Mapping the Characteristics and Trajectories of Language Scaffolding in Arabic as a Foreign Language: A Systematic Review

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Abstract

Grounded in Vygotsky's sociocultural theory, Language Scaffolding Skills (LSS), which mediate learning within the Zone of Proximal Development (ZPD), are essential for foreign-language acquisition. Although LSS has been extensively investigated in English as a Foreign Language (EFL), little is known about its distinctive features, applications, and effects in Arabic as a Foreign Language (AFL), particularly given Arabic's linguistic complexity and cultural demands. This systematic literature review (SLR) addresses this gap by mapping the historical foundations, contemporary characteristics, and emerging research needs of LSS in AFL. The PRISMA protocol ensured methodological rigor, and NVivo was used for qualitative data analysis. From an initial pool of 1,724 records, a final sample of 21 empirical studies (2015–2025) was identified from international databases. The findings indicate that LSS in AFL is most frequently manifested through Constructive Feedback (CF) and the promotion of Increased Student Autonomy (ISA), primarily within productive skills (writing and speaking). Receptive skills (reading and listening) remain significantly under-explored. This SLR proposes a contextualized typology of LSS in AFL and outlines a critical agenda for future research, emphasizing the need for AI-based scaffolding and the integration of 21st-century competencies.

Keywords: LSS; AFL; Systematic Review; Learner Autonomy; Constructive Feedback; Digital Language Learning.

Introduction

Scaffolding in 21st-century pedagogy is recognized as an effective model for language learning and acquisition.[1] Grounded in sociocultural theory, this approach emphasizes social interaction between teachers and students, as well as among students themselves, as the basis for developing linguistic competence.[2] However, in the context of Arabic as a Foreign Language (AFL), teachers and learners often face difficulties in establishing interactive and reciprocal communication. These challenges include students' limited understanding of cultural cues, difficulties in responding to open-ended questions, and hesitation in using vocabulary that is rarely encountered outside the classroom. In addition, technology-based learning, such as online classes, often restricts opportunities for direct feedback on pronunciation errors, thereby reducing students' access to immediate corrective scaffolding. Linguistic complexity, cultural distance, and limited authentic interaction make scaffolding an essential bridge for learners and teachers to build mutual understanding through supportive and meaningful exchanges.

Previous studies describe scaffolding at two levels: 1) macro scaffolding, situated in curriculum design, and 2) micro scaffolding, embedded in moment-to-moment classroom interaction and specific language skills. Research by Gibbons,[3]

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[1] Kim Daniel Vattøy and Siv M. Gamlem, "Teacher–Student Interactions and Feedback in English as a Foreign Language Classrooms," *Cambridge Journal of Education*, 2020, https://doi.org/10.1080/0305764X.2019.1707512

[2] Karina Rose Mahan, "The Comprehending Teacher: Scaffolding in Content and Language Integrated Learning (CLIL)," *Language Learning Journal* 50, no. 1 (2022): 74–88, https://doi.org/10.1080/09571736.2019.1705879.

[3] Pauline Gibbons, *Scaffolding Language, Scaffolding Learning* (Heinemann Portsmouth, NH, 2002).

Walqui,[4] van de Pol et al.,[5] Salminen et al.,[6] Nguyen,[7] and Hermkes et al.[8] consistently demonstrates how these two dimensions interact to guide learners' movement from assisted performance toward independent mastery.

While such frameworks have been widely applied in English as a Foreign Language (EFL) contexts, particularly to enhance comprehension and oral production,[9] their application in AFL remains relatively limited. Recent reviews indicate that studies on scaffolding in AFL are still sparse and largely descriptive, with few examining how scaffolding strategies can be effectively adapted to curriculum design, classroom discourse, or technology-mediated learning. Given the distinct sociocultural and linguistic characteristics of Arabic, this limited empirical exploration leaves educators with insufficient guidance on how to balance learner autonomy with structured instructional support.

Consequently, this study aims to map Language Scaffolding Skills (LSS) in AFL by tracing their historical foundations, current developments, and remaining challenges. It further addresses three key questions: (a) What are the historical foundations of scaffolding research? (b) How is LSS characterized in AFL? and (c) What research gaps remain for future exploration?

This paper argues that theories and research on scaffolding in EFL have influenced patterns in AFL. This shift is primarily driven by two factors: differences in semiotic systems and differences in knowledge-transformation processes, particularly in negotiating meaning, stemming from fundamental distinctions in linguistic structure, culture, and teaching methods across languages.

Research on language scaffolding belongs to a broader field of learning and cognitive development, which is shaped by cultural and social (sociocultural)

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[4] Aída Walqui, "Scaffolding Instruction for English Language Learners: A Conceptual Framework," *International Journal of Bilingual Education and Bilingualism* 9, no. 2 (2006): 159–80, https://doi.org/10.1080/13670050608668639.

[5] Janneke Van de Pol, Neil Mercer, and Monique Volman, "Scaffolding Student Understanding in Small-Group Work: Students' Uptake of Teacher Support in Subsequent Small-Group Interaction," *Journal of the Learning Sciences* 28, no. 2 (2019): 206–39; Janneke van de Pol, Monique Volman, and Jos Beishuizen, "Scaffolding in Teacher-Student Interaction: A Decade of Research," *Educational Psychology Review* 22, no. 3 (2010): 271–96, https://doi.org/10.1007/s10648-010-9127-6; Janneke Van de Pol and Ed Elbers, "Scaffolding Student Learning: A Micro-Analysis of Teacher–Student Interaction," *Learning, Culture and Social Interaction* 2, no. 1 (2013): 32–41.

[6] Jenni Salminen et al., "Scaffolding Patterns of Dialogic Exchange in Toddler Classrooms," *Learning, Culture and Social Interaction*, 2021, https://doi.org/10.1016/j.lcsi.2020.100489.

[7] Bui Phu Hung and Loc Tan Nguyen, "Scaffolding Language Learning in the Online Classroom," *New Trends and Applications in Internet of Things (IoT) and Big Data Analytics*, 2022, 109–22.

[8] Rico Hermkes, Hanna Mach, and Gerhard Minnameier, "Interaction-Based Coding of Scaffolding Processes," *Learning and Instruction* 54 (2018): 147–55.

[9] Ruiying Niu, Kailun Lu, and Xiaoye You, "Oral Language Learning in a Foreign Language Context: Constrained or Constructed? A Sociocultural Perspective," *System*, 2018, https://doi.org/10.1016/j.system.2018.02.006.

dimensions.[10] Sociocultural aspects constitute a crucial component of classroom learning interactions, as they foreground the inherently social and interactive processes of learning. Bruner refers to this social and interactive quality as transactional. As an operational and mediating tool, scaffolding is associated with the Zone of Proximal Development (ZPD), which functions as a mechanism for transforming understanding through meaning negotiation, knowledge construction, and the development of alternative perspectives.

