



## Expanding teacher understanding of scaffolding for multilingual learners using a language-based approach to content instruction

Alissa Blair<sup>1</sup>

<sup>1</sup>Assistant Professor, Department of Curriculum and Instruction, University of Arkansas, USA

Luciana C. de Oliveira<sup>2</sup>

<sup>2</sup>Professor & Associate Dean, School of Education, Virginia Commonwealth University, USA

Mary A. Avalos<sup>3</sup>

<sup>3</sup>Research Professor & Co-Director, School of Education, University of Miami, USA

### Abstract

Scaffolding ensures multilingual learners (ML) are adequately challenged and supported at school while learning English and subject area content. Due to the dynamic nature of language development, teachers may struggle to anticipate how to adequately scaffold lessons or reflect on their practice to identify areas for improvement. This paper examines how nine middle and secondary teachers across different content areas expanded their understandings of scaffolding for MLs. Using qualitative case study methods, data were collected through M.S. Ed. in TESOL coursework incorporating a Language-Based Approach to Content Instruction (LACI). LACI emphasizes teaching content through language, ensuring MLs access grade-level content while supporting language development. Data sources include major course assignments: (a) a designed lesson plan and reflection of the taught lesson, and (b) a video-based observation of a lesson. Both assignments incorporated the six Cs of Support (namely, a means of scaffolding based on LACI). Findings indicate that teachers deepened their understanding of scaffolding in general and in relation to the six Cs of Support for MLs. This study anticipates how teachers approach, expand upon, and apply their understandings of scaffolding practice, offering insights and implications for teacher educators to enhance how scaffolding is presented in coursework with a focus on MLs.

### Correspondence

Alissa Blair  
[ab139@uark.edu](mailto:ab139@uark.edu)

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## **Introduction**

In an era marked by increased mobility and growing cultural and linguistic diversity in U.S. schools and globally (Vertovec, 2023), scaffolding plays a crucial role in facilitating students' access to challenging, grade-level curriculum while learning English as an additional language. Scaffolding for multilingual learners (MLs) at varying English language proficiency (ELP) levels demands nuanced approaches from educators to effectively challenge and support all students within each lesson (Athanasēs & de Oliveira, 2014; Johnson, 2019). Recognizing the dynamic nature of language development, teachers must adapt to students' evolving language abilities. It is important to view scaffolding as dynamic and non-routine to avoid inadvertently hindering students' progress (de Oliveira & Athanasēs, 2017; Johnson, 2019, 2021). Teachers sometimes lean too heavily on specific scaffolding strategies (Daniel et al., 2016) or overly structure student interactions (Alvarez et al., 2023), which can hinder conceptual learning and limit MLs' active participation in classroom discussions (Daniel et al., 2016; Alvarez et al., 2023). Therefore, scaffolding for MLs requires balancing language support with opportunities for meaningful engagement in content learning.

While existing literature informs scaffolding learning for MLs (Gibbons, 2009; Walqui & Van Lier, 2010), recent research focuses on how teachers develop these practices (Bunch & Lang, 2022; Percy & Chi, 2022). This work emphasizes providing educators opportunities to enact and reflect on scaffolding (Shall-Leckrone, 2018), clarifying ambiguous conceptual foundations (Percy & Chi, 2022). In U.S. teacher education, Bunch and Lang (2022) guided pre-service teachers through activities fostering a sociocultural understanding of scaffolding, while Percy and Chi (2022) highlighted scaffolding as a humanizing practice crucial for equitable curriculum access. Despite challenges in linking theory to practice and developing self-awareness, reflection with an observer benefited novice teachers (Percy & Chi, 2022). Reflection is crucial in teacher education, especially for preparing teachers to work with MLs, as misconceptions and deficit orientations often persist (Rose, 2019). Quality reflection involves critical thought, problem-posing, and self-awareness (Elliot-Johns, 2015; Percy & Chi, 2022). Further research is needed to support in-service teachers and guide teacher educators in enhancing reflective practices that effectively integrate scaffolding strategies for MLs.

