
Dialogic Foundations of the “4-trans” Framework: Towards a Comprehensive and Dynamic Understanding of Multilingual Teacher Education

David Martínez-Prieto

**University of Texas Rio Grande Valley
USA**

Sandra I. Musanti

**University of Texas Rio Grande Valley
USA**

Xiaodi Zhou

**University of Texas Rio Grande Valley
USA**

ABSTRACT: In this article, we develop the “4-trans” framework by reflecting on the way current multilingual teacher preparation scholarship has addressed *translanguaging*, *transnationalism*, *transculturality*, and *transdisciplinarity* either in compartmentalized or integrative manners. While current literature has addressed some “trans” intersections, we propose the enunciation of the “4-trans” as permeable and complementary principles in multilingual education that can serve to better examine the experiences and challenges of multilingual pre-service teachers. To amalgamate the “4-trans” to examine the development of multilingual pre-service teachers, this article describes the construction of a multidimensional framework based on a dialogic conception of social mediation, heteroglossia, and critical consciousness.

KEYWORDS: Multilingual teacher education, translanguaging, transnationalism, transculturalism, transdisciplinarity

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In today's world, there are instances of simultaneity and heterogeneity in how we identify ourselves and others and how we engage with those complex, multilingual realities, particularly in geographic and figurative borderland spaces. In our community, we have witnessed how the experiences and identities of multilingual teacher candidates transcend beyond fixed notions of linguistic, cultural, and national affiliations as they navigate physical and digital spaces of constant fluidity. For example, in a former study (Zhou & Martínez-Prieto, 2023), we analyzed the case of Angela—a Mexican American multilingual pre-service teacher who crossed the border daily to attend classes in the U.S., whose family lives in Mexico, and who is also a fan of Korean pop bands. We noticed that, depending on the side of the border, audience, context, and her objectives, she preferred to enact fluid national, cosmopolitan, linguistic, and cultural affiliations. The fluidity and permeability of Angela's identity, along with our daily interactions with multilingual pre-service teachers living in the U.S.-Mexico borderlands, motivated us to create a theoretical framework that could account for the dynamism and changing characteristics of translingual, transcultural, transnational populations and their prospective incorporation into classrooms in which they will most likely teach different subjects.

The explorations and conceptualization of translanguaging (Andrei et al., 2020; Wei, 2018), transnationalism (Kasun & Mora-Pablo, 2022), transculturalism (Loh, 2022), and transdisciplinarity (Gibbs, 2017) have contributed to understanding the importance of individuals and communities beyond national boundaries (Glick Schiller et al., 1992). In this way, political, social, historical, and economic forces are delivering a world that calls for exploration and understanding from a "trans" perspective that emphasizes intersectionality and integration without separation, bringing to the forefront the multidimensionality and flexibility of social processes (Donahue, 2016).

With the ultimate goals of promoting cultural understanding and social justice amongst multicultural populations, we propose that transnationalism, transculturalism, translanguaging, and transdisciplinarity (or what we understand as the "4-trans") should be conceptualized as interconnected and essential elements in the development of teacher educators in the area of multilingualism. That is, we aim to contribute to advancing toward a reconceptualization of multilingual teacher education by emphasizing the need for a comprehensive framework that addresses the current characteristics of pre-service teachers and their communities.

By centering on the "4-trans," we highlight the centrality of these dimensions that intersect explicitly or implicitly in theoretically examining the development of multilingual pre-service teachers—that is, pre-service teachers who speak at least two languages and are preparing to serve multilingual populations. In particular, we seek to question monolithic and mono-dimensional approaches to teacher preparation, which, according to Zúñiga et al. (2023), often respond to restrictive, monoglossic, hegemonic, and colonizing and oppressive ideologies.

In this article, we develop a "4-trans" framework by reflecting on how current scholarship has addressed transnationalism, transculturalism, translanguaging,

and transdisciplinarity either in compartmentalized or integrative manners. While current literature has addressed some “trans” intersections (i.e., Cárdenas Curiel et al., 2023; Kubota, 2010; Langman, 2014), we believe that the enunciation of the “4-trans” as permeable and complementary principles in multilingual education can serve to better examine the experiences and identities of multilingual pre-service teachers who, after all, face always-changing societies in which rigid epistemological and ontological boundaries seem to be called into question regularly. To amalgamate the “4-trans” as necessary intersections to examine the development of multilingual pre-service teachers, in the following section, we explain the methodology we followed to construct the present theoretical framework. Once we explain our methodological decisions, we will elucidate the tenets of the “4-trans” framework from a multidimensional perspective. First, we conceptualize the dialogic nature of the foundations of the “4-trans” in terms of social mediation, heteroglossia, and critical consciousness. We later situate the present framework by examining the intersectional trans spaces that current research has suggested as relevant in the examination of multilingual pre-service teachers. In our concluding reflection, we argue that the “4-trans” framework can contribute to understanding the complexities and challenges present in current multilingual education research.