Language scaffolding in learning emphasizes collaborative processes, both among teachers and among students.[11] The nature of language, as viewed by Vygotsky and Halliday, is inherently social, consisting of conduits and semiotic systems; however, these two dimensions manifest differently across languages. Consequently, language scaffolding, understood through the conduit and semiotic perspectives, became a major topic of debate from 2000 to 2024 across several dimensions, including (1) understanding and contingency,[12] (2) interactional scaffolding,[13] and (3) scaffolding planning, particularly in distance, hybrid, and technology-assisted language learning.

Language comprehension and contingency are essential[14] because they relate to active-productive[15] and active-receptive language proficiency.[16]

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[10] Kate Wilson and Linda Devereux, "Scaffolding Theory: High Challenge, High Support in Academic Language and Learning (ALL) Contexts," *Journal of Academic Language & Learning* 8, no. 3 (2014): 91–100.

[11] Sriwahyuningsih R Saleh, Ibnu Rawandhy N Hula, and Chaterina Putri Doni, "Design and Development of Arabic Language Style for the Needs of Beginner-Level Speaking Proficiency Materials," *Arabiyatuna: Jurnal Bahasa Arab* 9, no. 1 (2025): 205–26, https://doi.org/10.29240/jba.v9i1.11618.

[12] Maren Aukerman, "Rereading Comprehension Pedagogies: Toward a Dialogic Teaching Ethic That Honors Student Sensemaking," *Dialogic Pedagogy: A Journal for Studies of Dialogic Education* 1 (2013); L van Lier, *The Ecology and Semiotics of Language Learning: A Sociocultural Perspective* (Springer, 2004), https://doi.org/10.1007/1-4020-7912-5_2; N. I. K. Kholifia et al., "Enhancing Arabic Speaking Skills: The Potential of Gamification in Reducing Language Anxiety," *Arabiyatuna: Jurnal Bahasa Arab* 9, no. 1 (2025), https://doi.org/10.29240/jba.v9i1.12217.

[13] Leo Van Lier, *Interaction in the Language Curriculum: Awareness, Autonomy and Authenticity* (Routledge, 2014); van de Pol, Volman, and Beishuizen, "Scaffolding in Teacher-Student Interaction: A Decade of Research."

[14] Dan Reynolds, "Interactional Scaffolding for Reading Comprehension," *Literacy Research: Theory, Method, and Practice* 66, no. 1 (2017): 135–56, https://doi.org/10.1177/2381336917718820.

[15] Hasan Saefuloh and Noza Aflisia, "Konvergensi Separated Dan All in One System Dalam Pembelajaran Bahasa Arab Di Pondok Pesantren Al-Muqaddas Cirebon," *Arabia* 14, no. 1 (July 14, 2022): 17, https://doi.org/10.21043/arabia.v14i1.13581.

[16] Hamidah Hamidah, Noor Amalina Audina, and Mahfuz Rizqi Mubarak, "How Is an Arabic Lecturer's Personality Competence as Expected by Students? An Analysis of Students' Perceptions in Indonesia," *Arabiyatuna : Jurnal Bahasa Arab* 6, no. 2 (November 4, 2022): 399, https://doi.org/10.29240/jba.v6i2.5088.

Therefore, the researchers examined in detail research on language scaffolding in AFL, particularly micro-level or interactional scaffolding. The approach used in language scaffolding involves providing assistance that enables students to develop deeper knowledge, both in terms of scaffolding design (design-in scaffolding) and scaffolding use (point-of-need scaffolding). These concepts operate at the macro level of the curriculum cycle and the micro level of teacher–student interaction. They can be categorized into three forms: (1) scaffolding as a planned support structure over time (e.g., sequences of tasks, projects, or classroom routines), (2) scaffolding as procedures embedded in classroom activities and interactions, and (3) scaffolding as an ongoing collaborative interactional process.[17] Walqui[18] proposes six types of scaffolding for language learners: modeling, bridging, contextualizing, schema building, re-presenting text, and developing metacognition.

This study contributes substantially to the field by providing the first comprehensive systematic mapping of LSS research specifically within the AFL context, thereby addressing a notable gap in the literature. The findings develop a contextualized typology of LSS, showing a shift toward constructive feedback and learner autonomy driven by the unique linguistic challenges of Arabic. To ensure methodological rigor and robust analysis, this study employed the PRISMA protocol.

This paper adopted a qualitative approach, collecting views, opinions, theoretical materials, and previous studies on Language Scaffolding, which are analyzed and synthesized throughout the discussion. Data collection involved the use of the Boolean operator "AND" to address the first and second research questions (RQ1 and RQ2), followed by PRISMA filtering to answer the second research question. The Boolean search string combined descriptors such as "language scaffolding" AND "foreign/second language" AND "Arabic."

The PRISMA protocol was applied to review, search, and analyze studies based on predetermined objectives and research questions.[19] This protocol ensured a systematic and rigorous review of the available literature. Researchers searched and selected studies based on the following criteria: (a) titles related to scaffolding in language learning or acquisition, (b) empirical in nature, and (c)

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[17] P Gibbons, "Scaffolding Academic Language across the Curriculum," *Presentation at American Association for Applied Linguistics, Arlington, VA*, 2003; Gibbons, *Scaffolding Language, Scaffolding Learning.*

[18] Walqui, "Scaffolding Instruction for English Language Learners: A Conceptual Framework."

[19] Simona Galletta et al., "A PRISMA Systematic Review of Greenwashing in the Banking Industry: A Call for Action," *Research in International Business and Finance*, 2024, 102262; Neal R Haddaway et al., "PRISMA2020: An R Package and Shiny App for Producing PRISMA 2020-Compliant Flow Diagrams, with Interactivity for Optimised Digital Transparency and Open Synthesis," *Campbell Systematic Reviews* 18, no. 2 (June 2022): e1230, https://doi.org/https://doi.org/10.1002/cl2.1230.

published in reputable journals. To achieve this, the study followed specific inclusion and exclusion criteria, which are detailed in the following subsections.

