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Article

The SCPA framework: an observation-based formative assessment model for inclusive children's oral language development

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ABSTRACT

Current assessment paradigms don't take account of the mediated, multi-modal, and ecologically embedded nature of language development in CSN, they are theoretically unsuited for inclusive educative conditions. The Sociocultural Psychological Academic (SCPA) Assessment Framework, a book, conceptually based model for assessing language development in inclusive early childhood education, is suggested and validated empirically in this study. This is implemented at TK Ar-Razzaq Al-Mughni, Padang, West Sumatra. Four iterative cycles of an mixed methods design in participatory action research (PAR) was employed. Eleven CSN parents, two teachers, and 15 field coordinators attended. Quantitative data from pre-test/post-test analysis of a validated 30-item questionnaire (Cronbach's alpha = 0.81–0.87); qualitative data from four focus group discussions (60–75 minutes each, audio recorded and verbatim transcribed); structured observational checklists; and documentary analysis, every one of that were analyzed according to thematic analysis. Validity was guaranteed by triangulation across data sources. Four theoretical pillars have been integrated to the SCPA framework: Feuerstein's Mediated Learning Experience theory, Bronfenbrenner's ecological systems model, Vygotsky's sociocultural theory (Zone of Proximal Development), and Universal Design for Learning. An overall mean knowledge gain of 43.72% across assessment domains (sociocultural: 46.55%; psychological: 50.00%; academic/UDL: 35.38%) was discovered in pre-test/post-test analysis. Qualitative studies revealed systematic shifts in language mediation quality, institutional assessment culture, and parental assessment literacy from deficit oriented to potential-oriented assessment paradigms. Conclusion: With implications for preparation for teachers, assessment changes in policy, and future research in the ASEAN region, the SCPA Framework represents a theoretically sound and practically demonstrated innovation in language learning assessment for inclusive early childhood education in Indonesia.

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Introduction

One of the most enduring and unresolved issues in applied linguistics and language education research is how to evaluate language acquisition in kids whose social environments, developmental paths, and communicative repertoires deviate from norms. In inclusive kindergarten settings,

children with special needs (CSN) present a distinct theoretical and pedagogical difficulty: their assessments must be rigorous, equitable, developmentally appropriate, culturally sensitive, and psychologically safe. However, Shohamy (2001) noted that the prevailing paradigm of language assessment in Indonesian early childhood education is still based on a testing one that prioritizes standardized, product-oriented measurement over the rich, dynamic processes through which language develops and solidifies in social interaction.

This deficiency in Padang, West Sumatra, encompasses both institutional reality and theoretical shortcoming. In the city, there are about 2,888 people with disabilities (Yulhendri, 2020), and 1,275 CSN attended inclusive normal schools in 2020 (UPTD LDPI, 2023). Five out of eleven enrolled children (45.4%) at TK Ar-Razzaq, a kindergarten dedicated to inclusive methods from its founding in 2023, have formal or informal CSN diagnoses covering sensorineural hearing impairment, motor disability, dyslexia, and general developmental delay. For these kids, language is more than just a subject in school; it is the main tool they use to negotiate their identity, sense of belonging, and involvement in their education. However, the quality of that bargaining is still largely unrepresented by the assessment tools available to their teachers.

There is a significant theoretical gap. The specific question of how to assess language learning within these inclusive settings has received disproportionately little theoretical attention, despite the fact that research consistently confirms that inclusive early childhood education yields dual developmental benefits that advance CSN communication, social interaction, and self-confidence while cultivating empathy, tolerance, and cooperative skills among typically developing peers (Symeonidou, 2023; Woolfson, 2024; Liu et al. (2017) offers frameworks for differentiated instructional strategies and Bronfenbrenner (2005) contextualizes development ecologically, Florian and Spratt (2020) show that inclusive pedagogy necessitates differentiated instructional strategies. However, there has never before been a theoretically integrated model that specifically addresses language learning assessment for CSN in inclusive Indonesian early childhood settings.