This paper investigates how middle and secondary in-service teachers' understanding of scaffolding learning for MLs expands within the context of M.S. Ed. TESOL coursework that integrates Language-Based Approach to Content Instruction (LACI). LACI emphasizes teaching content through language, facilitating MLs' access to grade-level curriculum while supporting language development and scaffolding learning through the 6 Cs of Support (de Oliveira, 2023). Given the typically limited training in language and literacy instruction for middle and secondary teachers, especially compared to elementary educators (Shanahan & Shanahan, 2008), LACI provides a valuable framework for supporting language development

and scaffolding learning for MLs. The study's focus is: How do teachers' understandings of scaffolding evolve through M.S. Ed. TESOL coursework integrating LACI?

## **Theoretical framework**

### ***Language-based approach to content instruction***

LACI integrates principles from systemic functional linguistics, viewing language as integral to meaning in context (Halliday & Matthiessen, 2004). This approach supports MLs in content area classrooms by emphasizing simultaneous language and content learning. Unlike content-based instruction, which motivates language learning through content, LACI underscores language as essential for comprehending and accessing content (de Oliveira, 2023). LACI employs scaffolding organized around the 6 Cs of Support to assist teachers in supporting MLs. The 6 Cs of Support, drawing on established literature on language and literacy development in diverse classrooms, enhances MLs' access to content while honoring students' home languages and experiences. The C of connection links pedagogy and curriculum to students' backgrounds, enhancing learning (Lucas & Villegas, 2013). The C of culture leverages students' funds of knowledge to bridge home and school contexts (Moll et al., 1992). The C of code-breaking deconstructs academic and disciplinary literacy codes necessary for content learning (Fang, 2006; Moore & Schleppegrell, 2014). The C of challenge sets high expectations and promotes disciplinary literacy and reasoning (Hammond, 2009). The C of community and collaboration fosters collaborative knowledge construction (Cooper & Slavin, 2001; Lave & Wenger, 1991). The C of classroom interactions enhances teacher–student exchanges through effective questioning and supportive discourse practices (de Oliveira, 2023).

### ***Defining, refining, and reflecting on practice***

Teacher education coursework plays a crucial role in equipping teachers with the conceptual and pedagogical knowledge needed to cultivate essential practices such as scaffolding. Broadly defined, “practice” refers to the coordinated integration of understanding, skill, and relationships to execute specific activities in particular environments (Grossman et al., 2009). According to Grossman et al.'s (2009) framework, preparing novice educators centers on three key concepts: representations, decomposition, and approximations of practice. Representations of practice encompass the diverse ways that teaching methods are portrayed in professional education, making these methods visible for novice educators. Decomposition of practice involves breaking down intricate strategies into manageable components for effective teaching and learning. Approximations of practice provide novice educators with authentic opportunities to engage in activities that mirror the responsibilities they will encounter in their professional roles.

The LACI framework with the six Cs of Support provides a representation of practice by naming, delineating, and providing examples of different scaffolding strategies, thus making visible different scaffolding practices to use in content-area classrooms with MLs. Providing opportunities for the decomposition of practice, the Cs of Support integrated into our lesson plan format and observation tool allows teachers to plan and reflect on instruction by looking at one C of Support at a time. Providing opportunities to our students for approximations of practice through reflective assignment components prepares them for engaging in reflective practice in their teaching careers.

Reflective practice, integral to Grossman et al.'s (2009) framework for professional practice and emphasized in teacher preparation programs, has been widely adopted to deepen understanding and refine professional skills. Studies highlight its value in teacher education, demonstrating its role in fostering deeper knowledge of teaching practices (Beauchamp, 2015; Loughran, 2002). Effective reflection spans informal contemplation to structured inquiry, encouraging educators to challenge assumptions and integrate new perspectives (Loughran, 2002). Utilizing tools such as video-recorded lessons further enhance reflective practice, with structured protocols for video reflection shown to facilitate grounded and critical insights into teaching practices (Beauchamp, 2015). Relatedly, assignments in our M.S. Ed. in TESOL coursework were designed to integrate reflection with scaffolding practices, including a video-based observation assignment providing a unique vantage point for teachers to reflect deeply on their instructional methods and student interactions.

## **Methodology**

### ***Research context***

This research is part of a larger study exploring the effectiveness of master's education coursework in shaping middle and secondary in-service teachers' classroom practices. The larger study was conducted as part of redesigning and implementing an applied graduate education program (Galluzzo et al., 2012) in partnership with a large urban school district in Southeastern U.S., aimed at better serving its sizable population of linguistically and culturally diverse students. Districtwide, 17% of students identified as "English learners" (ELs) qualifying for English language services; 73% were enrolled in the federal free/reduced meal program; and 73% identified as Latinx, 16% African American, and 6% non-Hispanic White.