This study selected seven repositories as sources of articles published between 2015 and July 2025, namely Scopus, ScienceDirect, Web of Science, SpringerLink, EBSCO (Academic Search Elite and ERIC–Education), the ERIC–Education Collection (ProQuest), and SINTA 2. These repositories were chosen to provide a broader perspective on language scaffolding in language learning and Arabic language acquisition, with attention to macro-level scaffolding (curriculum cycle) and micro-level scaffolding (teacher–student interaction). The inclusion criteria were determined based on aspects of language proficiency, whereas studies focusing solely on linguistic features were excluded.

The screening process began using exclusion criteria derived from bibliometric information (title, abstract, author name, and year of publication). Duplicate papers were removed first. Subsequently, articles were excluded if they did not meet the predefined inclusion criteria, for example, if they were unrelated to the main topic, not published in a scientific journal, or not available in full-text form. This rigorous selection process ensured that the final articles included were highly relevant to the research objectives.

Table 1. Inclusion and exclusion criteria (QR2)

Factor	Inclusion Criteria	Exclusion Criteria
Content/scope	Studies whose titles contain a combination of the descriptors "Arabic" and "Language Scaffolding."	Studies whose titles do not contain the specified combination of descriptors.
Article quality	Articles indexed in Scopus, ScienceDirect, Web of Science, SpringerLink, EBSCO (Academic Search Elite, ERIC-Education), ERIC-Education Collection (ProQuest), and SINTA 2.	Articles published outside the specified databases and national journals ranked below SINTA 2.
Publication type	Scientific articles	Book chapters, reviews, conference proceedings, and other non-article formats.
Method	All research methods.	-
Year	Articles published between 2015 and 2025.	Articles published before the defined research period.

Based on the inclusion and exclusion criteria, the procedure comprised three main stages: identification, screening, and inclusion. In the identification stage, documents were collected using selected keywords, resulting in 1,724 articles. The exclusion criteria were then applied to filter documents based on duplication, publication type, and content relevance, yielding 73 articles for full-text screening. In the final stage, 21 articles were retained for qualitative synthesis and analysis.
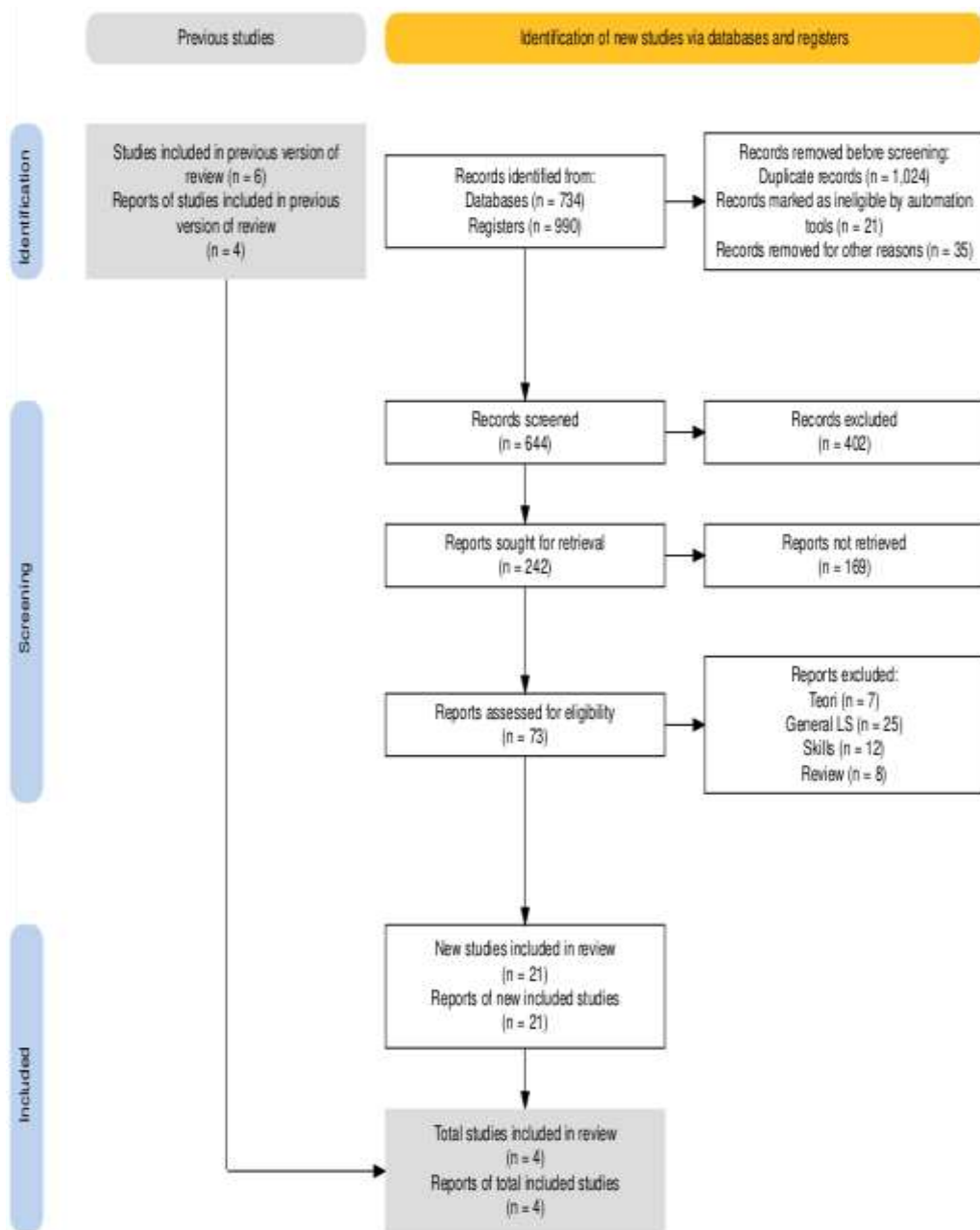
Figure 1: Identification, Screening, and Selection of Arabic Scaffolding Review Papers

Findings and Discussion
The Historical Foundations of Scaffolding Research

Language scaffolding emerged and developed early, beginning in 1978 and continuing through the 1990s.[20] During this period, Vygotsky's ideas were adopted, expanded, and applied in various educational contexts, initially through the lens of sociocultural theory.[21] Although Vygotsky never used the term *scaffolding*, his ideas were later interpreted by Wood, Bruner, and Ross as a form of adult assistance that provides structured support to children until they are able to complete tasks independently.[22]

In the 1980s, the expansion of Vygotskian theory gave rise to several key perspectives. These included: (a) Social Interaction Theory,[23] which views first language acquisition as a process facilitated through interaction with more capable adults; and (b) the development of the Zone of Proximal Development (ZPD) within broader language communities.[24] While Vygotsky introduced the ZPD, early discussions often remained limited to individual learning processes, influenced more by Piagetian developmental views than by Vygotsky's sociocultural orientation.