Methodology

We three scholars met at a *taquería* and dialogued about how we could collaborate on a research project that could address each of our research goals and interests towards the improvement of multilingual teacher education. As borderland scholars, our meeting at a *taquería*—instead of our offices on campus—allowed us to observe and question the constant fluidity and negotiations that occurred around us. During this initial conversation, we started looking for the interconnections in our areas of research, particularly meaning transnationalism, transculturalism, and translanguaging, and noticed how much of the research in teacher education approached the development of future multilingual teachers from just one or two of these perspectives more than through the integration of the different lenses. Sandra brought in the idea of integrating transdisciplinarity and then, from there, we looked for a common thread.

David proposed that the “4-trans” approach should have guiding principles based on Freirean ideas of emancipation, freedom, and critical consciousness. Sandra argued that the Vygotskian perspectives of socio-cultural mediation and learning should be fundamental for us to support our conceptualization of teacher preparation. Xiaodi emphasized that Bakhtinian notions of heteroglossia and dialogism, as well as Bakhtin’s notion of “becoming,” should also be incorporated into the 4-trans theoretical foundations. By questioning the flexibility in the linguistic and cultural affiliations of our communities along with our own subjectivities and trajectories as academics, each of us initially believed that the “4-trans” approach

should be supported with fluid concepts that, nonetheless, needed to relate to different theoretical conceptions.

Rather than disconnections amongst our perspectives, we found that empirical research supported an integrated conceptualization that included sociocultural learning, heteroglossia, and the promotion of critical consciousness as interconnected foundations. That is, in discussing our research interests through sharing and teasing out commonalities amongst our three foci, we arrived at the umbrella concepts of transnationalism, transculturalism, translanguaging, and transdisciplinarity, or what we termed the “4-trans.”

We decided that the conceptualization of the “4-trans” should be based on a pragmatic paradigm. Pragmatism considers that entities and phenomena are intrinsically dynamic (Johnson & Onwuegbuzie, 2004). It also prioritizes a goal-oriented approach instead of a rigid paradigmatic discussion between philosophical approaches to science, such as positivism and constructivism (Hanson, 2008). We decided to explicitly relate our theoretical foundations per the tenets of pragmatism because, in this sense, our theoretical framework would allow us to concentrate on the benefits of transnationalism, transculturalism, translanguaging, and transdisciplinarity in a flexible position. Placing the “4-trans” as part of the pragmatic paradigm would allow us to straddle diverse issues regarding multilingual teacher preparation. In simple words, while we believed that post-structural concepts of fluidity and always-changing realities were pivotal in the conceptualization of our proposal, we also aimed to address some commonalities and structural challenges we have witnessed in multilingual teacher preparation programs in different regions of the United States, as well as Mexico, China, and Argentina.

After defining the theoretical principles and paradigm for our framework, we later conducted an integrative literature review, in which, with the help of a research assistant, we identified articles discussing research related to one of the “4-trans”—or, in the words of Whittemore and Knafl (2005), a critical summary of current literature. The selection of these articles was based on the following criteria: impact (meaning, number of citations), pertinence of multilingual teacher education, languages (we only selected articles in English and Spanish), and contributions to the current discussions in multilingual teacher education. The systematic review “allows for the inclusion of diverse methodologies...[and] contributes to the presentation of varied perspectives on a phenomenon of concern” (Whittemore & Knafl, 2005, p. 547). In compiling a bevy of scholarship about various components of the research foci, the many dimensions of a phenomenon can be highlighted. As recommended by Whittemore and Knafl (2005), we endeavored “to synthesize findings from discrete primary studies and to increase the generalizability of data about a phenomenon” (p. 547, citing Jackson, 1980), which allowed our methods to “continue to evolve because of the complexity of conducting a thorough review” (p. 547).

