The Use of Individual Methods for Preserving and Developing Children's Speech Characteristics in American-Slavic Families

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Abstract: This article is dedicated to examining individualized methods for preserving and developing children's speech characteristics in American–Slavic families. The growing prevalence of mixed-language households and the risk of heritage-language attrition underscore the relevance of targeted interventions. Drawing on nine recent studies, the paper analyzes four key domains: heritage-language assessment tools, shared-syntax priming, home-based socialization strategies, and school-based immersion models. Novelty lies in synthesizing clinical linguistics, psycholinguistic priming, ethnographic family practices, and policy analysis into a unified framework. Within the work, it describes Sentence-Repetition-Task scoring schemas, investigates structural priming data, and explores case studies of "One Parent, One Language" and lullaby-based sessions. Particular attention is paid to how error-type allowances and high-frequency constructions can reinforce Slavic speech development. The study sets out to identify best practices for dual-language vitality and to propose a hybrid model adaptable to Ukrainian and American schools. Methods include comparative analysis, source synthesis, and case-study evaluation. In conclusion, it outlines an integrated model for assessment, curriculum, family engagement, and programme design. This article will benefit speech-language pathologists, bilingual educators, and policymakers.

Keywords: heritage language, bilingual assessment, structural priming, OPOL, immersion programme, cross-linguistic influence, Slavic speech, scoring schema, family language policy, speech pathology.

Introduction: The capacity to navigate two or more

languages fluently is both a cognitive asset and a cultural necessity for children raised in American–Slavic families. As these families negotiate heritage-language preservation alongside English acquisition, children frequently exhibit uneven proficiency: deep lexical and morphosyntactic roots in Slavic tongues may erode under schooling pressures, while English fluency advances rapidly. Maintaining Slavic speech characteristics—such as case-marking endings, aspectual verb pairs, and Slavic-specific prosody—supports not only linguistic diversity but also the emotional bonds and cultural identity transmitted across generations. Yet, best practices for individualized support remain dispersed across disparate disciplines, from speech-language pathology to bilingual education policy.

This article synthesizes nine pivotal studies to address that gap, aiming to articulate an integrated framework for practitioners. Specifically, it pursues three objectives:

1) to evaluate heritage-language assessment and scoring methodologies that distinguish transfer phenomena from genuine delays;

2) to analyze psycholinguistic findings on shared syntactic representations and construction-level priming to guide curriculum design;

3) to survey home and school strategies—from OPOL routines to dual-immersion models—that bolster daily heritage-language use.

The novelty of this work lies in bridging granular clinical tools, experimental priming data, family ethnographies, and U.S. school-policy archetypes into actionable recommendations. By doing so, here is offered a cohesive roadmap for speech-language pathologists, bilingual educators, and policymakers committed to sustaining Slavic speech vitality alongside robust English development.

MATERIALS AND METHODS

I.O. Rose [6] in her work examined family language policies and vocabulary trajectories across ages. K. Muszyńska et al. [5] compared bilingual and monolingual milestone attainment. K. Byers-Heinlein and C. Lew-Williams [1] reviewed early-years bilingual science. L.M. Cycyk et al. [2] offered cultural and linguistic adaptations of early interventions. O. Shevchuk-Kliuzheva [7] described daily bilingual practices in Ukrainian communities. S. Lally and colleagues [3] proposed a novel scoring schema for Polish-English SRep tasks. M. Węsierska et al. [8] investigated crosslinguistic structural priming. U. Markowska-Manista, D. Zakrzewska-Olędzka, and K. Sawicki [4] studied home-based strategies in Polish–African families. N. Zaytseva [9] analyzed U.S. bilingual education program archetypes for policy lessons.

Methods applied include comparative analysis of scoring metrics and priming effect sizes, synthesis of ethnographic case data, structural-semantic curriculum analysis, and policy review.

RESULTS

In this analytical synthesis of nine key studies on individualized approaches to preserving and developing children's speech in American–Slavic families, four thematic strands emerged:

1) Pronunciation Training for /r/, /s/, and /ʃ/

2) Heritage-Language Strategies for Russian

3) language assessment tools and scoring schemas;

4) shared syntactic representations and cross-linguistic influence;

5) home-based multilingual socialization strategies;

6) institutional supports and immersion programmes.

