language as social practice; science as empirical inquiry), may be more responsive to personality-driven and resource-mediated teaching than are subjects like Mathematics (which may require more structural curricular scaffolding) or AralingPanlipunan (which demands historically and civically complex pedagogical frameworks) (Glickman, Gordon, & Ross-Gordon, 2014).

VI. CONCLUSIONS AND IMPLICATIONS

This mixed-methods study produces four integrative conclusions. First, the high efficacy–low proficiency paradox confirms that teachers' self-perceptions of instructional capacity are necessary but insufficient conditions for learner achievement. Systemic enablement—through adequate resources, responsive supervision, and psychosocial infrastructure—is equally necessary. Second, subject-specific teacher behaviors matter: teachers' personality is the most powerful predictor in a subject grounded in relational, communicative practice (Filipino), while pedagogical diversity and resource innovation drive outcomes in an inquiry-based domain (Science). Third, instructional supervision exercises a measurable positive influence on performance, but its subject specificity (significant for Filipino and Science only) calls for a redesign from generic observation-and-feedback cycles toward disciplinary-sensitive coaching models. Fourth, teachers' good practices in differentiated instruction, active learning, and technology integration represent the realized instructional capital of the SOCCSKSARGEN teaching workforce—but realizing this capital at scale requires addressing the structural constraints that teachers themselves identify as limiting.

Based on these conclusions, the study proposes a Modified Instructional Support Framework with four integrated components: (1) Subject-Differentiated Professional Development, tailored to the pedagogical demands of each core subject rather than generic cross-curricular training; (2) Personality-Informed Teacher Development, integrating affective and interpersonal competencies into pre-service and in-service programs; (3) Context-Responsive Supervisory Redesign, shifting from compliance-based observation to coaching-centered, subject-specific instructional leadership; and (4) Structural Resource Enablement, prioritizing equitable access to digital tools, instructional materials, and psychosocial support services across all schools regardless of location or financial capacity.

Future research should employ longitudinal or experimental designs to establish causal direction in the efficacy-proficiency relationship, extend the inquiry to other regional contexts for comparative analysis, and integrate learner-level perspectives to triangulate teacher-reported good practices with actual learning experiences.

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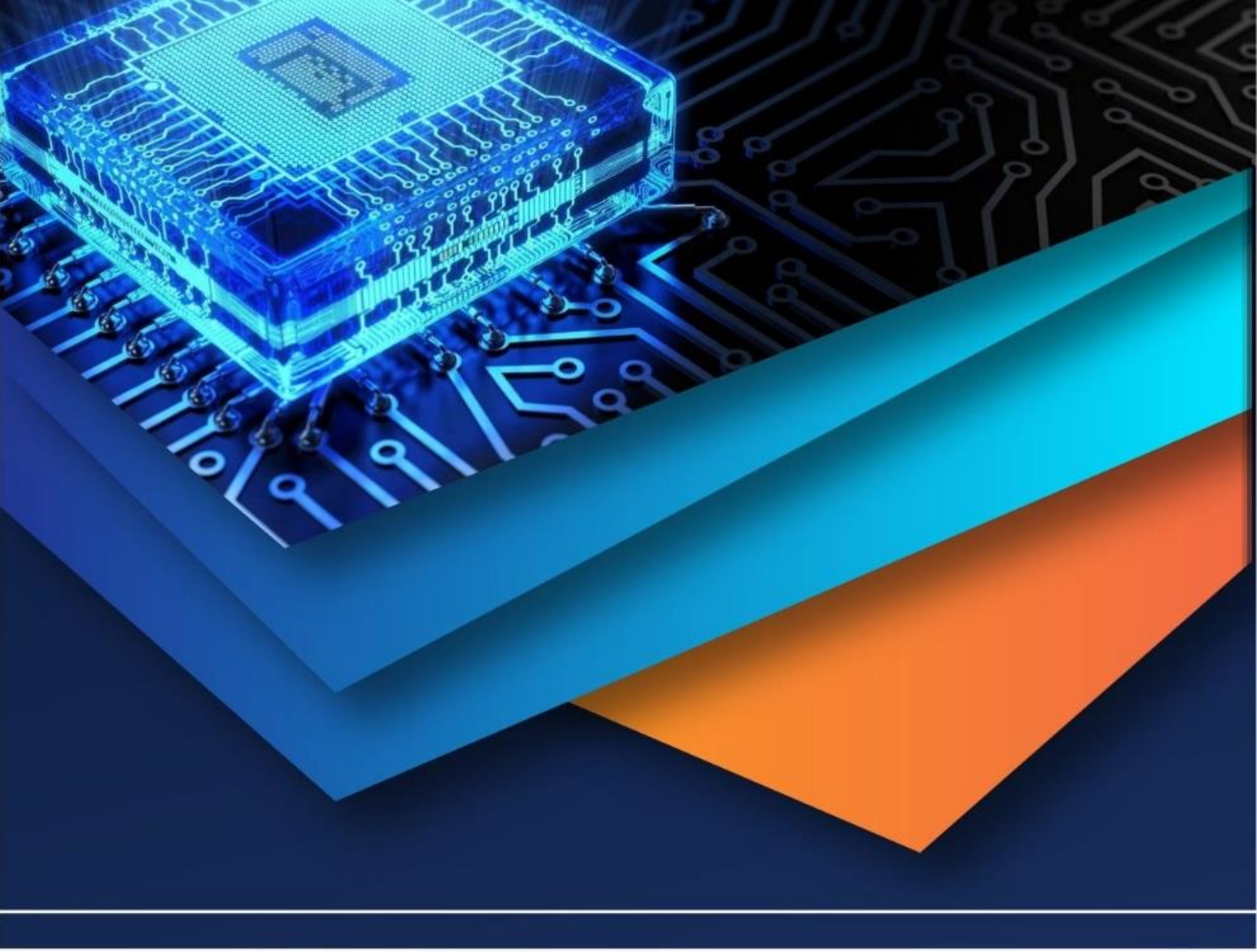

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