For this analysis, participants include a cohort of nine in-service middle and secondary teachers pursuing an M.S. Ed. in TESOL with the expressed desire to better serve MLs in their content-area classes (see Table 1). Each teacher selected a focal classroom to implement what they learned in their coursework as part of the applied approach to graduate education.

Recognizing the importance of sustained exposure to course concepts (Bunch & Lang, 2022; Peercy & Chi, 2022), participants engaged over two semesters in two courses with

scaffolding concepts to deepen their understanding and classroom application. In the methods course, teachers were introduced to LACI through reading, class discussion, and a lesson plan template based on the framework (de Oliveira, 2020). In the subsequent advanced methods course, participants furthered their understanding of LACI through additional readings and discussions, and a video-based observation tool that incorporated the six Cs of Support (Blair et al., 2024).

The research team consisted of individuals with varying levels of involvement in the initial conceptualization of LACI, the design of the six Cs of Support tool, and in teaching the courses. Ranging from insider to outsider knowledge (Dwyer & Buckle, 2009), these varying viewpoints were crucial for critically examining the integration and effectiveness of the scaffolding concepts within the coursework.

**Table 1**

*Overview of participant demographics and teaching focus*

| Participant                  | Content area                | Grade             | Number of ELs per total students in focal class |
|------------------------------|-----------------------------|-------------------|---|
| Black, female identifying    | English language arts (ELA) | 9 <sup>th</sup>   | 4/24  |
| Hispanic, male identifying   | ELA                         | 9 <sup>th</sup>   | 19/19   |
| Hispanic, female identifying | ELA                         | 9 <sup>th</sup>   | 7/23  |
| Hispanic, female identifying | ELA                         | 6–7 <sup>th</sup> | 16/16   |
| White, female identifying    | Social Studies              | 6–7 <sup>th</sup> | 24/24   |
| Hispanic, female identifying | Social Studies              | 6 <sup>th</sup>   | 27/27   |
| Hispanic, male identifying   | Mathematics                 | 7 <sup>th</sup>   | 15/15   |
| Hispanic, female identifying | Mathematics                 | 8 <sup>th</sup>   | 8/8   |
| Black, female identifying    | Mathematics                 | 8 <sup>th</sup>   | 13/20   |

We employed a qualitative case study approach (Creswell & Poth, 2018; Merriam, 2001) to examine teachers’ evolving understanding of scaffolding. Data sources include major course assignments with reflection components. The first involved preparing, delivering, and reflecting on a lesson plan using a LACI-based template. This template outlined lesson procedures, identified integrated Cs of Support, and included reflections on student responses across different ELP levels. The second assignment required teachers to video-record a lesson and select a clip using the six Cs of Support Observation Tool. This tool featured guiding questions for observing, noting examples, contrary instances, and missed scaffolding opportunities. Synthesizing reflection questions prompted teachers to reflect on their lesson and scaffold use.

Data analysis proceeded as follows. Building on prior research (de Oliveira et al., 2021), we initially used the six Cs of Support as coding categories (Miles et al., 2014). Grounded analysis was then employed to identify codes extending beyond the framework (Saldaña, 2009). We noted the frequency and timing of Cs of Support to track how scaffolding strategies were implemented across lessons and teachers. These observations were documented through memos and discussed within the research team to capture patterns within and across data sources (Creswell, 2003; Saldaña, 2009). We acknowledge that while teachers responded to the prompts and evaluation criteria as integral to the assignments, it was insightful to explore their evolving understandings of scaffolding demonstrated through these tasks as evidence of their learning.

## Findings

Based on data analysis across sources, findings indicate that teachers deepened their understandings of scaffolding in general, as well as several of the Cs of Support. The first set of themes explore teachers' general take-aways about scaffolding, while the second set of themes explore their expanded understandings related to strategies specific for supporting MLs.