We then found that the amalgaming component amongst Bakhtin, Freire, and Vygotsky was “dialogue”—which we, after considering the definitions formerly explained, simply understood as the fluid and dynamic exchange of meaning

amongst individuals, societies, or perspectives. Thus, we categorized our readings based on the disparate theoretical thrusts we bring to this research in two dimensions: their relationship to the theoretical concepts we had defined as overarching for this model (social mediation, heteroglossia, and critical consciousness) and the intersections current research suggested, either implicitly or explicitly, in terms of the “4-trans.”

With this purpose, we designed a matrix in an Excel spreadsheet where we could input data from our readings, with separate sheets for the different nuanced foci (e.g., transdisciplinarity in teacher education). We had columns for the bibliographic data of each article, a brief summary of each article, the type of trans the texts mainly addressed, as well as a column for the intersectionality of trans concepts (e.g., transnationalism and transculturality) if a text addressed more than one, which was very common. Next, we had columns for “Mediation/Identity,” “Heteroglossia,” and “Critical Consciousness.” We then filled the appropriate boxes for the article with specific references from the text, either excerpts or summaries. These excerpts would then be used as direct quotes when writing our literature review.

During our weekly meetings, we discussed and selected articles after confirming their relevancy to our matrix column, whether the focus of the paper was one of the “4-trans”, and whether it had been published in the last ten years or so to stay current. We perused the keywords for words related to the “4-trans” and read the articles to check for ways transnationalism, transculturalism, translanguaging, and transdisciplinarity were portrayed and whether there were any intersections among different trans concepts. The most organized representation of our work and our input would function as the primary coding of the data.

The last component in our methodology was critical reflection (Morley, 2008), where we reflected on both the results of this project and the process. In this phase, we reviewed the relevant research in the field, the scholarly works of contributors to our special issue, and our professional presentations to evaluate how our views of the “4-trans” have been affected. We reiteratively used our theoretical groundings of mediation (Vygotsky, 1981), heteroglossia (Bakhtin, 1984), and critical consciousness (Freire, 1970) to, again, re-analyze and synthesize our findings. The reflections were kept digitally on a Google Doc on which the three of us collaborated.

Revealing how our own positionalities have impacted the proposal of a “4-trans” framework at different levels (Sikes, 2004) foregrounds the construction of our theoretical framework. That is, we acknowledge that, consciously or unconsciously, the “4-trans” are part of our scholarly and everyday practices because of our backgrounds, our communities, and our individual trajectories. David, for example, self-identifies as a Mexican (trans)national, as he moves back and forth from Texas to central Mexico frequently. Sandra and Xiaodi travel regularly to South America and Asia, respectively, and they are still strongly connected to their families and friends there. We all usually engage in translanguaging not only in our classrooms and in our border communities but also

at home—our families all speak more than one language. Although we are multilingual scholars now, our praxis and research are influenced by different paradigms and schools of thought or even by other disciplines—i.e., Xiaodi worked at a biochemistry lab and studied neuroscience during his college years; David initially studied to be an electrical engineer; Sandra worked with interdisciplinary teams in Argentina while designing a national teacher professional development program. In terms of teacher preparation, Sandra has an extensive background in sociocultural and psychological theories related to education. Xiaodi's background is strongly linked to psychology, poststructuralism, and literacy; and David's former training is more inclined to applied linguistics and the reproduction of power in multilingual education. As a team, we feel that our experience and lived trans-ing (for lack of a better word) have made us push boundaries in our embodiments, our relationships, and our academic development in limited—yet meaningful—ways.

In the borderlands, we are part of a multicultural society in which we interact and share our cultural practices with migrants from northern Mexico, Central America, and other regions of the United States. In general, one of the main motivations for us to write this proposal relates to the complexities that we confront in what Xiaodi referred to as the notion of “forever becoming”—or the way we and our communities experience a dynamic transition into intersectional spaces, knowledges, and identities where our perspectives and affiliations are constantly (self)contested and challenged—which impacts our educational and research practices.