Vygotsky's core principles, cultural and social mediation in learning and cognitive development, continued to evolve throughout the 1990s. This period saw wider applications of scaffolding across diverse contexts, including: (a)

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[20] Nancy Boblett, "Scaffolding: Defining the Metaphor," *Studies in Applied Linguistics and TESOL* 12, no. 2 (2012).

[21] Karim Shabani, "Applications of Vygotsky's Sociocultural Approach for Teachers' Professional Development," *Cogent Education* 3, no. 1 (2016): 1252177; Mason A. Wirtz et al., "Sociolinguistic Competence and Varietal Repertoires in a Second Language: A Study on Addressee-Dependent Varietal Behavior Using Virtual Reality," *Modern Language Journal*, 2024, 385–411, https://doi.org/10.1111/modl.12918.

[22] David Wood, Jerome S Bruner, and Gail Ross, "The Role of Tutoring in Problem Solving," *Journal of Child Psychology and Psychiatry* 17, no. 2 (1976): 89–100; Talip Gonulal and Shawn Loewen, "Scaffolding Technique," *The TESOL Encyclopedia of English Language Teaching*, no. January (2018): 1–5, https://doi.org/10.1002/9781118784235.eelt0180; J Bruner, "Jerome Bruner and Constructivism," *Learning Theories for Early Years Practice*, 2021, 87.

[23] Olga Vasileva and Natalia Balyasnikova, "(Re) Introducing Vygotsky's Thought: From Historical Overview to Contemporary Psychology," *Frontiers in Psychology* 10 (2019): 411651; L Vygotsky and M Cole, "Lev Vygotsky: Learning and Social Constructivism," *Learning Theories for Early Years Practice. UK: SAGE Publications Inc*, 2018, 68–73; Irena Stojković and Marija Jelić, "Theory of Lev Vygotsky as a Framework for Inclusive Education Research," *Approaches and Models in Special Education and Rehabilitation–Thematic Collection of International Importance*, 2020, 61–72.

[24] I Wayan Lasmawan and I Wayan Budiarta, "Vygotsky's Zone of Proximal Development and the Students' Progress in Learning (A Heutagogcal Bibliographical Review)," *JPI (Jurnal Pendidikan Indonesia)* 9, no. 4 (2020): 545–52; Barohny Eun, "The Zone of Proximal Development as an Overarching Concept: A Framework for Synthesizing Vygotsky's Theories," *Educational Philosophy and Theory* 51, no. 1 (2019): 18–30.

bilingual classrooms and foreign language learning;[25] (b) the use of scaffolding to support second language learners' comprehension of academic content;[26] (c) collaborative learning and peer interaction, highlighting scaffolding's role in cooperation and co-construction of knowledge;[27] and (d) structured verbal interaction as a means of supporting both linguistic and cognitive growth.[28]

Overall, the development of scaffolding from the 1970s through the late 1990s reflects a shift from a purely theoretical construct to a widely applied pedagogical strategy. Its use became increasingly recognized across contexts ranging from first language acquisition to second and foreign language learning in bilingual settings.

Entering the second period, scaffolding research evolved alongside 21st-century language learning trends.[29] From 2000 to 2024, the concept expanded from classical second language learning to technology-enhanced and interdisciplinary approaches.[30] Early studies in this period identified several emerging characteristics of scaffolding, including: (a) its role as a social-interactional mechanism in second language learning;[31] (b) scaffolding as a response to learners' emotional needs, engagement, and motivation;[32] (c) its

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[25] Owen F Boyle and Suzanne F Peregoy, "Literacy Scaffolds: Strategies for First-and Second-Language Readers and Writers," *The Reading Teacher* 44, no. 3 (1990): 194–200; Suzanne F Peregoy and Owen F Boyle, "Multiple Embedded Scaffolds: Support for English Speakers in a Two-Way Spanish Immersion Kindergarten," *Bilingual Research Journal* 23, no. 2–3 (1999): 135–46; Nancy H Hornberger, "Creating Successful Learning Contexts for Bilingual Literacy," *Teachers College Record* 92, no. 2 (1990): 212–29.

[26] Laura R Roehler and Danise J Cantlon, "Scaffolding: A Powerful Tool in Social Constructivist Classrooms," *Scaffolding Student Learning: Instructional Approaches and Issues* 1 (1997): 17–30; MarÃa de la Luz Reyes and Linda A Molner, "Instructional Strategies for Second-Language Learners in the Content Areas," *Journal of Reading* 35, no. 2 (1991): 96–103; Peregoy and Boyle, "Multiple Embedded Scaffolds: Support for English Speakers in a Two-Way Spanish Immersion Kindergarten."

[27] Alison King, Anne Staffieri, and Anne Adelgais, "Mutual Peer Tutoring: Effects of Structuring Tutorial Interaction to Scaffold Peer Learning.," *Journal of Educational Psychology* 90, no. 1 (1998): 134; Roehler and Cantlon, "Scaffolding: A Powerful Tool in Social Constructivist Classrooms."

[28] Angela Hobsbaum, Sandra Peters, and Kathy Sylva, "Scaffolding in Reading Recovery," *Oxford Review of Education* 22, no. 1 (1996): 17–35; Marta Antón and Frederick DiCamilla, "Socio-Cognitive Functions of L1 Collaborative Interaction in the L2 Classroom," *Canadian Modern Language Review* 54, no. 3 (1998): 314–42.

[29] Carol A Chapelle and Volker Hegelheimer, "The Language Teacher in the 21st Century," in *New Perspectives on CALL for Second Language Classrooms* (Routledge, 2013), 299–316.

[30] Tzu Chiang Lin et al., "A Co-Word Analysis of Selected Science Education Literature: Identifying Research Trends of Scaffolding in Two Decades (2000–2019)," *Frontiers in Psychology* 13, no. February (2022): 1–14, https://doi.org/10.3389/fpsyg.2022.844425.

[31] James P Lantolf, "Second Language Learning as a Mediated Process," *Language Teaching* 33, no. 2 (2000): 79–96; Carol Read, "Scaffolding Children's Talk and Learning," *Current Trends and Future Directions in ELT*, 2006, 1–18.