### *Deepening general understandings of scaffolding*

Exposure to LACI's Cs of Support through the reflective assignments prompted participants to acknowledge the critical need for scaffolding in the first place. It became clear to the participating teachers that the lesson cannot be taught "to the middle" or solely rely on "canned curricula" and pacing guides provided by the district. In reflecting on one of her lessons focused on the Federalist Era with a class consisting entirely of MLs, the 6<sup>th</sup> grade social studies teacher adjusted the course objectives to make the material more focused and manageable over multiple class periods. She states,

*(T)his particular lesson plan idea is derived from the district provided plans, but for it to work in my classroom with the needs of my students it had to be modified. Had this original lesson plan been given to my students with no supports, I would have had half of the classroom that was very much at a loss that would have led to frustration or apathy with the assignment.*

This statement underscores the necessity of thoughtful scaffolding in lesson delivery to ensure all students can effectively engage with the material.

One take-away from analysis of teachers' reflections of the lesson plan projects and using the observation tool was the need for and use of multiple scaffolds within a single lesson. Several Cs of Support were implemented and reflected upon at multiple points within a lesson. For

instance, in a 7<sup>th</sup> grade civics lesson focused on conflict and cooperation, a 6<sup>th</sup> and 7<sup>th</sup>-grade social studies teacher employed a variety of scaffolding techniques. Students predominantly engaged in group work using structured packets to guide their reading and responses to primary source documents about U.S. involvement in international conflicts. The lesson began with a teacher-led introduction and concluded with a whole-class conversation to review and discuss their work. The teacher reflected,

*Due to the reading being chunked, close reading symbols, mixed level ability grouping, sentence frames, identification by teacher of key academic vocabulary, and a synonym wall with visuals, I believe this lesson was in fact appropriate for students of all levels.*

This example highlights the importance of integrating multiple scaffolding strategies, particularly in lesson planning, to support comprehension and engagement across different learning abilities.

When scaffolding was effectively implemented, as in the instance above, teachers saw a positive response from students. A developmental reading teacher for 6<sup>th</sup> and 7<sup>th</sup> grades reflected on the language-focused segment of her lesson centered on “what we wear,” exploring how people’s occupations influence clothing choices. This lesson allowed students to engage with two everyday topics—work and clothing. The teacher even dressed up and encouraged students to share about the clothes they wear. According to her, “*the engagement of the lesson was a success, not only because students got very excited and participative with our introductory discussion but also, they felt confident enough throughout the lesson to share their ideas.*” These reflections illustrate that well-planned scaffolding not only enhances student understanding but also fosters a supported learning environment.

However, lessons with inadequate scaffolding led teachers to backtrack, reteach concepts, and extend the anticipated timeframe. A 7<sup>th</sup> grade mathematics teacher reflected on this experience, noting,

*I geared the beginning of the lesson towards the students who had a better grasp of the concepts involved than to those students that might not have understood everything from the get-go. If I had done a better job of gearing the lesson to all of my students, everyone would have benefited.*

An 8<sup>th</sup> grade mathematics teacher had a similar realization, prompted by reflecting on her lesson with the observation tool: “*I realized after answering the 6 C’s questions, I needed to provide a more in-depth front-loading lesson.*” This insight arose from students’ difficulty recalling information and struggling with challenging textbook examples in a unit on calculating volume for various shapes. These reflections underscore the importance of scaffolding, demonstrating how structured reflection heightens teachers’ awareness of the necessity to effectively support a range of learners’ needs.

### ***Expanded understandings related to the six Cs of support***

This section highlights how insights more specific to the six Cs of Support helped teachers reflect on and intentionally scaffold learning for MLs. The findings encompass how teachers engaged with the Cs as presented in their coursework, sometimes applying or underleveraging these principles, and occasionally in novel or unexpected ways—to enhance scaffolding practices for their MLs.

#### *Connection-making spanning Cs.*

Analysis across data sources reveals multiple and distinct ways teachers connected to students' prior knowledge, illustrating how this connection-making spanned Cs of Support. The C of connection was typically incorporated at least once per class, often at the beginning of lessons. This timing is strategic on the teachers' part and aligns with the coursework concept of the C of connection, which aims to refresh prior learning, enabling students to build upon existing knowledge and facilitate new learning (de Oliveira, 2023). In this study, connection-making took various forms. Reminding involved brief references to previous class topics (e.g., “Do you remember last week how we...”). Reviewing occurred when teachers re-taught specific concepts, skills, or ideas (e.g., “This is how we plot a point on a coordinate plane”). Question-asking involved teachers posing questions requiring students to explain prior material (e.g., “Who can tell me what volume is?”). Open-ended questions were used to encourage students to share relevant knowledge or experiences (e.g., “What pets do you or have you owned” as a warm-up to debate the pros and cons of exotic animal ownership). Tasks were also used to connect learning, requiring students to demonstrate recently taught material (e.g., “Solve this problem for the bell ringer”). These examples illustrate a variety of approaches—from quick and teacher-centered (reminding) to more involved (reviewing) and student-centered (question-asking and tasks)—through which teachers connected to prior knowledge, illustrative of the C of connection.