Theoretical Foundations for the “4-trans”

When we concluded our integrative literature review, all of the articles (n=40) we analyzed regarding transnationalism, transculturalism, translanguaging, and transdisciplinarity referred to any of these concepts at least one time, and more than half utilized intersections of Freirean, Vygotskian, and Bakhtinian concepts to make sense of their data or to construct their frameworks. Moreover, we discovered that “dialogue,” regardless of its various definitions, was the major unifying thread among them. In the following section, we present the relevance of the aforementioned theories regarding the “4-trans” from the common and unifying concept of dialogue which, although conceptualized differently by Vygotsky (1981), Bakhtin (1984), and Freire (1970), served as common ground amongst these perspectives.

Dialogue and Vygotsky's Mediated Action

At the beginning of the 20th century, Vygotsky (1981) first systematized the principles of a sociocultural theory of learning and human development rooted in the concept that human activities are contextualized and mediated by language. As John-Steiner and Mahn (1996) explained, the power of the Vygotskyian theory

lies in the explanation of “the dynamic interdependence of social and individual processes” (p. 192). The very situated nature of human action and human development underscore social interaction and communication through language and symbolic mediation.

Some scholars have highlighted the relevance of dialogue in Vygotskyian ideas, particularly in terms of semiotic mediation and knowledge construction. For example, Bruner (1962) contributed to explaining the role of semiotic mediation, explaining that Vygotsky believed that “it is the internalization of external dialogue that brings the powerful tool of language to bear on the stream of thought” (as cited by John-Steiner & Mahn, 1996, p. vii). In a similar vein, Wertsch (1994) later explained how semiotic mediation is key to knowledge construction and how the emphasis should be on the active use of meaning-making to transform the sociocultural context. He shifted to discuss mediated action “motivated in part by the recognition that humans play an active role in using and transforming cultural tools and their associated meaning systems” (p. 204). That is, Wertsch (1994) proposed mediated action as the unit of analysis of sociocultural research because it has “the potential for bringing back together many of the divisions of the human sciences that have slipped into isolation...” (p. 206).

In this sense, Rogoff (2003)—whose work is grounded in Vygotsky’s cultural-historical approach—explained that human development is a cultural process of mutual constituting and the result of a dialectical relationship between individual and society through participation in sociocultural activities. She argued that communities are not limited to ethnic or national groups, and individuals can participate in more than one community (Rogoff, 2003). Cognition and knowledge construction are viewed as situated and taking place across a wide variety of personal, interpersonal, and socio-cultural contexts, suggesting a theory of collaborative cognition distributed across individuals and tools in a dynamic participation framework of activity (Gutiérrez & Rogoff, 2003). Rogoff (2003) affirmed that “to move our understanding of human development beyond assumptions and include the perspective of other communities, communication between community ‘insiders’ and ‘outsiders’ is essential” (p. 25), which highlights the relevance of dialogic interactions as an inherent part of learning and social mediation and, pertinent to our framework, to conceptualize the fluidity of translingualism, transculturality, transnationalism, and transdisciplinarity beyond prescriptive conceptions of correctness.

Dialogue and Bakhtin's Heteroglossia

In the first half of the 20th century, Bakhtin (1981) coined the term “heteroglossia” to explain how our world emerges from the interaction and clash of different voices rather than from a single, unified perspective, or what he termed “monoglossia.” He defined heteroglossia as the plurality of languages that “permits a multiplicity of social voices and a wide variety of their links and interrelationships” (Bakhtin, 1981, p. 263). This notion was defined by the “distinctive links and

interrelationships between utterances and languages, this movement of the theme through different languages and speech types” (Bakhtin, 1981, p. 263). That is, Bakhtin’s approach highlighted the dynamic and open-ended nature of language and discourse, suggesting that texts are always in dialogue with other texts and contexts. Bakhtin’s (1984/1930) notion of dialogue conceives this dynamic as:

A discourse and a counter-discourse—which, instead of following one after the other and being uttered by two different mouths, are superimposed one on the other and merge into a single utterance issued from a single mouth. These two rejoinders move in opposite directions and clash with one another; therefore, their overlapping and merging into a single utterance result in a most intense mutual interruption. This collision of two rejoinders—each integral in itself and single-accented—is now transformed, in the new utterance resulting from their fusion, into the most acute interruption of voices, contradictory in every detail, in every atom of the utterance. (p. 209)

Referring to this conception of dialogue, Bakhtin (1984) regards it as the relationship of “plurality of independent and unmerged voices and consciousness... a plurality of consciousnesses, with equal rights and each with his own world” (p. 6). He characterized this dynamic as “a mixture of two social languages within the limits of a single utterance, an encounter, within the arena of an utterance, between two different linguistic consciousnesses” (Bakhtin, 1981, p. 358).