English realizations of /r/, /s/, and /ʃ/ differ in articulation and acoustic profile from their Slavic equivalents. English /r/ typically surfaces as a retroflex or bunched approximant, whereas Slavic /r/ functions as a trill. English /s/ and /ʃ/ display spectral peaks that do not align with Slavic fricative targets. Transfer of these English patterns may be judged by clinicians as deviation in Slavic speech. A structured exercise protocol comprises:

1) Trill Reinforcement – mirror-guided tongue tip vibration drills (e.g. repeated /r/ trills on "prra-prra")

2) Spectral Feedback Tasks – visual spectrogram comparison of /s/ and /ʃ/ productions against native Slavic norms

3) Controlled Reading – word-list drills alternating alveolar and postalveolar fricatives in carrier phrases

Production of ten consecutive trilled [r] tokens at conversational rate, spectral centroid values for /s/ and /ʃ/ within two standard deviations of Slavic reference data, and clinician-rated naturalness ≥4 on a 5-point scale.

In Ukraine, 29.6 percent of the population reported Russian as their native tongue in the 2001 census [10], and surveys indicate extensive use of Russian alongside Ukrainian in urban and mixed-language households. Nationwide data show that 34 percent of residents speak Russian in personal settings, with roughly 19 percent using both Ukrainian and Russian regularly [11]. In Russian-speaking or mixed-language families, early exposure shapes phonological and narrative skills in both languages.

Drawing on heritage-Russian research, a combined approach employs:

1. Narrative Sampling – eliciting spontaneous storytelling to evaluate morphosyntactic accuracy and lexical richness in Russian.

2. Contrastive Phoneme Drills – controlled repetition of Russian phonemes that diverge from Ukrainian (e.g. palatalized consonants, unstressed vowel reduction) with visual feedback.

3. Translanguaging Tasks – guided alternation between Russian and Ukrainian within single activities (for example, bilingual picture description) to reinforce cross-language mapping.

At least eight error-free narrative clauses in Russian for children aged 5–8, phoneme accuracy rates above 90 percent, and clinician ratings of functional communicative fluency at level 4 or higher on a 5-point scale [13].

Although no single experimental protocol unifies these investigations, together they illuminate best practices for maintaining heritage-language features while fostering dominant-language proficiency.

Lally et al. demonstrated that Sentence Repetition Tasks (SRep) can reliably capture morphosyntactic competence in Polish–English bilingual children when paired with a detailed word-by-word scoring grid. In their feasibility study (N = 27), collaborative scoring by monolingual English SLTs and Polish teachers (Scoring A) correlated at r = 0.956 with expert linguist scoring (Scoring B), with 66% of TD children and 17% of suspected DLD children reaching ≥ 90% correct on Polish SRep (see Table 1) [3].

Table 1- Descriptive statistics (mean, standard deviations, minima and maxima) for Scoring A and Scoring B in both groups [3]

Group and score	TD Scoring A	TD Scoring B	Suspected DLD Scoring A	Suspected DLD Scoring B
Mean	46.33	42.53	28.42	17.25
SD	13.54	14.75	19.74	16.37
Minimum score	18	17	2	4

Maximum score	66	66	60	55

Critically, expert-informed allowances for typical cross-linguistic errors—such as inflectional suffix substitutions and aspectual shifts—prevented false positives in DLD screening. This approach underscores the value of granular error analysis for preserving heritage-language morphology: by marking each word cell for accuracy and error type, clinicians can monitor the retention of Polish-specific inflection patterns without over-penalizing common transfer phenomena.

Wesierska et al. applied structural priming to 96 Polish–English bilinguals (ages 5–11) to probe the extent of shared syntactic representations. Although bidirectional priming failed for the fully overlapping attributive alternation (prenominal ADJ + N ↔ postnominal RC), it succeeded robustly for possessive constructions—despite their divergent surface syntax—when thematic-role order (possessor–possessum) aligned. Moreover, within-language priming reached 36% in English and 20% in Polish versus only 11% cross-language, indicating that entrenchment and frequency modulate whether a construction becomes shared across grammars [8].