In addition to documenting how teachers facilitate connections to prior knowledge, this analysis highlights the types of knowledge being connected. As envisioned by the C of connection presented in coursework, the teacher helps students in linking prior academic knowledge, learning experiences, and personal or cultural backgrounds to new learning (de Oliveira et al., 2021). This study reveals that most connection-making instances involved linking prior academic knowledge with new learning, such as activating understanding of “volume” before discussing calculations for different shapes. Additionally, connections were made between personal or cultural knowledge and new learning, exemplified by discussing pet ownership to explore broader themes. Teachers predominantly characterized these instances of connection-making under the C of connection, as seen in the examples provided. Less frequently, the C of culture was used to categorize these connections. For instance, in the 6–7<sup>th</sup> developmental reading class focusing on profession-specific clothing, the teacher used images of cowboys from different cultures to help students understand cultural contexts. Here, the emphasis was not on eliciting specific student knowledge of culture but rather on



encouraging students to connect their cultural experiences with the lesson content, illustrating how certain garments are culturally significant in specific settings. The dual focus on how connections are made, and what they are made to, underscores the range of considerations involved in implementing the C of Connection, as well as the areas of overlap within the C of Support to effectively scaffolding student learning.

*Interacting and facilitating interactions.*

In exploring interactions and their facilitation, analysis of course assignment data underscored teachers' recognition of the importance of promoting interaction. This emphasis resonates across Cs of Support, especially in the C of community and collaboration and the C of classroom interactions. Community and collaboration were integrated into the lessons through two primary methods: classroom routines, such as seating arrangements and classroom norms, and specific tasks, such as collaborative group work. Teachers intentionally created a welcoming and respectful classroom climate through these routines. For example, a 9<sup>th</sup> grade developmental reading teacher shared that she formed small groups to “*create a safe and welcoming environment*” and “*classroom routines are practiced so students feel comfortable with the procedures.*” An 8<sup>th</sup> grade mathematics teacher implemented a daily routine for students to “*check each other's answers and provide peer feedback.*” Teachers also fostered community and collaboration through cooperative group activities, such as think-pair-share, gallery walks, waterfall reading, shared problem-solving, and role-play. To promote teamwork, a 7<sup>th</sup> grade social studies teacher reported that she “*assigns roles*” and gives “*a shared grade for their task of working as a community*” in order to “*help keep students focused and in a team spirit.*” Among the Cs of Support, teachers expressed the greatest success in implementing the C of community and collaboration, as noted in their reflections.

Classroom interactions were facilitated multiple times in each lesson, typically during a teacher-guided portion of the lesson and while monitoring peer-work. One 9<sup>th</sup> grade ELA teacher employed probing questions such as “*Can you expand on that? Ask one of your group members for help. What did you intend to say? Do you have any other ideas?*” These questions effectively stimulated student engagement and fostered robust classroom discussions. In other instances, teacher questioning proved instrumental in identifying and addressing student misunderstandings. In a 7<sup>th</sup> grade mathematics lesson focusing on percent ratio and financial literacy, for example, the teacher asked a student to explain his thinking (“*Why do you think that item would be a better deal?*”), to which the student replied, “*Because the price is the lowest*”. Upon reflection, the teacher noted,

*That's where I discovered that some of the students weren't looking for the lowest unit price but were instead looking for the lowest price period. I was able to demonstrate how the unit price differed from the price paid and had the higher-level students get involved in the discussion.*