Three related arguments are made in this article to close that gap. First, it contends that because traditional language assessment paradigms are based on philosophical presumptions of normativity, individual success, and single-modality expression that are structurally inconsistent with the sociocultural, psychological, and academic realities of CSN, they are theoretically insufficient for CSN in inclusive contexts. Second, it suggests a novel theoretical framework called the Sociocultural-Psychological-Academic (SCPA) Assessment Framework, which combines Universal Design for Learning, Feuerstein's Mediated Learning Experience theory, Bronfenbrenner's ecological systems model, and Vygotsky's sociocultural theory into a logical, ethical assessment architecture. Third, it provides empirical data from a participatory action research program at TK Ar-Razzaq Al-Mughni, showing that the SCPA Framework is both practically implementable and theoretically generative, producing quantifiable gains in assessment literacy, institutional capacity, and language learning mediation quality for CSN.

This contribution fills two scholarly gaps: in the literature on language assessment, it expands frameworks for dynamic and alternative assessment into the understudied field of inclusive early childhood education; in the literature on inclusive education, it emphasizes language learning assessment rather than just language instruction as a site of theoretical and practical innovation that requires ongoing scholarly attention.

The SCPA Assessment Framework Is A Theoretical Framework

When applied to CSN in inclusive settings, the four most significant shortcomings of traditional language assessment are addressed by the SCPA Framework, which is a theoretically argued integration of four intellectual traditions rather than a synthesis of convenience: the deficiencies in sociocultural sensitivity, ecological contextualization, psychological alignment, and academic accessibility.

Sociocultural Theory by Vygotsky: Evaluation as Mediated Performance

The fundamental tenet of Lev Vygotsky's theory is that social interaction shapes all higher psychological processes, including language, before they are internalized as personal abilities (Vygotsky, 1978). This ontological assertion has significant implications for assessment: if language is fundamentally social in its origins and expression, then evaluating language by removing the individual from social context creates a fundamentally skewed image of that person's knowledge and abilities.

The most directly assessment relevant notion in Vygotsky's work is the Zone of Proximal Development (ZPD), which is the difference between what a learner can accomplish on their own and what they can accomplish with help from a more capable person (Lantolf & Thorne, 2006). According to the ZPD, an assisted performance dimension rather than just an unassisted baseline must be included in assessment. This is the theoretical underpinning of dynamic assessment (DA), a family of assessment methods in which evaluation and instruction are combined, mediators offer graduated cues to show how responsive students are to help, and the information produced describes both present performance and future potential (Lidz & Gindis, 2003; Poehner & Lantolf, 2005). According to Vygotsky (1993), children with disabilities are distinguished by the mediational tools at their disposal rather than by a categorical difference in their developmental logic. As a result, assessment must consider the responsiveness and quality of mediation as a component of language assessment.

Ecological Systems Theory by Bronfenbrenner: Evaluation as Contextual Mapping

The microsystem, mesosystem, exosystem, macrosystem, and chronosystem are the nested environmental systems that Urie Bronfenbrenner's bioecological model places each kid within (Bronfenbrenner, 1979). Proximal processes the frequent, increasingly intricate interactions a child has with people, things, and symbols in their immediate surroundings are what lead to language development. The assessment implication is radical: an ecologically sound assessment must map the child's language environment across systems, recognizing family, community, and institutional contexts as aspects of language assessment data and determining where proximal processes are most and least supportive. One method of this ecological assessment in this study is the creation of CSN distribution maps that show the institutional and geographic distribution of CSN households. These maps offer the contextual baseline necessary to understand individual language development data in a meaningful way.

Feuerstein's Theory of Mediated Learning Experience: Evaluating Potential and Modifiability

For children with cognitive and developmental differences, the most dynamic and potential oriented assessment tradition is represented by Reuven Feuerstein's theory of Mediated Learning Experience (MLE) and the related Learning Potential Assessment Device (LPAD) (Feuerstein, 1980; Feuerstein et al., 1988). The main idea is structural cognitive modifiability, which holds that human intelligence and language ability are essentially responsive to quality mediation during development rather than being fixed. According to Feuerstein's concept, assessment is the process of determining the kinds of mediation and situations that best release a child's language capacity. By focusing assessment emphasis on the quality of mediation the kid has received, this framework for CSN challenges the notion that language issues are inherent and stable. MLE based dynamic evaluation consistently uncovers higher linguistic and cognitive potential in populations that are frequently underestimated by traditional assessments, as demonstrated empirically by Hasson and Dodd (2014).