[32] Debra K Meyer and Julianne C Turner, "Scaffolding Emotions in Classrooms," in *Emotion in Education* (Elsevier, 2007), 243–58; Jerry Rosiek and Ronald A Beghetto, "Emotional

function in strengthening collaborative skills within bilingual learning environments;[33] (d) practical guidance for teachers using scaffolding techniques in mainstream classrooms;[34] and (e) the effectiveness of techniques such as modelling, bridging, and contextualization in supporting second language learners.[35]

In the first phase, spanning 2000 to 2009, research on language scaffolding focused on the application and development of technology in second and foreign language learning. During this period, language scaffolding was viewed as a technique, strategy, and instructional approach used by second language teachers. In addition, language scaffolding was categorized into three episodes: (a) scaffolding 1, understood as a supporting structure embedded in lesson plans and classroom interactions; (b) scaffolding 2, viewed as an implementation procedure within classroom interaction; and (c) scaffolding 3, conceptualized as a continuous interaction. These three episodes of language scaffolding were implemented gradually and systematically.

In the second phase, from 2010 to 2019, scaffolding research expanded through the integration of technology and multimodal approaches.[36] Key findings from this stage included: (a) the use of technology to facilitate scaffolding in language learning,[37] where students' learning needs were supported through digital tools such as educational software and online platforms; (b) dynamic adaptation in teacher–student interaction,[38] as demonstrated in literature reviews highlighting

Scaffolding: The Emotional and Imaginative Dimensions of Teaching and Learning BT - Advances in Teacher Emotion Research: The Impact on Teachers' Lives," ed. Paul A Schutz and Michalinos Zembylas (Boston, MA: Springer US, 2009), 175–94, https://doi.org/10.1007/978-1-4419-0564-2_9; Jerry Rosiek, "Emotional Scaffolding: An Exploration of the Teacher Knowledge at the Intersection of Student Emotion and the Subject Matter," *Journal of Teacher Education* 54, no. 5 (2003): 399–412.

[33] Wendy Cumming-Potvin, Peter Renshaw, and Christina E van Kraayenoord, "Scaffolding and Bilingual Shared Reading Experiences: Promoting Primary School Students' Learning and Development," *The Australian Journal of Language and Literacy* 26, no. 2 (June 2003): 54–68.

[34] Jeniffer Hammond, *Scaffolding : Teaching and Learning in Language and Literacy Education*, *Primary English Teaching Assoc.*, 2001; Gibbons, *Scaffolding Language, Scaffolding Learning*.

[35] Lier, *The Ecology and Semiotics of Language Learning: A Sociocultural Perspective*; Walqui, "Scaffolding Instruction for English Language Learners: A Conceptual Framework."

[36] van de Pol, Volman, and Beishuizen, "Scaffolding in Teacher-Student Interaction: A Decade of Research."

[37] Yi Chin Hsieh, "A Case Study of the Dynamics of Scaffolding among ESL Learners and Online Resources in Collaborative Learning," *Computer Assisted Language Learning* 30, no. 1–2 (2017): 115–32, https://doi.org/10.1080/09588221.2016.1273245; Minchi C Kim and Michael J Hannafin, "Scaffolding Problem Solving in Technology-Enhanced Learning Environments (TELEs): Bridging Research and Theory with Practice," *Computers & Education* 56, no. 2 (2011): 403–17, https://doi.org/https://doi.org/10.1016/j.compedu.2010.08.024; Ajit Narayanan and Rajesh Kumar, "Computer-Aided Scaffolding in Communicative Language Teaching Environments," *CALL-EJ* 20, no. 1 (2019): 19–32.

[38] Sirajo Muhammad Gulubba, A Ahmad, and H R Mustafa, "Scaffolding Language Development and Learning in Teacher-Student Interactions," *International Journal of Recent*

the crucial role of scaffolding in supporting adaptive and responsive exchanges in second language learning; and (c) the development of the concept of problematizing,[39] aimed at encouraging deeper student thinking as a form of support for more complex learning.

The third phase in the second period (2020–2025)[40] focuses on language scaffolding in second and foreign language learning through collaborative and distance learning approaches. Research at this stage includes: (a) language scaffolding in distance learning;[41] (b) scaffolding in online learning environments that facilitate collaboration and social interaction through Web 2.0 tools;[42] and (c)

Technology and Engineering 8, no. 29 (2019): 1035–40; Karen Littleton, "Adaptation and Authority in Scaffolding and Teacher–Student Relationships: Commentary on the Special Issue 'Conceptualising and Grounding Scaffolding in Complex Educational Contexts,'" *Learning, Culture and Social Interaction* 2, no. 1 (2013): 52–55; James R Martin and Shoshana Dreyfus, "Scaffolding Semogenesis: Designing Teacher/Student Interactions for Face-to-Face and Online Learning," in *Meaning Making in Text: Multimodal and Multilingual Functional Perspectives* (Springer, 2015), 265–98; Li Hong et al., "Scaffolding in Teacher-Student Interaction: A Case Study in Two Oral English Classes in China," 2011; Li Danli, "Autonomy in Scaffolding as Learning in Teacher-Student Negotiation of Meaning in a University EFL Classroom," *Chinese Journal of Applied Linguistics* 40, no. 4 (2017): 410–30; Van de Pol and Elbers, "Scaffolding Student Learning: A Micro-Analysis of Teacher–Student Interaction"; Van de Pol, Mercer, and Volman, "Scaffolding Student Understanding in Small-Group Work: Students' Uptake of Teacher Support in Subsequent Small-Group Interaction"; Hermkes, Mach, and Minnameier, "Interaction-Based Coding of Scaffolding Processes."

[39] Mary Jane Curry and Theresa Lillis, "Problematizing English as the Privileged Language of Global Academic Publishing," *Global Academic Publishing: Policies, Practices, and Pedagogies*, 2017, 1–22; Brian J Reiser, "Scaffolding Complex Learning: The Mechanisms of Structuring and Problematizing Student Work," in *Scaffolding* (Psychology Press, 2018), 273–304; Mahboobeh Mortazavi et al., "Learner Engagement with Structuring and Problematizing in Scaffolded Writing Tasks: A Mixed-MethodsMultiple Case Study," *Iranian Journal of Applied Language Studies* 10, no. 1 (2018): 181–204.

[40] Errol Ertugruloglu, Tessa Mearns, and Wilfried Admiraal, "Scaffolding What, Why and How? A Critical Thematic Review Study of Descriptions, Goals, and Means of Language Scaffolding in Bilingual Education Contexts," *Educational Research Review* 40, no. May (2023): 100550, https://doi.org/10.1016/j.edurev.2023.100550; Min Young Doo, Curtis Bonk, and Heeok Heo, "A Meta-Analysis of Scaffolding Effects in Online Learning in Higher Education," *International Review of Research in Open and Distributed Learning* 21, no. 3 (2020): 60–80.