These examples illustrate that while it is important for teachers to include probing questions in their lesson plans, they must be responsive to student responses to seize opportunities for clarification during interactions. Instances like these, where teachers used probing questions to prompt students to expand on or clarify their responses, and even encouraged peer assistance, highlight important forms of interactional scaffolding in their lessons. Moreover, teachers sometimes identified student-to-student interactions as exemplifying the C of classroom interactions. For instance, an 8<sup>th</sup> grade mathematics teacher shared that “*students working on group activities*” as an instance of classroom interactions in her reflection on scaffolding learning. Similarly, a 9<sup>th</sup> grade ELA teacher described “*moving from whole group to partner work to practice writing*” as a way of scaffolding through classroom interactions. While the C of classroom interactions emphasizes prompts and strategies teachers use to enhance classroom discourse (de Oliveira et al., 2023), these examples underscore the value of student-to-student interactions in peer and group work. Both teacher-facilitated and student-to-student interactions are integral to scaffolding learning while promoting language development and refining conceptual understanding.

#### *Challenge as a C of support and overall goal.*

“Challenge” appeared in teachers’ reflections in two distinct ways: (a) as the C of challenge and (b) as a consideration when applying the other Cs of Support. The C of challenge was usually evident in the teacher-guided portion of the lesson or the practice/group work lesson portions. Tasks requiring higher-order thinking and reasoning skills were frequently cited as examples, such as inference questions (e.g., drawing conclusions about executive branch powers from presidential actions), application questions (e.g., solving story problems using formulas), “real-world” problems (e.g., evaluating purchases as a “good deal” using percent ratios). Teachers also emphasized the importance of student reasoning and reflection in these tasks. In ELA, some teachers explicitly taught students how to find textual evidence to support claims, while others regularly posted “why-questions” to deepen student understanding. On fewer occasions, the C of challenge appeared in the form of hands-on tasks or experiments. In one instance, an 8<sup>th</sup> grade mathematics teacher had students create a model silo and calculate the volume using construction paper, tape, and a ruler.

“Challenge” appeared in teachers’ reflections not only as a stand-alone principle but also in conjunction with the other Cs of Support, serving as an overarching goal for scaffolding instruction. For instance, a 7<sup>th</sup> grade social studies teacher mixed and paired students based on their ELP levels, integrating the C of challenge and community and collaboration. Reflecting on her rationale, the teacher noted how the group work opportunity helped “*aid in understanding for students struggling with English*” and it gave her a chance to “*challenge students not struggling with English*” by checking in with individuals to verify the accuracy of their responses. Similarly, a 9<sup>th</sup> grade ELA teacher reflected that her practice of prompting students to elaborate on their responses during classroom interactions aimed to “*provide high support and high challenge*” aligning with the aims of the C of challenge within the LACI

framework (de Oliveira, 2023), as well as with broader principles of scaffolding to ensure the support is adequate for the academic challenge (Gibbons, 2009).

### *Breaking down code-breaking.*

This analysis underscores that code-breaking, involving explicit attention to patterns in language and literacy use, was consistently integrated into lessons, typically occurring once or at most twice per class during teacher-guided segments. Teachers frequently employed modeling techniques, such as think-alouds, to demonstrate problem-solving strategies or how to extract evidence from texts. For instance, they might articulate their thought process when analyzing literature or solving mathematical problems. Explicit vocabulary instruction was another common strategy observed. This involved highlighting and annotating key terms within texts, and sometimes utilizing tools like word walls or semantic maps. By explicitly teaching vocabulary, educators aimed to enhance students' understanding and retention of new terminology. Sentence frames were also utilized, often displayed on classroom boards or provided in worksheets.

Despite concerted efforts to explicitly address language in their lessons, these examples (modeling, explicit vocabulary instruction, and sentences frames) are among the most common but not robust strategies within the LACI framework (de Oliveira et al., 2021) and teachers critically assessed their ability to effectively engage in code-breaking. According to their reflections using the observation tool, code-breaking emerged as a challenging C of Support for teachers to implement. For example, a 9<sup>th</sup> grade social studies teacher reflected that she was not teaching “*the right language*” for student success. Despite pre-teaching vocabulary and having students identify these terms in readings, their written responses did not reflect the language taught. The teacher noted, “*I do not feel that I did a sufficient job in explicitly teaching language forms, functions, and skills. While I focus on vocabulary in every lesson, I failed to model other aspects of language.*” Similarly, a 9<sup>th</sup> grade ELA teacher reflected, “*Had I initially focused more on teaching language skills, I would have better prepared my students for the writing portion of the lesson.*” Instances of robust code-breaking as presented in the course, such as teacher-led analysis of language patterns in authentic texts and collaborative text writing and editing, were not prominently featured in the analyzed lessons. Incorporating these practices, which emphasize how language constructs meaning beyond the use of individual vocabulary words, would have helped teachers identify and address broader aspects of language in their lessons that they felt were missing.