Thus, Bakhtin emphasized the simultaneity of differences and how disparate meanings and perspectives could coexist as one. Each of these concepts tethers different iterations of a phenomenon, whether cultural inclinations, named languages, national orientations, or academic disciplines, into a heteroglossic unity. In other words, internal variations color the complexity of each of these ideas, rife with a palette of nuances. The complexity of the gradations of reality is honored via such a paradigm.

In thinking about transnationalism, transculturality, transdisciplinarity, or translanguaging, one thinks about different nations, cultures, disciplines, and named languages as partitioned by these different consciousnesses meeting and encountering each other in one individual. In each case, there was evidence that an “interaction of several unmerged consciousnesses was replaced by an interrelationship of ideas, thoughts, and attitudes gravitating toward a single consciousness” (Bakhtin, 1984, p. 9). A dynamic double-voicedness, or even heteroglossia, results from the encounter of distinct nations, cultures, disciplines, and languages within one person or speech community.

Dialogue and Freirean Critical Consciousness

Freire (1970) believed that education should serve to liberate individuals and proposed that education should be based on promoting critical consciousness. Dialogue in education, in this way, is essential in the process of emancipation of

individuals as it is a condition for the development of critical consciousness. For Freire, there are some conditions *sine qua non* for dialogue to exist, such as humility and love for humanity. In this way, Freire (1970) was convinced that, through dialogue, individuals make sense and name their realities with the ultimate purpose of transforming the world. In other words, for Freire (1970), the liberation of the oppressed can only be achieved through dialogue in which individuals go beyond the “bureaucratic” repetition of imposed realities and, instead, become active subjects in the educational process. Freire (1970) opposed the pedagogies in which hierarchical education takes place (or top-down/banking) as he understood those practices limited the creativity of individuals; the suppression of creativity is a tactic of domination that conditions the humanization, and the later actions, of individuals. In this context, the “horizontalness” of Freire’s conception of dialogue implies that all participants should participate in a humble and critical way. For this reason, Freire (1970) suggested that dialogues are political in nature and should be permanent in any social movement: emancipatory movements should be in constant dialogue with the people to maintain their liberation purpose. Additionally, true dialogue is only possible if all parties are equal, and in each of the four trans, iterations of identity are given equal status. For instance, translanguaging has an explicit goal of diminishing the hardened hierarchies amongst named languages.

The Vygotskian, Bakhtinian, and Freirean concepts of dialogue in relation to transnationalism, transculturality, transdisciplinarity, and translanguaging suggest that, for the “4-trans” framework to function towards a holistic development of pre-service multilingual teachers, their dialogic conceptualization should be based on horizontalness, fluidity, and creativity. Dialogue, in this sense, should aim toward the development of critical consciousness amongst future pre-service teachers, the acknowledgment of multiple voices among participants in the multilingual education process, and the integration of constant and fluid knowledges across individuals and communities.

Conceptualizing the “4-trans”

Our ongoing dialogue amongst ourselves and with current literature led us to defining the “4-trans.” In alignment with the pragmatic approach we followed in conceptualizing the “4-trans,” we defined our underpinning concepts responding to our goal of improving multilingual teacher education—rather than limiting to strict paradigmatic discussions in terms of structural and post-structural arenas. In doing so, we acknowledge the importance of fluidity and constant change, as suggested by Thompson (2011) and Prieto-Arranz (2013). We adopted the prefix “trans” (as opposed to “inter”) to emphasize that the “4-trans” would serve to describe the way multilingual teacher preparation is not limited to unidirectionality and rigid boundaries but, instead, is embedded in a dynamic, evolving, and interconnected multidirectional movement. Considering the conceptions of change and fluidity, we believe that the “4-trans” approach would be better understood if we offered some

definitions that would help clarify our interpretations of transculturalism, transnationalism, translanguaging, and transdisciplinarity.

We understand transculturalism as the displacement of a sense of cultural inertia to a more fluid conception or, as defined by Rogers (2006), as “the reciprocal exchange of symbols, artifacts, genres, rituals, or technologies between cultures with symmetrical power” (p. 478). Transculturalism, in this sense, refers to a give and take amongst different cultures, with distinct cultural affiliations contributing to the identities of individuals and communities. We conceived that transculturalism has impacted societies permanently, but in alignment with Loh (2022), we believe that transculturalism appears to be more influential today due to the interconnectedness of our societies. This is apparent not only in our day-to-day interactions with pre-service teachers who live across the U.S.-Mexican border but also by understanding that their identities do not confine to national boundaries as they create and re-create affiliations within their own communities (Martínez-Prieto, 2022).

