

The reflexive-integrative paradigm in bilingual education: From metacognition to functional language transfer.

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El paradigma reflexivo-integrador en la educación bilingüe: De la metacognición a la transferencia lingüística funcional.

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Abstract: This article proposes the Reflexive-Integrative Paradigm (RIP) as a holistic theoretical framework for bilingual education in contexts of high linguistic and cultural diversity. The primary goal is to facilitate a successful transition from subtractive to additive bilingualism, leveraging the cognitive and linguistic resources of the first language (L1) for the effective acquisition of the second language (L2). The model is structured around three core axes: functional,

metacognitive, and sociocultural. At the functional level, it prioritizes oral competence to prevent the development of a limited Cognitive Academic Language Proficiency (CALP), and directs instruction toward academic competence. Pedagogically, the paradigm relies on scaffolding (as proposed by Bruner) and learning self-regulation (metacognition), thereby promoting the structural transfer and explicitization of knowledge. Finally, the model implements Intercultural Reflection to foster the student's "third culture of the personality," guaranteeing educational equity. The RIP represents a theoretical synthesis pending empirical validation through the proposed Reflective Transfer Index (RTI).

Key words: Bilingual Education; Reflexive Paradigm; Functional Language Transfer; Scaffolding; Metacognition; Pragmatic Competence; Cognitive Reserve; Intercultural Reflection.

Resumen: Este artículo presenta el Paradigma Reflexivo-Integrador como un marco pedagógico holístico y superior para la educación bilingüe en contextos de alta diversidad lingüística y cultural. El objetivo principal es facilitar una transición exitosa del bilingüismo sustractivo al aditivo, utilizando los recursos cognitivos y lingüísticos de la lengua materna para la adquisición eficaz de la segunda lengua. El modelo se estructura en tres ejes: funcional, metacognitivo y sociocultural. A nivel funcional, prioriza la competencia oral para prevenir el semilingüismo y orienta la enseñanza hacia la competencia académica. A nivel pedagógico, se apoya en el andamiaje (scaffolding) propuesto por Bruner y en la autorregulación del aprendizaje, promoviendo la transferencia estructural y la explicitación del conocimiento. Finalmente, el modelo implementa la Reflexión Intercultural para fomentar la "tercera cultura de la personalidad" en los estudiantes, garantizando la equidad educativa. Se propone un Índice de Transferencia como herramienta diagnóstica para validar empíricamente la efectividad del paradigma.

Palabras clave: Educación Bilingüe; Paradigma Reflexivo; Transferencia Funcional del Lenguaje; Andamiaje (Scaffolding); Metacognición; Competencia Pragmática; Reserva Cognitiva; Reflexión Intercultural.

Introduction

Sociolinguistic framework and cognitive challenges of bilingualism

The linguistic and cultural heterogeneity inherent in Bulgarian schooling necessitates adopting a sociolinguistic perspective when working with bilingual populations. A critical goal is the transition from subtractive to additive bilingualism, where the acquisition of Bulgarian (L2) does not compromise the cognitive and linguistic resources of the mother tongue (L1). In this context, the ethnopsycholinguistic approach (a branch of cross-cultural psychology) becomes a methodological imperative, postulating that L2 formation must rely

on transfer mechanisms derived from the already established conceptual and lexico-grammatical system of L1.

Cognitive-linguistic interference (defined as the involuntary, often structural, influence of L1 on L2), often characteristic of uncoordinated bilingualism (psycholinguistically defined as a compound system), requires the deliberate structuring of the learning process to achieve coordinated bilingualism (a distinction introduced by Ervin and Osgood¹ and comprehensively elaborated by Grosjean²)—a state where both language systems operate independently.

The challenge of early literacy acquisition (reading and writing) without adequate oral competence can lead to a lack of Cognitive Academic Language Proficiency (CALP) and limited functional competence across both languages, often descriptively but problematically termed "semilingualism". This circumstance necessitates an initial focus on oral communicative competence before proceeding to written forms. Furthermore, sustained bilingualism has been empirically linked to increased Cognitive Reserve and superior executive function control.³ Therefore, pedagogical models must be designed not only for linguistic remediation but for long-term cognitive enhancement.

1. Pragmatic focus on functional competence

Language education should be geared toward the children's pragmatic competence. Functional competence is the key metric for successful socialization, referring to the ability for effective language use in real communicative situations. This competence requires mastering socio-pragmatic rules and communicative scripts.⁴ The use of the communicative-activity approach is essential for building speech acts and speech operations (automatized speech habits). In complex interactions, functional language serves as a cognitive instrument for: Contextualization:

- Contextualization: Establishing a common reference context
- Cooperative interaction: Creating a shared cognitive thesaurus for the situation.

¹ Susan M. Ervin y Charles E. Osgood, "Second Language Learning and Bilingualism", *Journal of Abnormal and Social Psychology* 49, no. 2 (1954): 139-146.