Assessment as Accessible Architecture in Universal Design for Learning

Three principles that apply to assessment are provided by Universal Design for Learning (UDL), which was developed by CAST (2018) and is based on Rose and Meyer's (2002) neurodiversity research: various means of representation, multiple means of action and expression, and multiple means of engagement. CSNs whose predominant language expression channels are non-verbal, gestural, visual, or technology mediated are systematically disadvantaged when evaluation tasks are constructed in a single modality. Each assistive device in this study's technology ensemble served as

both a learning tool and an assessment scaffold at the same time: children with visual impairments could participate in literacy tasks thanks to interactive display boards' auto-audio features; children with dyslexia could use augmented reality (AR) tablet applications to turn abstract letter-sound correspondences into interactive three-dimensional models; and children with hearing impairments could participate in oral language tasks that were previously unavailable to them thanks to smart hearing aids.

The SCPA Framework Architecture: Theoretical Integration

The SCPA Framework's intellectual contribution is found in its principled integration of its distinct theoretical pillars into a single assessment architecture rather than in those pillars alone. A convergent claim that language development in CSN is concurrently a sociocultural process (requiring mediated participation in language communities), an ecological process (determined by the quality of proximal processes across nested environmental systems), a psychological process (responsive to skilled and intentional mediation and driven by structural cognitive modifiability), and an academic process (accessible only through multiple representational and expressive channels) justifies this integration. Incomplete and sometimes systematically distorted data are produced by an assessment model that includes only one of these characteristics while neglecting the rest. The framework's operating structure is described in Table 1.

Table 1. SCPA Framework: Instruments, Assessment Focuses, and Theoretical Aspects

SCPA Dimension	Theoretical Basis	Assessment Focus	Instruments / Methods
Sociocultural	Vygotsky (1978); Lantolf and Thorne (2006)	ZPD-mediated language performance; scaffolding interaction quality	Dynamic Assessment (DA), Interactional observation, Mediation quality rubrics, Graded prompt protocols
Ecological	Bronfenbrenner (1979, 2005)	Multi-systemic language environments; family-school-community coherence	CSN distribution mapping; Ecological questionnaires; Focus group discussions; Inter-institutional collaboration protocols
Psychological	Feuerstein (1980, 1988); Mead (1934); Stern (1985)	Self-concept, mediated potential, socio-emotional readiness for language	Self-concept scales; Interpersonal communication checklists; psychologist-facilitated simulations
Academic (UDL)	CAST (2018); Rose and Meyer (2002)	Multi-modal language performance: Assessment task accessibility	Portfolio assessment, AR-assisted tasks, pre/post-test questionnaires, and CSN screening forms

Take note. CSN stands for Children with Special Needs; DA for Dynamic Assessment; ZPD for Zone of Proximal Development; AR for Augmented Reality; & UPTD LDPI for UPTD Disability Services and Inclusive Education.

Methods

Design of Research

The participatory action research (PAR) design used in this study was mixed-methods (Kemmis & McTaggart, 2005; Reason & Bradbury, 2008). The SCPA Framework was designed, tested, and improved using an iterative and conceptually reflexive approach, which is reflected in PAR's cycle structure of planning, acting, observing, and reflecting. Through thematic analysis of focus group

discussions, structured observations, and documentary analysis, the mixed-methods approach integrates qualitative research into the mechanisms, meanings, and systemic effects of assessment innovation with quantitative measurement of knowledge acquisition (pre-test/post-test comparisons). The study was conducted in four stages: (1) baseline assessment of current language evaluation procedures; (2) cooperative development and implementation of the SCPA Framework through five structured program activities and module-based training; (3) implementation and observation of SCPA-aligned assessment procedures by qualified coordinators; and (4) theoretical synthesis and reflective analysis.