In today’s world, national boundaries are direct containers of disparate cultures worldwide. Transnationalism, in this context, embodies the flow of peoples, as they carry ideologies and behaviors from their countries of origin to wherever they move. Our conception of transnationalism acknowledges that this flow is bidirectional, or even circular, and that it should be understood as dynamic and situated (Martínez-Prieto, 2024; Zhou & Martínez-Prieto, 2023). Transnationalism, in a broader sense, captures the identification of migrational people who traverse national borders, languages, and customs. In terms of multilingual education, during the last two decades, scholars have emphasized the ways transnational trajectories impact pre-service and in-service teachers. For example, scholars have explained the difficulties and benefits that transnational pre-service teachers face in terms of fluid ideological orientations and their lack of socio-political awareness (Martínez-Prieto, 2024; Martínez-Prieto & Lindahl, 2022), the pressure they experience when contesting or accepting fixed linguistic, social, and cultural notions of identity (Mora-Pablo & Kasun, 2023; Petrón, 2003), and the challenges and benefits when adapting into a new educational system (Przymus, 2024).

Languages have been redefined as fluid and dynamic localized practices (Pennycook, 2010). Translanguaging is one of the terms that captures the conceptualization of language heteroglossia as well as language dynamism within social, cultural, historical, and political contexts (García & Wei, 2014; Mazak & Carroll, 2017; Otheguy et al., 2015). Accordingly, translanguaging as a linguistic theory (Otheguy et al., 2015) proposes to reframe the conceptualization of multilingualism, arguing that rather than possessing two or more autonomous and separate language systems, as has been traditionally thought, bi/multilingual individuals “select and deploy particular features from a unitary linguistic repertoire to make meaning and to negotiate particular communicative contexts” (Vogel & García, 2017, p. 1). This theory affirms the language behaviors of bi/multilinguals when they utilize all the semiotic resources available in their linguistic repertoires to optimize communication (Wei, 2018). Therefore, in terms of language

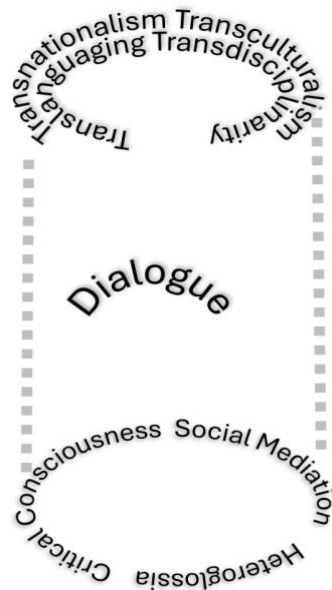
pedagogy, translanguaging affirms students' diverse and dynamic language practices and leverages students' complex linguistic repertoires in teaching and learning (García & Wei, 2014). Moreover, researchers argue that translanguaging is "part of a moral and political act that links the production of alternative meanings to transformative social action" (García & Wei, 2014, p. 57). Many scholars have explored translanguaging as an important phenomenon in language development, for which there is a growing body of research highlighting translanguaging in higher education (i.e., Andrei et al., 2020; Canagarajah, 2011; Mazak & Carroll, 2017) and amongst future bilingual and multilingual teachers (i.e., Musanti, 2023; Musanti et al., 2017; Tian & Zhang-Wu, 2022). In general terms, current scholarship exemplifies that translanguaging provides spaces for social justice and recognition of home practices in a horizontal way, meaning that translanguaging contributes to dialogical spaces in the development of multilingual pre-service teachers in the classroom (Andrei et al., 2020; Musanti, 2023). However, Heugh (2021) cautioned that educational success cannot be attained by pedagogies that rely only on horizontal translanguaging, fluid shuttling between languages, or on the use of vertical approaches to bilingual or multilingual education that maintain a hierarchy of languages configured around multiple parallel, separated monolingual systems. Instead, Heugh (2021) argued for "transknowledging," a reciprocal process of knowledge construction and exchange including transfer and translation necessary to achieve education towards the promotion of diversity and equity beyond formal schooling.