Table 2 - Priming Effect Sizes (% change in target structure use) by Construction Type and Direction [8]

Target Language	Condition	Responses		
		Prenominal Adjective (AN)	Postnominal Relative Clause (RC)	Other
English	Baseline	223 (78%)	6 (2%)	57 (20%)
	AN prime	1091 (95%)	46 (4%)	15 (1%)
	RC prime	1063 (92%)	67 (6%)	22 (2%)
Polish	Baseline	166 (60%)	12 (4%)	100 (36%)
	AN prime	1017 (88%)	36 (3%)	99 (9%)
	RC prime	959 (83%)	65 (6%)	128 (11%)

For heritage-speech development, these findings suggest that curricula should target high-frequency, thematically cohesive constructions (e.g. possessives, negation patterns) in heritage-language lessons to build durable cross-language links, while more complex structures may require separate, language-specific drills.

Markowska-Manista, Zakrzewska-Olędzka and Sawicki surveyed 24 transnational Polish–African families (17 children) in Warsaw to identify family strategies for heritage-speech maintenance. Common approaches included the OPOL (One Parent One Language) model—where mothers spoke Polish and fathers used English or

Arabic—and periodic "lullaby-and-story" sessions in heritage dialects (Tigrinya, Sango). Yet only half of children retained basic conversational fluency in grandparents' mother tongues via Skype, highlighting that limited lexical domains (e.g. "I sing lullabies in Sango") are insufficient for robust retention [4].

Zaytseva's analysis reveals four principal bilingual programme archetypes operating across U.S. school districts, each shaped by distinct funding streams, instructional models, and target populations [9]. Two-way immersion programmes, most common in well-resourced districts of California and New York, split classroom time equally between English and a partner language. In these settings, classes are composed of roughly fifty percent English-dominant students and fifty percent native speakers of the partner language, allowing peers to support each other's biliteracy development. By contrast, transitional bilingual programmes – which provide mother-tongue instruction for up to three years before shifting students entirely into English-only classrooms – often appear in mid-sized districts with tighter budgets; they accelerate English oral proficiency yet frequently lead to attrition of heritage-language skills.

Dual-language immersion programmes, where instruction alternates between languages each half-day under the guidance of certified bilingual teachers (often recruited from local immigrant communities), serve both language-majority and language-minority pupils simultaneously and emphasize intercultural competence; however, continuation of these programmes into secondary grades remains uneven. Finally, monolingual "pull-out" ESL support models – prevalent in states such as Nebraska, Arkansas, and Delaware where only English-only programmes receive funding – withdraw English-Learner students from the mainstream classroom for targeted language lessons, a practice that can inadvertently isolate them and disrupt their exposure to grade-level content. Zaytseva underscores that "some states fund only monolingual education programmes, while others fund only bilingual ones. It depends on the decisions of local authorities" [9], and she attributes the wide variation in student outcomes to the fundamentally decentralized nature of U.S. education governance (see Table 3).

Table 3 - U.S. Bilingual Programme Types and Key Characteristics (compiled by the author based on [2-3; 9])

Programme Type	Languages Used (%)	Funding Source	Student Mix	Core Advantage	Main Limitation
Two-Way Immersion	50% English / 50% L2	Local + State (bilingual)	50% majority / 50% minority	Balanced biliteracy; mutual peer support	High cost; need for certified bilingual staff
Transitional Bilingual	100% L1 → transition to English	Local only (limited)	Primarily language-minority	Quick English proficiency	Heritage language losses; short duration
Dual Language Immersion	50% English / 50% L2	Mixed grants; parent fees	Majority and minority together	Cultural pluralism; strong motivation	Variable secondary continuation; teacher gap
Monolingual ESL Pull-Out	100% English	State (English-	Language-minority only	Concentrated English support	Content gaps; social isolation of

		only)			EL students

Despite this heterogeneity, several common threads emerge. In every programme, district and state funding decisions determine whether schools can support certified bilingual teachers, full-day dual-language models, or only limited mother-tongue support. High academic standards are applied uniformly on statewide English assessments, even when instruction occurs predominantly in a second language; this "English-only" federal assessment requirement means that heritage-language gains are often unmeasured.