Participants and the Research Setting

In collaboration with UPTD Layanan Disabilitas dan Pendidikan Inklusif (LDPI) Padang City, research was carried out at TK Ar-Razzaq Al-Mughni (founded in, 2023). Five (45.4%) of the eleven students enrolled in the kindergarten exhibit CSN in four different diagnostic categories: sensorineural hearing impairment (n = 2), motor disability (n = 1), dyslexia and reading disorder (n = 1), and general developmental delay (n = 1). Specialized knowledge in occupational therapy, clinical child psychology, nutritional assessment, oral health, and special education evaluation was provided by UPTD LDPI.

Fifteen field coordinators participated in the program: ten CSN parents, two teaching assistants, and three classroom instructors, including the principal. The main source of quantitative evaluation data and the main focus of SCPA Framework training was this coordinator group. Through naturalistic observation of their involvement in technology-mediated language activities, the five CSN youngsters contributed to qualitative data and benefited from the ensuing evaluation processes. Coordinators had to meet two requirements in order to be considered: (a) they had to be directly involved in the education or care of CSN enrolled at TK Ar-Razzaq Al-Mughni during the 2025–2026 academic year; and (b) they had to give their informed consent to take part in all four PAR cycles, which included training, observation, and data collecting. Part-time school employees who did not have direct contact with CSNs were eliminated (n = 2). All five CSN youngsters whose parents gave their assent were included; no child participants were left out.

Instruments

(1) A validated 30-item pre-test/post-test questionnaire measuring knowledge in three domains: socio-emotional and psychological approaches to CSN (10 items; alpha = 0.87), inclusive instructional and assessment methods (10 items; alpha = 0.84), and disability awareness and language profiling (10 items; Cronbach's alpha = 0.81); validated through expert panel review (two language assessment specialists and one clinical psychologist) and pilot administration (n = 8, external sample); (2) semi-structured interview protocols used in four focus group discussions (FGDs) with coordinator subgroups (teachers, n = 5; parents, n = 10), each lasting 60–75 minutes, audio-recorded, and verbatim transcribed; (3) CSN screening and mapping forms created in partnership with UPTD LDPI documenting disability profiles, language baseline, and assistive technology dependencies. A training tool and program result was an instructional module with an ISBN registration and HKI certification.

Analysis of Data

Descriptive statistics were used to evaluate quantitative data, and gains were computed as percentage increases from pre-test to post-test domain means. Braun and Clarke's (2006) six-phase process familiarization, generating initial codes, looking for themes, reviewing themes, defining and labeling themes, and preparing the report was followed when subjecting qualitative data to thematic analysis. The themes were arranged both inductively (by emergent patterns in coordinator experiences and institutional changes) and deductively (by SCPA Framework aspects). Validity was strengthened and the underlying mechanisms of the assessed knowledge increases were clarified by the use of triangulation across quantitative and qualitative sources. Five coordinator participants assessed early results and verified interpretation accuracy in order to reconcile discrepancies between data sources.

Results and Discussion

Quantitative Results: Knowledge Gain Analysis Before and After the Test

The 15 field coordinators' pre-test and post-test domain means, percentage gains, and SCPA Framework dimension alignments are shown in Table 2. These findings are viewed as proof of innovative assessment knowledge rather than just overall program satisfaction.

Three of Table 2's findings call for a thorough analysis. First, the psychological domain showed the largest growth (50.00%), which is consistent with the Feuersteinean psychological dimension of the SCPA Framework. This calls into question the notion that non-specialist educators have the least access to psychological approaches to CSN because they are the most technically complex. According to the research, non-specialist coordinators exhibit the greatest knowledge transformation when psychological assessment frameworks are provided through experiential, psychologist-facilitated instruction. This is consistent with Kondo's (2023) discovery that PAUD educators' self-efficacy beliefs, which are particularly strengthened by experiential training, have a substantial impact on their preparedness for inclusion.