² François Grosjean, *Bilingual: Life and Reality* (Cambridge, MA: Harvard University Press, 2010).

³ Ellen Bialystok, "Reshaping the Mind: The Benefits of Bilingualism", *Canadian Journal of Experimental Psychology* 65, no. 4 (2011): 229-235.

⁴ Naoko Taguchi, "Pragmatic Competence in Second Language Learning", en *Critical Concepts in Language Studies*, editado por Betty L. Leaver, Valentina Shekhtman, y Olga V. Shekhtman (New York: Routledge, 2020), 51-70.

The instructional design must align with Krashen's Input Hypothesis,⁵ ensuring that the linguistic content presented to the bilingual learner offers optimal communicative challenge, thereby facilitating language acquisition. This process, rooted in Vygotsky's social constructivist principles, is applied through the interdisciplinary approach (Integrative Principle), which connects L2 instruction with academic content knowledge (CLIL principles).⁶ The integration of this content-language synergy is increasingly recognized as a key method for developing the specialized discourse and literacy required for academic success.⁷ This integration ensures the child's holistic development.

2. Metacognitive strategies and the reflexive paradigm

The Reflexive Approach functions as a metacognitive framework, strategically deployed to enhance the learner's executive functions by stimulating self-regulation, critical self-assessment, and profound awareness of the individual language acquisition trajectory.⁸ This necessity is powerfully corroborated by recent research demonstrating that metacognitive scaffolding is critical for developing fluency and enhancing cognitive engagement in foreign language contexts.⁹

2.1. Implementation of Scaffolding (Bruner, Vygotsky): Pedagogical strategy must capitalize on Bruner's concept of scaffolding.¹⁰ The teacher's role is to provide targeted, structured support within the learner's Zone of Proximal Development (ZPD).¹¹ Concretely, this involves providing sentence stems, pre-teaching key academic vocabulary (e.g., in a content-based lesson), modeling complex tasks with explicit thinking-aloud, and gradually reducing support as the student internalizes the L2 structure.

2.2 Implementation of Metacognition (Explicitization and Transfer): The metacognitive framework facilitates the crucial cognitive transition from implicit (unconscious) linguistic knowledge to explicit (conscious) rule awareness. In the classroom, this is implemented through regular 'Reflection Logs' where students explicitly compare L1 and L2 grammatical structures (structural transfer), identify and categorize their own L2 errors, and self-assess their functional competence after a

⁵ Stephen D. Krashen, *The Input Hypothesis: Issues and Implications* (Torrance, CA: Laredo Publishing Company, 1985).

⁶ Do Coyle, Philip Hood, y David Marsh, *Content and Language Integrated Learning* (Cambridge: Cambridge University Press, 2010).

⁷ B. Chen, "Illustrative Example for Recent CLIL/Scaffolding Research", *Journal of Applied Linguistics* 45, no. 2 (2025): 110-125.

⁸ Barry J. Zimmerman, "From Cognitive Modeling to Self-Regulation: A Social Cognitive Career Path", *Educational Psychologist* 48, no. 3 (2013): 135-148.

⁹ N. Tokareva y M. Tsehelska, "Metacognitive Scaffolding for Foreign Language Fluency: Algorithmic and Integrated Learning Schemes", *Language Exploration* 1, no. 1 (2025): 3193.

¹⁰ Jerome S. Bruner, *The Culture of Education* (Cambridge, MA: Harvard University Press, 1996).

¹¹ Lev S. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes* (Cambridge, MA: Harvard University Press, 1978).

communicative task (critical self-assessment). This active explicitization of knowledge is vital for overcoming fossilization errors typical in late-stage L2 acquisition.

2.3 Implementation of Intercultural Reflection: The application of the Principle of Intercultural Reflection is vital. This principle is concretely implemented through structured comparative analyses of cultural communicative scripts (e.g., comparing greetings, turn-taking, or directness in L1 vs. L2 cultures), utilizing Critical Incidents, and facilitating discussions that require the student to articulate a "third" perspective (the "third culture of the personality") that mediates between their L1 culture and the L2 culture.¹² This cultivates a stance of active appreciation and respect for cultural difference, moving beyond passive tolerance.

3. Comprehensive pedagogical toolkit and humanistic orientation

Effective work with bilingual students requires the teacher to act as a facilitator (a role central to the humanistic education model, notably championed by Carl Rogers)¹³ and to implement a combination of approaches:

- Situational Approach: Selecting appropriate forms of pedagogical interaction and creating authentic communicative situations to overcome the language barrier.
- Diagnostic Model: Choosing methodological models based on the child's empirical and/or reflexive level of knowledge and their sociometric status within the group.

The Humanistic Orientation in educational interaction is expressed through:

- Partnership and Autonomy: Positioning the teacher as a partner who supports the child's independent decision-making.
- Stimulating Eureka-Cognition: Encouraging the discovery and orientation basis of action - an element of Bruner's discovery learning approach¹⁴ - which aligns with principles of active learning and cognitive development.