Moreover, Zaytseva points to the strong correlation between sustained bilingual instruction and students' academic achievement: for example, Hispanic pupils in two-way immersion contexts frequently outperform their peers under pull-out ESL models [9]. Collectively, these findings offer a roadmap for Ukraine's secondary schools: by adapting two-way and dual-immersion features—balanced instructional time, cross-peer scaffolding, intercultural curricula—and by addressing local funding and certification constraints, Ukraine can design bilingual programmes that both raise English proficiency and preserve students' native languages.

DISCUSSION

The preceding synthesis of nine key studies offers a multifaceted picture of how individualized approaches can support the preservation and enhancement of heritage-language speech in American–Slavic families. Across the domains of assessment, syntactic scaffolding, home-based practices, and institutional programmes, several converging insights and pragmatic implications emerge.

First, the work of Lally and colleagues underscores that precise, item-by-item evaluation of heritage-speech features makes it possible both to detect genuine language disorders and to avoid over-flagging typical cross-linguistic transfer errors. By aligning scoring grids with permissible inflectional substitutions and aspectual shifts, their collaborative method yields near-perfect concordance (r = 0.956) with expert linguists—even when raters do not speak Polish themselves [3]. This

model demonstrates that clinicians in mixed-language contexts do not need deep proficiency in every heritage tongue; instead, they require well-designed tools that encode language-specific morphology. Extending this insight, practitioners working with Slavic-language varieties beyond Polish (for example, Ukrainian or Polish) could similarly develop structured scoring schemas that distinguish transfer effects from developmental delays. Doing so would not only safeguard minority-language vitality but also ensure diagnostic equity for bilingual children.

Second, Wesierska et al.'s findings on structural priming reveal that not all grammatical constructions are equally amenable to cross-language transfer. High-frequency, thematically cohesive patterns such as possessive role ordering generated robust bidirectional priming, whereas less ubiquitous alternations—like prenominal adjectives versus postnominal relative clauses—did not. For heritage-speech educators, this suggests a two-tiered curriculum: core lessons focused on recurrent, transferable structures (e.g. possessives, negation, common question formats), combined with targeted, language-specific drills for rarer or more complex constructions that resist cross-linguistic anchoring. In practice, a teacher might introduce the possessive "my brother's book" alongside its Slavic equivalent early and reinforce it through storytelling, whereas relative-clause drills would be reserved for advanced learners and taught exclusively in the heritage language.

Third, home-based socialization strategies play an indispensable complementary role. The case studies from Polish–African families in Warsaw show that OPOL (One Parent, One Language) and periodic "lullaby and story" sessions in heritage dialects build early lexical familiarity but stop short of ensuring full functional fluency. Although projective activities—such as singing Tigrinya lullabies or recounting Sango folktales—anchor cultural identity, they rarely expose children to the full breadth of conversational registers. Families seeking more comprehensive outcomes should therefore scaffold everyday routines with heritage-language

narration (e.g. describing snack preparation, play activities, or family chores). For instance, an American-Slavic household might narrate a cooking process by alternating English instructions ("Now I pour the milk") with its Slavic counterpart, thereby weaving heritage forms into the texture of daily life rather than confining them to ritual contexts.

Finally, the landscape of school-based immersion exposes the limits of access and equity. Zaytseva's four archetypes—from two-way immersion to pull-out ESL—highlight that strategic design and sustained funding are prerequisites for lasting heritage-language maintenance. Two-way immersion programmes, while delivering balanced biliteracy, depend on certified bilingual staff and can be cost-prohibitive; transitional models generate faster English gains at the expense of heritage attrition; pull-out ESL often isolates learners; and dual-immersion faces challenges in secondary continuation. To mitigate these pitfalls, American–Slavic educators and policymakers can advocate for hybrid models that combine in-class heritage-language content across grade levels with after-school Slavic clubs and multilingual co-teaching partnerships. Such a blended design would extend the continuity of heritage instruction beyond elementary grades and diffuse the staffing burden by empowering community heritage-language speakers as volunteer tutors.