Table 2. Pre-Test/Post-Test Comparison of Assessment Knowledge Domains Aligned with the SCPA Framework (N = 15)

Assessment Domain	Pre-Test Mean	Post-Test Mean	Gain (%)	SCPA Dimension
Disability Awareness & Language Profiling	65.00	88.00	35.38%	Academic (UDL)
Inclusive Instructional & Assessment Methods	58.00	85.00	46.55%	Sociocultural
Socio-emotional & Psychological Approaches to CSN	60.00	90.00	50.00%	Psychological
Overall Mean	61.00	87.67	43.72%	Integrated

Take note. Expert panel mapping (two language assessment specialists and one clinical psychologist) was used to determine domain and SCPA-Framework dimension alignment. Pilot administration was used to validate the questionnaire (n = 8, external sample).

The second-highest improvement was seen in the academic/UDL component (encompassing instructional and assessment methods, gain: 46.55%), suggesting that module-based, technology-assisted approaches to UDL assessment training are quite successful. A qualitative change from deficit-oriented assessment framing (testing what the child cannot do) to UDL-aligned assessment thinking (providing conditions in which the child can demonstrate what they know) was observed in post-test coordinator comments. An epistemic change that goes beyond knowledge acquisition is shown by this conceptual change from assessment as measurement to assessment as design. This reconceptualization is fundamental to assessment for learning rather than assessment of learning, as Stiggins (2005) contends.

Third, the ecological factor (language profiling and disability awareness, gain: 35.38%) had the least improvement from the highest absolute baseline (pre-test mean: 65.00), suggesting that participants had some prior knowledge of disabilities. In line with Soeharto et al.'s (2024) analysis of Indonesian teachers' attitudes toward inclusive education, qualitative data showed that this prior awareness was primarily categorical and deficit-framed: coordinators were aware of disability category labels but lacked ecological understanding of how language environments support or constrain CSN development.

CSN Language Development: Results of Observational Assessment

The five CSN participants' observational assessment data, which methodically records pre-intervention baselines, used SCPA-aligned assessment techniques, and noted language growth outcomes, are shown in Table 3. These results show the ecological validity of the framework's

application; they are not the program's main outcome variable, but rather the practical result of SCPA framework aligned assessment practice.

Table 3's observational data shows that SCPA-aligned assessment methods produced evidence of language growth that was not possible with traditional evaluation. The best example of this is the case of Salfa, where the ZPD-mediated DA protocol showed a growing lexical system that required visual scaffolding and prolonged wait time to emerge, whereas a traditional verbal language test would have demonstrated a lack of productive speech. This result supports Vygotsky's (1993) claim that children with disabilities are distinguished by the mediational scaffolds at their disposal rather than being linguistically deprived. Feuerstein et al. (1988) identified the major target of dynamic evaluation as response to mediation rather than present performance, and Cio's reported increase from <5 minutes to ±12 minutes of sustained attention is proof of this type of developmental modifiability.

Table 3. Results of the Observational Language Assessment for CSN Participants at TK Ar-Razzaq Al-Mughni

Name	Primary Barrier	Assessment Strategy Applied	Pre-Intervention Baseline	Observed Language Development
Salfa	Speech impairment (sensorineural)	DA with picture-card scaffold & graded prompts (ZPD)	Limited to 2–3 word utterances; reluctant to communicate.	Identified ten new vocabulary words, used four to five word sentences to start a conversation, and pointed to visuals to convey ideas.
Cio	Attention-concentration difficulties	Time-extended tasks; motion-song mediation; visual cue protocol	Sustained attention < 5 minutes; off-task 60% of observation time.	Attention sustained to ±12 minutes; completed 3-step song movements; demonstrated improved self regulation in group tasks
Aren	Fine motor delay	UDL: thick markers, large-format worksheets, AR tablet	Could not grip standard markers; avoided writing/drawing tasks	Grasped markers; produced straight lines and spiral patterns; named basic shapes verbally
Adit	Social interaction barriers	Peer-tutoring; DA group protocol; graded social script prompts	Avoided peer interaction; non-responsive to teacher greetings	Greeted teacher and 2 classmates; used 2–3 word sentences in group; participated in simple cooperative games.
Vira	Low self-confidence	Positive reinforcement MLE; public performance scaffolding	Refused to speak in group; participated only when isolated	Sang 1 verse of a song before a small group; requested peer help verbally; performed in a class activity

Take note. ZPD stands for Zone of Proximal Development; MLE stands for Mediated Learning Experience; AR stands for Augmented Reality; and UDL stands for Universal Design for Learning.