### *Leveraging culture to scaffold learning.*

The C of culture was acknowledged and utilized to scaffold learning, often occurring each lesson, particularly when students' personal or cultural knowledge was leveraged to connect with new content, as discussed earlier. Throughout the analysis, various cultural and linguistic resources were recognized as examples of the C of culture, including students'

home languages, interests, and out-of-school experiences. Teachers facilitated learning by encouraging students to utilize their home languages during peer work, with instances where teachers were fluent in students' languages resulting in increased participation during whole-class discussions. In more robust applications, teachers utilized cognates and context clues to deepen students' understanding of topic-specific vocabulary. However, there was little evidence of teachers tailoring topics or discussions specifically to individual students' or groups' interests or experiences. Instead, teachers generally aimed to incorporate elements they believed students could relate to within the lesson's topic and activities. For example, in a 6<sup>th</sup> grade social studies lesson on the Federalist Era, a teacher explained the term "*elected*" by contrasting it with a coin toss, which she felt would resonate with students as a method of selecting a leader. Her goal was to "*explain the terms so that students can relate to how these terms and phrases are still used today.*"

Despite these attempts to acknowledge students' linguistic and cultural resources, the focus remained largely on surface-level aspects without deeper exploration into students' families, cultural practices, communities, or pertinent out-of-school issues. According to reflections using the completed tool, teachers indicated that culture was the C of Support they most struggled to implement meaningfully. For instance, in a 9<sup>th</sup> grade developmental reading lesson, a teacher aimed to highlight the "universality" of *Romeo and Juliet* as an illustration of cultural relevance. However, the lesson missed opportunities to prompt students with questions or present contrasting stories (such as *West Side Story* or modern adaptations of *Romeo and Juliet*) that could have demonstrated how the story resonates across different cultural contexts. Similarly, in another 9<sup>th</sup> grade developmental reading class, a teacher encouraged students to brainstorm in their home languages, yet reflected afterward, "*Maybe one of the things I also should have done was to connect the topic of the writing with their communities and native countries*". The writing prompt focused on social media which relates to youth culture, but the teacher thought she could have pushed students to "say more" with additional prompts making their cultural knowledge more central. Reflecting on the lesson and mindful of her students' diverse national backgrounds, the teacher suggested alternative prompts such as "*What do you think about social media in your native countries? Is internet access an issue in your countries? Why?*" Reflecting further, the teacher noted, "*These questions would have motivated the students to participate and think about reasons, facts, ideas, and opinions that they could have used in their writing.*" Teachers' reflections highlighted the challenge of implementing the C of culture effectively yet underscored their commitment to enhancing future practices with more culturally responsive approaches.

## Discussion

The manner in which the Cs of Support are referenced and reflected upon reveals participating teachers' understanding of these concepts, as well as scaffolding practices in general. Analysis also demonstrates that teacher reflection using the six Cs of Support Observation Tool contributed to enhancing participating teachers' comprehension and

implementation of scaffolding strategies. This study, conducted with in-service teachers engaged in M.S. Ed. TESOL coursework, underscores the distinction between general scaffolding knowledge and the specialized knowledge required for effectively supporting MLs. This distinction contrasts with studies involving pre-service teachers, highlighting the practical experience these teachers bring to planning and implementing instruction. While both pre-service and in-service teacher studies emphasize the importance of clarifying and familiarizing teachers with the theoretical foundations of scaffolding practices (Bunch & Lang, 2022; Percy & Chi, 2022), this study illustrates that broader understandings of scaffolding were affirmed and expanded to address the specific needs of MLs.

Analysis of teacher reflection through course assignments reveals that scaffolding was implemented in anticipated ways, such as connecting at the beginning of lessons and integrating multiple scaffolding strategies using various Cs of Support. However, the analysis also brings forth several points pertinent to the discussion on scaffolding for MLs. For instance, it highlights the varied methods of accessing prior knowledge and prompts consideration of which types of knowledge are being tapped into to promote new learning. Additionally, it distinguishes between eliciting specific student knowledge about culture (such as social media practices in different countries) and encouraging students to connect their cultural experiences with lesson content (as exemplified by work and clothing choices).