[41] Zhengxia Liu, Jie Hua, and Zixu Zhang, "Scaffolding Instruction in Virtual Language Learning," *Journal of Language Teaching and Research* 13, no. 2 (2022): 386–91; Quang Nhat Nguyen, "Teachers' Scaffolding Strategies in Internet-Based ELT Classes.," *TESL-EJ* 26, no. 1 (2022): n1; Jorge Bacca-Acosta et al., "Scaffolding in Immersive Virtual Reality Environments for Learning English: An Eye Tracking Study," *Educational Technology Research and Development*, 2022, 1–24.

[42] Chen Chen, "Using Scaffolding Materials to Facilitate Autonomous Online Chinese as a Foreign Language Learning: A Study during the COVID-19 Pandemic," *Sage Open* 11, no. 3 (2021): 21582440211040132; Laetitia Monbec, "Scaffolding Content in an Online Content and Language Integrated Learning (CLIL) Module," *International Journal of TESOL Studies* 2, no. 2 (2020): 157–73; Brenda Such, "Scaffolding English Language Learners for Online Collaborative Writing Activities," *Interactive Learning Environments* 29, no. 3 (2021): 473–81; Tawffeek A.S. Mohammed, Blanche Nyingome Assam, and Mustapha Saidi, "The Use of Web 2.0 Tools in the Foreign Language Classroom," *Journal of Educational and Social Research* 10, no. 2 (2020): 177–90,

the use of digital technology in scaffolding, particularly the potential of digital tools to provide personalized feedback and support in second language writing instruction.

Table 2. Periodization of Language Scaffolding Development

Period	Phase I (Year)	Phase II (Year)	Phase III (Year)
I (1970s-1900s)	Sociocultural, interactive, and transactional perspectives	(1980-1989) (a) Social interaction theory; (b) Zone of Proximal Development (ZPD)	(1990-1999) (a) Scaffolding strategies in bilingual and foreign-language classrooms; (b) Scaffolding as support for academic content understanding; (c) Collaborative and interactive learning; (d) Language learning and cognitive development.
II (2000-2025)	(2000-2009) Application and development of technology in second and foreign language learning	(2010-2019) (a) Technology-enhanced scaffolding in language learning; (b) Dynamic adaptation in teacher–student interaction; (c) Introduction of the concept of "problematizing".	(2020-2025) (a) Language scaffolding (LS) in distance learning; (b) LS through virtual collaboration and social interaction; (c) Digital-technology-based LS; (d) Integration with AI tools, multimodal scaffolding, and differentiated instruction.

Based on Table 2, international educational requirements such as those set by the Organization for Economic Co-operation and Development (OECD),

The findings from this review indicate a significant shift in how scaffolding is conceptualized in recent AFL studies, from conventional teacher–student support toward more technology-mediated and learner-centered forms of scaffolding. This shift aligns with global educational frameworks such as those of the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the World Economic Forum (WEF), and the OECD's Future of Education and Skills 2030, all of which emphasize collaboration, intercultural communication, and digital adaptability as essential competencies. These global developments are consistent with the theoretical foundations of LSS, rooted in sociocultural theory, where learning occurs through mediated interaction.

In the AFL context, the data show that constructive feedback (CF) and increased student autonomy (ISA) remain the most frequently applied scaffolding

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https://doi.org/10.36941/jesr-2020-0037; Kshema Jose, "Conversations through Web 2.0 Tools: Nurturing 21st Century Values in the ESL Classroom," *Rupkatha Journal on Interdisciplinary Studies in Humanities* 13, no. 2 (2021): 1–16; Motoko Iseki Christensen, "What Happens Beyond the Classroom: Scaffolding at a Social Network Site.," *Electronic Journal of Foreign Language Teaching* 17, no. 1 (2020).

strategies, particularly in speaking and writing. This pattern reflects Vygotsky's notion of assisted performance gradually evolving into independent learning through guided mediation. However, receptive skills such as reading and listening are still underexplored, indicating the need for more balanced scaffolding research. Therefore, LSS should be understood not only as a pedagogical strategy but also as a mechanism for integrating 21st-century global competencies, namely adaptability, intercultural understanding, and problem-solving, into Arabic language learning.

Characteristics of LSS in AFL

As an implication for Arabic language learning, the researchers propose several characteristics of scaffolding based on the development of language scaffolding theory from the first to the second period described in Section 4.1 above. Table 3 presents the study designs and their findings on LSS in AFL.

Table 3. Study Designs and Findings

Authors	OM	Theory	Method	Skills	F1	F2	F3
Alqaed[43]	N	Mic	Ob	Tr	CK	CF	M
El Azhary[44]	Y	Mic	Ex	W	C	M	CF
Duarte[45]	N	Mic	Ob	S	C	CF	-
Schwartz[46]	N	Mic	Mm	S	C	ISA	-
Bumela[47]	N	Mac	CS	W	ISA	-	-
Amin[48]	N	Mic	Mm	S	C	SI	CK
Azi[49]	N	Mic	CS	W	ISA	T	
Malek[50]	Y	Mac	CS	W	CK	ISA	M

[43] Mai Abdullah Alqaed, "Perceptions on L2 Lexical Collocation Translation with a Focus on English-Arabic," *Journal of Education and Practice* 8, no. 6 (2017): 128–33.

[44] Hanan Elazhary, "A Cognitive Tutor of Arabic Word Root Extraction Using Artificial Word Generation , Scaffolding and Self- Explanation," *IJET* 12, no. 5 (2017): 36–49.

[45] Joana Duarte, "Translanguaging in the Context of Mainstream Multilingual Education," *International Journal of Multilingualism* 0, no. 0 (2018): 1–16, https://doi.org/10.1080/14790718.2018.1512607.

[46] Mila Schwartz and Inas Deeb, "Toward a Better Understanding of the Language Conducive Context: An Ecological Perspective on Children's Progress in the Second Language in Bilingual Preschool," *International Journal of Bilingual Education and Bilingualism* 24, no. 4 (2021): 481–99, https://doi.org/10.1080/13670050.2018.1484424.

[47] Lala Bumela, "Designing 21st Century Language Learning Scenario in Indonesia: A Perspective from Computer-Assisted Language Learning," *IJAS: Indonesian Journal of Arabic Studies* 2, no. 1 (2020): 1, https://doi.org/10.24235/ijas.v2i1.6106.