These results are consistent with Woolfson's (2024) comprehensive review demonstrating that inclusion, when accompanied by adaptive, continuous learning strategies exactly what the SCPA Framework operationalizes improves CSN developmental outcomes. Additionally, they support Symeonidou's (2023) claim that early inclusive education fosters the development of both academic

and socioemotional skills, as evidenced by the documented improvements in peer interaction in each of the five CSN cases.

Qualitative Findings: Sociocultural and Ecological Dimensions

Teacher coordinators' focus group results showed a pre-program assessment paradigm that was defined by "measuring with one tool for all children," according to participants. "Teachers defined assessment equity as "giving each child the appropriate means to demonstrate what they know," which clearly parallels the SCPA Framework's sociocultural-UDL integration, according to post-program FGD data that revealed a paradigm change. In the post-program FGD, eight out of ten teacher coordinator statements specifically mentioned the ZPD idea, indicating successful theoretical adoption as opposed to merely procedural adoption.

Specific examples of dynamic evaluation procedures that coordinators developed and then applied were recorded by observational data from UPTD LDPI collaborative sessions. During a vocabulary recognition task, a specialist employed a graduated prompt protocol with a hearing-impaired child in one observed interaction. This protocol started with an unaided attempt (establishing ZPD floor), moved on to visual cue provision, gesture demonstration, direct labeling (mapping ZPD range), and ended with reflective dialogue about which supports the child found most helpful. As seen by post-session observational checklists, teacher coordinators then duplicated aspects of this technique in their own assessment encounters. This replication supports Mitchell's (2014) meta-analysis, which found that structured modeling combined with reflective debriefing is an effective way to transfer evidence-based inclusive tactics.

The program's most tangible ecological evaluation product was the CSN distribution map. The map found two families in locations with poor transportation access to UPTD LDPI services, three households with no prior interaction with inclusive education programs, and five CSN households in relation to the school's physical location. The map serves as an ecological baseline for assessment purposes because it is impossible to evaluate a child's measured language development in a meaningful way without taking into account the surrounding ecological conditions, the standard of the home language environment, the availability of specialized support, and parental assessment literacy. An innovative methodological contribution of the SCPA Framework is the operationalization of Bronfenbrenner's (1979) model in the assessment domain.

Qualitative Results: Aspects of Digital Innovation and Psychology

Through role-playing and simulation, a certified clinical psychologist facilitated interpersonal communication and self concept training, which produced the deepest qualitative data about the psychological dimension. According to MLE criteria (Feuerstein et al., 1988), pre-training observations revealed assessment interactions that lacked the intentionality-reciprocity and meaning-making dimensions necessary for successful mediated assessment. These interactions were marked by high adult-directivity, short wait times, and corrective feedback given without elaboration patterns.

Coordinators showed higher use of open-ended elicitation, longer wait times, reformulation rather than correction, and explicit meaning attribution, according to post-training observations that revealed qualitative transformation. Coordinators' framing of CSN language challenges changed as a result of self-concept training, moving from fixed attributions ('she just has trouble speaking') to changeable, mediation-responsive attributions ('she shows more words when we give her more time'). This change in attributional style, which reframes the aim of evaluation from a fixed trait to a dynamic process, is an innovation in psychological assessment. The change is consistent with the interpersonal communication theory of Stern (1985) and the person-centered concepts of Rogers (1961), both of which are incorporated into the psychological part of the SCPA Framework.