Taken together, these strands point to a holistic framework in which (1) granular assessment tools protect both clinical validity and heritage-language integrity; (2) curricular priorities align with constructions naturally primed across grammars; (3) family engagement embeds the heritage language in routine interactions; and (4) institutional design leverages mixed-delivery models for maximal reach. As American–Slavic families negotiate shifting patterns of migration and identity, this integrated approach offers a feasible template: it respects the unique morphosyntax of Slavic tongues, capitalizes on cognitive mechanisms of shared syntax, and situates heritage speech both in the home and in the broader school ecosystem. Future efforts should test such blended models in longitudinal case studies, measuring not only linguistic outcomes but also sociocultural well-being and academic achievement across the lifespan.

CONCLUSION

The synthesis confirms that (1) granular assessment—with word-level scoring grids and expert-informed error tolerances—safeguards heritage inflection without misdiagnosis; (2) structural priming favors high-frequency, thematically cohesive constructions (e.g., possessives) as dual-language anchors, while rarer forms require targeted drills; (3) home socialization benefits from embedding heritage speech into daily routines beyond ritual storytelling, and (4) school programmes must blend two-way immersion principles with community partnerships to sustain Slavic instruction into secondary grades. By meeting three tasks, it presented an integrated model—spanning assessment, curriculum design, family engagement, and policy adaptation—that practitioners and policymakers can tailor to American–Slavic contexts and to multicultural educational reforms in Ukraine.

REFERENCES

Byers-Heinlein, K., & Lew-Williams, C. (2013). Bilingualism in the early years: What the science says. Learning Landscapes, 7(1), 95–112. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6168212

Cycyk, L. M., De Anda, S., Moore, H., & Huerta, L. (2021). Cultural and linguistic adaptations of early language interventions: Recommendations for advancing research and practice. American Journal of Speech-Language Pathology, 30(3), 1224–1246. https://doi.org/10.1044/2020_AJSLP-20-00101

Lally, S., Banasik-Jemielniak, N., Haman, E., & Antonijević, S. (2025). Language assessment of Polish-English bilingual children by speech and language therapists who do not speak Polish: A feasibility study of a novel scoring schema for Sentence-Repetition-Tasks. International Journal of Language & Communication Disorders, 60(2), e70005. https://doi.org/10.1111/1460-6984.70005

Markowska-Manista, U., Zakrzewska-Olędzka, D., & Sawicki, K. (2020). Multilingualism in the upbringing and education of children in multinational families: Case study from Poland. KnE Social Sciences, 4(2). https://doi.org/10.18502/kss.v4i2.6310

Muszyńska, K., Krajewski, G., Dynak, A., et al. (2025). Bilingual children reach early language milestones at the same age as monolingual peers. Journal of Child Language. Advance online publication. https://doi.org/10.1017/S0305000924000655

Rose, K., Armon-Lotem, S., & Altman, C. (2023). Family language policy and vocabulary of bilingual children across different ages. Ampersand, 11, 100154. https://doi.org/10.1016/j.amper.2023.100154

Shevchuk-Kliuzheva, O. (2023). Growing up in a Ukrainian bilingual community: Families' daily practices and educational environment. Cognitive Studies | Études cognitives. https://doi.org/10.11649/cs.2860

Węsierska, M., Serratrice, L., Cieplińska, V., & Messenger, K. (2025). Investigating crosslinguistic representations in Polish–English bilingual children: Evidence from structural priming. Bilingualism: Language and Cognition, 28(1), 75–89. https://doi.org/10.1017/S1366728924000099

Zaytseva, N. (2022). Ukraine's use of the positive experience of the United States in forming the content of bilingual education in secondary schools. Viae Educationis, 1(2), 17–22.

State Statistics Committee of Ukraine. (2001). Results of the 2001 Ukrainian census. Retrieved May 29, 2025, from http://2001.ukrcensus.gov.ua/eng/results/general/

Кулик, В. (2023). Мова та ідентичність в Україні на кінець 2022-го. Zbruč. https://zbruc.eu/node/114247

Rodina, Y., Bogoyavlenskaya, A., Mitrofanova, N., & Westergaard, M. (2023). Russian heritage language development in narrative contexts: Evidence from pre- and primary-school children in Norway, Germany, and the UK. Frontiers in Psychology, 14, Article 1101995. https://doi.org/10.3389/fpsyg.2023.1101995