[48] Tamer Amin and Diala Badreddine, "Teaching Science in Arabic: Diglossia and Discourse Patterns in the Elementary Classroom," *International Journal of Science Education* 42, no. 14 (2020): 2290–2330, https://doi.org/10.1080/09500693.2019.1629039.

[49] Yaseen Azi, "Scaffolding and the Teaching of Writing Within ZPD: Doing Scaffolded Writing (A Short Case Study)," *International Journal of Linguistics* 12, no. 3 (2020): 105, https://doi.org/10.5296/ijl.v12i3.14044.

[50] Myriam Abdel-Malek, "Empowering Arabic Learners to Make Meaning: A Genre-Based Approach," *System*, 2020, https://doi.org/10.1016/j.system.2020.102329.

Muhammed[51]	Y	Mic	Ex	All	ISA	-	-
Muzdalifah[52]	Y	Mic	Mm	All *(Nahwu)*	ISA	CF	-
Hamid[53]	Y	Mic	Mm	W	CF	Fd	M
Basyori[54]	Y	Mic	Mm	S	SI	ISA	CK
Pacheco[55]	N	Mac	SLR	-	SI	CF	-
Alamsyah[56]	N	Mic	Ob	S	C,SI	T	ISA
Ali[57]	N	Mic	Ob	W	C	CF	-
Ali[58]	N	Mic	Ob	W	ISA	CK	-
Sapawi[59]	Y	Mac	Ob	All	M	CK	-
Abazoglu[60]	Y	Mic	Ex	W	CF	ISA	-
Alhamami[61]	Y	Mac	Mm	All	SI	CK	ISA
Christou[62]	N	Mac	SLR	All	Digital	CF	ISA

[51] Tawfeek A.S Mohammed, Blanche Nyingome Assam, and Mustapha Saidi, "The Use of Web 2.0 Tools in the Foreign Language Classroom," *Journal Of Education and Social Research* 10, no. 2 (2020): 177–90, https://doi.org/10.36941/jesr-2020-0037.

[52] Z Muzdalifah, M Khasairi, and ..., "Development of the Arabic Grammar (Nahwu) Textbook Al-Ajurumiyyah Al-Qur'aniyyah Based on the Scaffolding-Structure," … *of Arabic Language* …, 2021.

[53] Mohd Azrul Azlen Abd Hamid, Muhammad Sabri Sahrir, and Khairil Azwar Razali, "A Preference Analysis and Justification of Arabic Written Corrective Feedback among Instructors and Undergraduates," *Indonesian Journal of Applied Linguistics* 10, no. 3 (2021): 697–706, https://doi.org/10.17509/ijal.v10i3.31756.

[54] Ahmad Basyori et al., "The Interactional Features of Billingual Teacher Talk in the Classroom of Arabic as a Foreign Language," *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah* 6, no. 2 (2021): 363–75, https://doi.org/10.24042/tadris.v6i2.10059.

[55] Mark B. Pacheco et al., "Scaffolding Multimodal Composition With Emergent Bilingual Students," *Journal of Literacy Research* 53, no. 2 (2021): 149–73, https://doi.org/10.1177/1086296X211010888.

[56] Zulfian Alamsyah et al., "Bi'ah Lughawiyah of Al-Azhar Arabic Course in The Socio-Cultural Vygotsky," *Asalibuna* 6, no. 02 (2022): 1–18, https://doi.org/10.30762/asalibuna.v6i02.2827.

[57] Sadia Ali, "Locating the Intersection of Generative Artificial Intelligence and Human English Writing Skills: A Comparative Study," *Arab World English Journal* 1, no. 1 (2024): 112–23, https://doi.org/10.24093/awej/chatgpt.7.

[58] Mad Ali et al., "Writing Instruction for Students Using Google Translate with Scaffolding Method to Enhance Arabic Writing Skills" 7, no. 1 (2024).

[59] Mior Syazril Mohamed Sapawi and Nik Mohd Rahimi Nik Yusoff, "Integrating Technology into the Arabic Language Curriculum: A Systematic Review of Trends, Strategies and Cultural Dimensions," *Social Sciences and Humanities Open* 12, no. August (2025), https://doi.org/10.1016/j.ssaho.2025.101974.

[60] Muhammet Abazoglu and Mohammad Issa Alhourani, "The Use of Language Corpora in Teaching Arabic to Turkish Speakers within the Framework of Computational Linguistics," *Social Sciences and Humanities Open* 12, no. June (2025): 101947, https://doi.org/10.1016/j.ssaho.2025.101947.

[61] Munassir Alhamami, "Intention over Motivation: A Holistic Analysis of Psychological Constructs in Arabic as a Foreign Language Learning," *Acta Psychologica* 258, no. April (2025): 105142, https://doi.org/10.1016/j.actpsy.2025.105142.

[62] Eirini Christou, Paraskevi Vassiliou, and Antigoni Parmaxi, "Augmented Reality in Language Learning: A Systematic Literature Review of the State-of-the-Art and Task Design

Di[63]	Y	Mic	Ex	R		CF	ISA	CK

Note:

LS= Language Scaffolding; OM= Outcome Measured; F1= Finding 1; F2= Finding 2; F3= Finding 3; F4= Finding 4; L= Listening; Sp= Speaking; R= Reading; W= Writing; Vo= vocabulary; Tr= Translate; CS= case study; Ob= observational; Ex= experimental; Mm= mixed methods; SLR=systematic literature review; C= contingency; SI= social interaction; CK= cultural knowledge; CF= constructive feedback; T= Task, ISA= increased student autonomy; M= modelling; Fd= Preference for direct; Y= Yes; N= No.

The most significant theoretical contributions from research on LSS in AFL include the contingency-based approach, social interaction, cultural knowledge, constructive feedback, task-based approaches, increased student autonomy, and modeling.
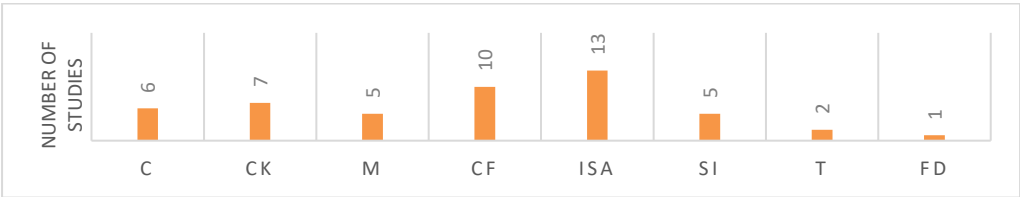

Figure 2. Characteristics of LSS in AFL

Figure 2 shows that the most frequently identified characteristics of LSS in AFL are the provision of constructive feedback (CF) and the fostering of increased student autonomy (ISA). This dominance is not merely a statistical pattern but reflects the unique linguistic demands of AFL. The high frequency of CF (n = 10) demonstrates the need for highly targeted corrective mediation. Unlike languages with simpler grammatical structures, Arabic's morphological system (*Nahwu* and *Sharf*) and its diglossic nature often lead to errors requiring explicit structural feedback.[64] For example, CF played a crucial role in studies involving L1 (Hebrew) learners, where it addressed translational errors arising from the wide linguistic distance and differences in cultural knowledge (CK).[65] This indicates that CF serves as a primary scaffolding mechanism for bridging the gap between learner performance and the complexity of the target language.