UDL-aligned assessment infrastructure was operationalized by the three-technology ensemble. Vocabulary assessment with visually impaired and hearing-impaired youngsters was made possible by interactive display boards' 4K resolution and auto-audio features using visual pointer response forms. By avoiding graphomotor demands, augmented reality applications allowed children with

dyslexia to demonstrate letter-sound knowledge through three dimensional object manipulation. For kids who had previously been excluded due to communicative impairment, smart hearing aides made oral language evaluation recounting, vocabulary definition, and phoneme recognition possible. In line with Ainscow and Miles' (2008) framework for scaling inclusive education innovation, an instructional digital video (available through the project repository) expands SCPA-Framework multimodal assessment practices beyond the fifteen direct participants to a wider community audience.

Comparative Evaluation: SCPA Framework vs. Traditional Evaluation

Based on published assessment literature and baseline practice data, Table 4 provides a methodical comparison of the SCPA Framework and traditional assessment paradigms across seven major assessment dimensions.

Table 4 shows that the innovation of the SCPA Framework is a fundamental reorientation across all seven dimensions rather than a cosmetic modification to current procedures. Most importantly, the philosophical transition from deficit to potential that is, from evaluating what CSN cannot accomplish to exposing what they can accomplish under expert mediation represents an epistemological shift that fundamentally alters the evaluation process. Instruments, processes, roles, and interpretative frameworks all need to be transformed when the goal of evaluation is potential revelation rather than deficit reporting. This is consistent with Liu et al.'s (2024) conclusion that three integrated factors teacher preparedness, resource availability, and policy support determine the success of inclusive education. The SCPA Framework addresses these three factors through coordinator training, technology infrastructure, and inter-institutional collaboration.

Table 4. Comparative Study: SCPA Framework vs. Conventional Language Assessment in Inclusive Early Childhood Settings

Assessment Dimension	Conventional Approach	SCPA-Framework Innovation
Philosophical Basis	Deficit model: measuring what CSN cannot do; normative comparison with typically developing peers	Potential model: measuring what CSN achieves under skilled mediation; ipsative (self-referenced) comparison trajectory
Unit of Assessment	Individual child product (test scores, worksheet output)	Ecological unit: child within interaction networks (teacher, parent, peers, assistive technology)
Timing	Summative: at fixed points after instruction	Dynamic & continuous: integrated into teaching; cyclic pre-mediation, during mediation, and post-mediation
Modality	Predominantly verbal-linguistic; single-modal	Multi-modal: verbal, visual (AR), tactile (interactive boards), auditory (smart hearing aids), gestural
Stakeholder Roles	Teacher as sole assessor; parents as passive recipients of results	Distributed assessment community: teachers, parents, UPTD LDPI specialists, community members as co-assessors
Cultural Responsiveness	Culturally decontextualized assessment tasks	Culturally situated: tasks embedded in local Minangkabau socio-cultural practices and community life
Psychological Safety	High-stakes, anxiety-inducing, self-concept unconsidered	Low-stakes, dialogic, strengths-based interpersonal communication training ensures psychologically safe assessment.

Take note. Features of the conventional approach were obtained from assessment literature (Shohamy, 2001; Stiggins, 2005) and baseline practice analysis (Cycle 1 FGDs). The theoretical framework and program implementation data are used to determine the characteristics of the SCPA framework.

The ZPD performs better as an assessment unit than traditional individual test scores, which is the most theoretically intriguing discovery. The resulting data profiles were significantly richer, more distinctive, and more pedagogically actionable when coordinators were instructed to record both children's unaided language performance and their reactivity to various forms of mediation. This is consistent with the claim made by Lantolf and Thorne (2006) that sociocultural theory requires a processual rather than a productivist explanation of language evaluation. Natividad (2024) makes a similar argument, which the SCPA Framework operationalizes at the assessment level: the benefit of inclusive education is in creating environments for equity-oriented learning.