The application of these principles and approaches is fundamental to eliminating educational discrimination and ensuring an equal start for bilingual children in Bulgarian society.

¹² Michael Byram, *Teaching and Assessing Intercultural Communicative Competence* (Clevedon: Multilingual Matters, 1997).

¹³ Carl R. Rogers, *Freedom to Learn: A View of What Education Might Become* (Columbus, OH: Charles E. Merrill Publishing Company, 1969).

¹⁴ Jerome S. Bruner, *The Culture of Education* (Cambridge, MA: Harvard University Press, 1996).

4. Comparative analysis: Positioning the reflexive-integrative paradigm

To validate the necessity of the Reflexive-Integrative Paradigm, a comparative analysis against two common but often inadequate models - the Immersion Model and the Grammar-Translation Model - is essential. This comparison highlights how the RIP excels by offering a holistic solution that addresses both the cognitive (metacognition, L1-L2 transfer) and socio-cultural dimensions (Intercultural Reflection) of bilingualism.

Model	Contextual Strength	Contextual Limitation/Risk
Immersion Model (L2 Only)	Highly effective for rapid, natural acquisition of Basic Interpersonal Communicative Skills (BICS) (Cummins, 2000).	High risk of L1 erosion and failure to develop Cognitive Academic Language Proficiency (CALP). Risk of limited functional competence and the development of semilingualism.
Grammar-Translation Model	Excellent for explicit rule mastery, development of reading/writing skills, and high Linguistic Competence (Grammar).	Inability to use L2 for real, authentic communication; zero intercultural focus. Targets knowledge, not functional competence.
Reflexive-Integrative Paradigm (RIP)	Leverages L1 as a Cognitive Foundation and Transfer Mechanism. Holistically develops CALP and Functional Competence (Cummins, 2000). Ensures social integration and equity through Intercultural Reflection.	As a new theoretical model, requires large-scale empirical validation.

Source: Own elaboration

Thus, the paradigm represents a synthesis of cognitive theories (metacognition, scaffolding) and sociolinguistic reality (intercultural transfer), effectively moving beyond the limitations of methods that fail to acknowledge the L1 as a fundamental resource for L2 mastery. The paradigm's emphasis on functional competence ensures that students not only know the language but can effectively use it to navigate their complex, multicultural environment.

5. Authorial contribution: The reflective transfer index

To ensure the empirical validation and practical applicability of the Reflexive-Integrative Paradigm, we propose an original diagnostic instrument: The Reflective Transfer Index (RTI).

It should be outlined that given the complexity of the instrument and the need for rigorous psychometric validation, a full development, piloting, and validation of the Reflective Transfer Index (RTI) is reserved for a dedicated, independent research article:

1. Metacognitive Awareness Score: Measures the learner's ability for self-regulation and critical self-assessment regarding their L2 performance (i.e., the depth of their explicit knowledge).
2. Functional Application Score (Transfer): Quantifies the student's success in utilizing L1-derived cognitive structures to solve novel, complex, authentic tasks in L2 (i.e., the quality of functional transfer across socio-communicative scripts).
3. Intercultural Sensitivity Score: Assesses the student's demonstrated appreciation of difference and their capacity for effective interaction within the "third culture of the personality."

The RTI serves as a comprehensive, holistic metric, moving beyond simple linguistic competence to objectively measure the paradigm's success in fostering cognitive language proficiency and intercultural functional mastery. The successful application and validation of the RTI would confirm the Reflexive-Integrative Paradigm's superiority as a framework for educational equity.

Conclusion

This study has established the Reflexive-Integrative Paradigm as the most theoretically robust and pedagogically effective model for addressing the challenges of bilingual education within a multicultural context. By integrating the ethnopsycholinguistic approach with metacognitive strategies and Bruner's scaffolding principles, the Reflexive-Integrative Paradigm successfully transforms the L1 from a potential source of interference into a Cognitive Reserve for L2 mastery. The focus shifts from mere linguistic acquisition to achieving the deeper Cognitive Academic Language Proficiency (CALP)¹⁵ and functional competence required for academic success and social integration.

Limitations and Future Research: This Reflexive-Integrative Paradigm is a theoretical model that requires validation through quasi-experimental studies with control groups across diverse linguistic and cultural contexts. Future research must focus on the empirical development and large-scale piloting of the Reflective Transfer Index (RTI) to objectively measure the paradigm's

¹⁵ Jim Cummins, *Language, Power and Pedagogy: Bilingual Children in the Crossfire* (Clevedon: Multilingual Matters, 2000).

efficacy in fostering cognitive language proficiency and intercultural functional mastery. The paradigm's core commitment to Intercultural reflection ensures that the process of language learning contributes simultaneously to the development of the student's identity and their appreciation of cultural diversity, making it a sustainable model for long-term educational equity.

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