The emphasis on ISA (n = 13) is directly related to the need for learners to independently manage the complexity of AFL. Scaffolding strategies that

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Considerations," *Innovation in Language Learning and Teaching* 1229, no. May (2025): 1–28, https://doi.org/10.1080/17501229.2025.2504706.

[63] Xuan Di et al., "Exploring the Impact of Finger-Point Reading: A Scaffolding Strategy for University Students Beginning to Learn Arabic in China," *Forum for Linguistic Studies* 7, no. 5 (2025): 604–15, https://doi.org/10.30564/fls.v7i5.9537.

[64] Muzdalifah, Khasairi, and ..., "Development of the Arabic Grammar (Nahwu) Textbook Al-Ajurumiyyah Al-Qur'aniyyah Based on the Scaffolding-Structure."

[65] Alqaed, "Perceptions on L2 Lexical Collocation Translation with a Focus on English-Arabic."

promote ISA, such as task-based instruction[66] and technology-enhanced learning,[67] are essential for helping students transition from teacher-dependent learning to managing high-stakes productive tasks such as writing and speaking. ISA functions as the long-term goal of scaffolding, enabling learners to internalize complex structures and monitor their own performance without continuous teacher intervention.

Figure 3 indicates that language scaffolding as interaction (n = 15) dominates the field, with many studies aligning LSS with interactive learning processes. Generally, these studies examined children's language skills and their classroom practices.[68]

Less common are studies that treat LSS as a procedure (n = 5), which examine scaffolding at a macro level. Meanwhile, LSS as support is rarely explored in AFL (n = 1). The only study in this category focused on student interaction during the translation of texts from L1 into Arabic.
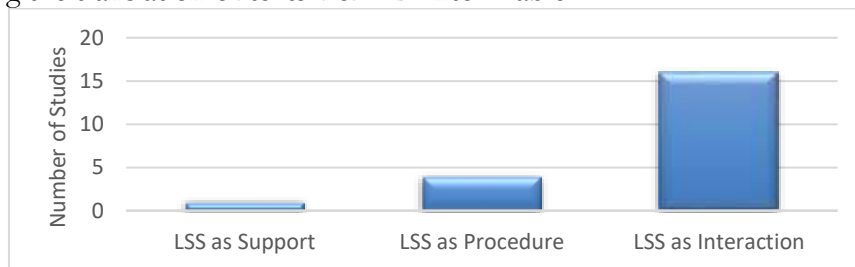

Figure 3. Characteristics of Language Scaffolding Skills

Figure 4 shows five areas of focus across the 21 reviewed studies: listening, speaking, reading, writing, and translation. Writing (n = 13) and speaking (n = 10) emerge as the most prominent skills investigated in LSS research on AFL.

Figure 4. The scope of the study of language scaffolding skills in ALT

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[66] Azi, "Scaffolding and the Teaching of Writing Within ZPD: Doing Scaffolded Writing (A Short Case Study)."

[67] Mohammed, Assam, and Saidi, "The Use of Web 2.0 Tools in the Foreign Language Classroom," 2020.

[68] S Riccardi-Swartz, "American Conservatives and the Allure of Post-Soviet Russian Orthodoxy," *Religions*, 2021; Duarte, "Translanguaging in the Context of Mainstream Multilingual Education."

Writing and speaking are key focuses because researchers view them as complex processes involving multiple components, including grammar, vocabulary, communicative competence, and the ability to organize ideas coherently.

Future Research Directions

Research on LSS in AFL is still limited compared to EFL, especially in areas related to comprehension and language skills. Active–receptive skills, such as reading and listening, remain largely underexplored in scaffolding-related studies, even though reading is an essential competency for 21st-century literacy.[69]

This study highlights the need for further research to establish a shared terminology for effectively discussing LSS in the context of AFL. In particular, more inquiry is needed into the role of technology in LSS for AFL as a necessary supporting condition.

Research examining LSS in specific aspects of language proficiency is strongly recommended, both for macro- and micro-level LSS as forms of interaction in AFL learning. Interactional scaffolding for language skills comprehension is especially relevant for supporting disciplinary literacy.[70] In addition, future studies could investigate how LSS operates in teaching Arabic language proficiency by integrating students' cultural knowledge and expanding their classroom talk as part of constructive feedback and autonomy-building design principles. Therefore, research exploring how LSS contributes to AFL instruction will deepen the understanding of effective teaching for disciplinary literacy.

Conclusion

This systematic review confirms that although the paradigm of LSS is shifting due to virtual and technology-based learning, its core principles remain relevant by adapting to new modalities. The replacement of face-to-face interaction with virtual encounters necessitates greater attention to mediated scaffolding. In the context of LSS in AFL, this shift is reflected in the significant roles of Constructive Feedback (CF) and Increased Student Autonomy (ISA). These approaches are predominantly applied in speaking and writing proficiency as forms of micro-level scaffolding, aligning with the structural complexity of Arabic.

This research makes a substantial contribution to the field by establishing the first comprehensive typology of LSS in AFL. This mapping provides a strong,

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[69] Richard Kern, "Twenty-First Century Technologies and Language Education: Charting a Path Forward," *Modern Language Journal*, 2024, 515–33, https://doi.org/10.1111/modl.12924; Reynolds, "Interactional Scaffolding for Reading Comprehension."

[70] Reynolds, "Interactional Scaffolding for Reading Comprehension"; Ertugruloglu, Mearns, and Admiraal, "Scaffolding What, Why and How? A Critical Thematic Review Study of Descriptions, Goals, and Means of Language Scaffolding in Bilingual Education Contexts."

empirically grounded foundation for determining future research directions, particularly highlighting the need to investigate under-researched receptive skills. The limitations of this study include its reliance on English-language keywords and highly selective journal searches, which may have resulted in the omission of relevant, high-quality studies published in other languages or outside major databases.

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