Implementation difficulties are just as important from a theoretical standpoint. The frequency and depth of individual DA protocol execution were limited by the lack of specialist shadow teachers, which meant that two regular instructors oversaw all CSN alongside their peers who were normally developing. This supports the finding by Liu et al. (2024) that the availability of resources is a crucial mediating factor in the quality of inclusive education. The findings of Sari et al. (2022) and Efendi et al. (2022) that Indonesian inclusive education implementation faces ongoing structural challenges in companion teacher availability, adaptive resources, and parental engagement are supported by the limited adaptive assessment facilities and inconsistent parental follow-through at home documented in both coordinator interviews and parent focus group discussions. These difficulties, however, do not render the SCPA Framework incorrect; rather, they outline the systemic circumstances that necessitate governmental investment for its complete implementation.

Consequences for Indonesian Teacher Education and Language Assessment Policy

National and institutional language assessment policies are impacted by the SCPA Framework. The Asesmen Nasional (2021) and Kurikulum Merdeka (2022) initiatives in Indonesia both show that policies are shifting away from single-format standardized testing and toward more formative, diagnostic, and contextualized approaches. For CSN in inclusive settings a population for which generic assessment reform is required but insufficient without the specific theoretical architecture provided by sociocultural, ecological, psychological, and UDL perspectives the SCPA Framework offers a theoretically sound and empirically tested model for operationalizing these policy intentions.

These results point to a basic curriculum gap in teacher education: pre-service language teacher education in Indonesia has traditionally treated assessment as a technical skill rather than as a theoretically grounded practice based on developmental psychology, sociocultural theory, and ecological thinking. The effectiveness of the SCPA Framework in improving the assessment knowledge of non-specialist coordinators by an average of 43.72% during a three-week program shows that theoretically sound assessment instruction is both practical and desperately needed in undergraduate and graduate teacher education programs. This conclusion is corroborated by Forlin's (2018) thorough analysis, which shows that ongoing professional development initiatives that combine supervised practice with group reflection clearly enhance teachers' ability to manage diverse classrooms.

Conclusion

The Sociocultural-Psychological-Academic (SCPA) Assessment Framework is a novel, theoretically based approach for evaluating language learning in inclusive early childhood education that has been suggested and empirically confirmed in this article. When applied to CSN in inclusive kindergarten settings, the SCPA Framework offers a principled response to the theoretical shortcomings of traditional, deficit-oriented language assessment paradigms by combining

Vygotsky's sociocultural theory, Bronfenbrenner's ecological systems model, Feuerstein's Mediated Learning Experience theory, and Universal Design for Learning.

Research from TK Ar-Razzaq Al-Mughni's participatory action research program shows that SCPA Framework-aligned training and practice resulted in a mean knowledge gain of 43.72% among field coordinators across sociocultural (46.55%), psychological (50.00%), and academic (35.38%) assessment dimensions; qualitative changes from deficit attribution to potential oriented, modifiability-focused assessment thinking; institutional capacity innovations such as CSN distribution mapping, multidisciplinary assessment collaboration with UPTD LDPI, and community assessment literacy dissemination via digital media; and a UDL aligned assistive technology ensemble that increases the range of accessible assessment modalities for CSN with a variety of disability profiles.

There are three main implications to these findings. In terms of assessment theory, they show that the sociocultural, ecological, psychological, and academic aspects of language assessment are mutually constitutive parts of an integrated framework; all four are necessary at the same time for a sufficient language assessment for CSN. In terms of assessment practice, they demonstrate that parents and non-specialist educators can become efficient SCPA-aligned assessment agents with theoretically informed training, distributing assessment responsibility throughout the ecological system that influences CSN language development. They give Indonesia's inclusive education reform agenda a theoretically sound and empirically supported assessment model for assessment policy that may guide inter-institutional collaboration protocols, teacher education programs, and curriculum standards.

Future studies should look at the cross-contextual validity of the framework in various Indonesian and ASEAN inclusive education settings, the longitudinal reliability of assessment data generated by the SCPA Framework in tracking CSN language development over academic years, the relative efficacy of SCPA-aligned versus conventional language assessment data in informing instructional decision-making, and the design of digital SCPA-aligned assessment platforms that integrate AR, interactive boards, and audio-assist features into a coherent, teacher-usable assessment system.

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