Another aspect illuminated by the study pertains to prompting interactions. The C of classroom interactions pertains to teacher facilitation (de Oliveira et al., 2023), but also underscores teachers' attention to promoting student-to-student interactions. This not only fosters community and collaboration but also propels classroom discussions forward. Another aspect of scaffolding highlighted is the robust portrayal of challenge, emphasizing higher order thinking, along with broader utilization of other Cs of Support to ensure balance with the level of support provided to reach higher levels of content area learning (Gibbons, 2009).

It is noteworthy that the Cs of codebreaking and culture which are particularly relevant to serving MLs, but that teachers may not have had extensive exposure to prior to TESOL coursework, were also perceived as their weakest Cs of Support. Explicit attention to language patterns and literacy, as emphasized by codebreaking, is crucial for supporting language development while engaging students in content area learning. The challenge in implementing robust strategies related to codebreaking suggests a learning curve or a need for deeper knowledge of language to move beyond traditional approaches like vocabulary pre-teaching (Molle et al., 2021) or heavy reliance on sentence frames (Alvarez et al., 2023). Implementing more robust strategies in codebreaking requires deeper understanding and application of language structures and functions.

Given that culture offers a valuable resource for teaching and learning, effectively utilizing the C of culture through students' languages, national origins, and cultural references could have enhanced scaffolded learning experiences. While teachers have much to draw upon, they may not always feel adequately conversant in their students' languages or cultures. Instead, creating space for students to share their cultural perspectives can foster a classroom

community where students learn from each other. When integrated with other Cs of Support, such as collaboration and community, this approach not only enhances cultural understanding but also empowers students to lead and contribute to their learning experiences.

### **Limitations and implications**

The limitations of this study stem from its reliance on teacher-reported reflections gathered from courses assignments spanning coursework over two semesters. Another limitation is the study's focus on the six Cs of Support, which, while integral to the research design and reflective of the constructs presented, may have inadvertently constrained exploration of alternative considerations for scaffolding relevant in fostering comprehensive support for MLs.

Despite the limitations, this study holds several implications for teacher education. By identifying common understandings and underutilized aspects of the six Cs of Support and scaffolding practices more broadly, teacher educators can proactively integrate clarifications learning experiences in teacher preparation courses to ensure a more robust understanding. Strategic decisions can be made regarding which Cs to prioritize initially in order to scaffold teachers' learning about effective scaffolding practices. Ultimately, the objective is not for teachers to simply memorize the Cs of Support or identify examples of scaffolding within this framework. Instead, the primary goal is to expose teachers to a range of scaffolding strategies and enhance their ability to apply these strategies with MLs. This approach aims to better equip teachers to support, challenge, and engage these students in language-rich content-area instruction, thereby promoting equitable and effective educational practices.

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**Dr Alissa Blair** is an Assistant Professor in the Department of Curriculum and Instruction at the University of Arkansas, Fayetteville, USA. She researches K-12 multilingual learners' education, focusing on language and literacy in content areas, bilingual education, and teacher education. Her work appears in peer-reviewed journals including *TESOL Quarterly* and *Review of Research in Education* and others. Alissa is passionate about equitable schooling for linguistically and culturally diverse youth.

**Dr Luciana C. de Oliveira** is the Associate Dean for Academic Affairs and Graduate Studies in the School of Education and a Professor in the Department of Teaching and Learning at Virginia Commonwealth University, Richmond, Virginia, USA. Her research focuses on teaching multilingual learners at elementary and secondary levels. She has authored or edited 28 books and over 200 publications. Dr de Oliveira was the first Latina President of TESOL International Association.

**Dr Mary A. Avalos** is a Research Professor in the Department of Teaching and Learning at the University of Miami (FL) and co-directs the School of Education and Human Development's Community and Educational Well-being Research Center. Her research interests include equity-focused projects in public school and community settings and working with teachers to improve multilingual teaching and learning in reading/language arts, science, mathematics, and social studies content areas. Mary has published her work in practitioner and scholarly journals, including *Urban Review*, *The Elementary School Journal*, *The Reading Teacher*, and *Bilingual Research Journal*.