The last notion is that of transdisciplinarity. According to Pohl (2011), transdisciplinarity is learning characterized by four features:

- (a) it relates to socially relevant issues, (b) it transcends and integrates disciplinary paradigms, (c) it involves participatory research with those affected by and living with the complex social problems, and (d) it entails a deep search for a unity of knowledge. (Gibbs, 2017, p. 13)

Such pedagogy is current, interdisciplinary, participatory, and holistic. While some efforts have been made to highlight the importance of transdisciplinarity in language teacher education (i.e., De Costa & Norton, 2017; Douglas Fir Group, 2016), this area has not been adequately explored by current scholarship. We contend that multilingual teacher education calls for a transdisciplinary approach that disrupts the traditional segmentation and compartmentalization of knowledge and articulates the contributions of different disciplinary paradigms while transcending the traditional boundaries established by curriculum, policy, and hegemonic language ideologies (Douglas Fir Group, 2016).

In Figure 1 (below), we conceptualize our "4-trans" proposal in terms of its dialogic constituency, its underpinning concepts, and its theoretical foundations. The multidimensionality of this framework lies on the simultaneous intersections of our "4-trans," which are parallel to the guiding theoretical principles of this framework.

Figure 1*The Multidimensionality of the “4-trans” Constituents*

Dialogue, in this regard, appears as the nucleonic and most essential part of our framework—meaning that, without a dialogic component, this proposal would not serve the purpose of bettering the preparation of future multilingual teachers. The visual representation of the “4-trans” constituents should be understood as a way to systematically interpret the complexities and challenges of multilingual teacher education.

Situating the “4-trans” Approach in Current Research

The “4-trans” approach is situated in current empirical and theoretical research regarding the preparation of bi/multilingual pre-service teachers. After the integrative literature review, we realized that most articles have addressed intersections of heteroglossia, social mediation, and critical consciousness either in an isolated manner or by referring to intersections between them. In this section, we first discuss how the foundational Vygotskyian, Bakhtinian, and Freirean tenets of the “4-trans approach” have served current scholarship in multilingual teacher education. Later, we situate the way scholars have examined multilingual teacher education regarding the “4-trans” concepts.

The “4-trans” vis-à-vis Social Mediation, Heteroglossia, and Critical Consciousness

When comparing the elements that compose the “4-trans” with our dialogical foundations, we noticed that translanguaging has mainly been addressed as a phenomenon that occurs naturally as part of the social mediation of future pre-service teachers (i.e., Goodman & Tastanbek, 2020; Lee & Canagarajah, 2019; Musanti et al., 2017). Scholars have also highlighted that social interactions can lead to different constructions of meaning, depending on the background and context of individuals (i.e., Deroo et al., 2022; García & Wei, 2014; Ponzio & Deroo, 2023), for which it has been suggested as an essential tool in bi/multilingual teacher education. In a less frequent pattern, translanguaging has been understood not only as the utilization of semiotic resources towards meaning construction in determined social contexts but also as a tool to promote linguistic recognition and critical consciousness among pre-service teachers (Creese & Blackledge, 2015). In general terms, compared to scholarship research in the other “trans,” translanguaging scholars have emphasized the socio-cultural foundations of multilingual communications amongst cultures and nations in current empirical research (Otheguy et al., 2015).

Different from translanguaging, the intersections of transnationalism and transculturalism suggest a more frequent dialogue across social mediation, heteroglossia, and critical consciousness in the preparation of multilingual pre-service teachers. In each dynamic, whether describing nations, cultures, languages, or disciplines, there is the merging of different nations, different cultures, different languages, and different disciplines, presaging hybridity and a more dynamic dialogic interaction. In this way, investigations about transnationalism indicate that social mediation, heteroglossia, and critical consciousness are mutually complementary—to the point that their integration appears normative in current empirical research, (i.e., Hardee et al., 2012; Leake, 2019; Ostorga & Farrugio, 2014; Ramirez et al., 2016).

While these intersections are less salient amongst scholars who have concentrated on transculturalism, the dialogic nature of social mediation, critical consciousness, and heteroglossia has also been explained as essential in current second language and teacher education research (i.e., Gutstein, 2010; Howe & Xu, 2013; Kubota, 2010; Langman, 2014). However, this dialogic integration does not seem to be normative and heteroglossic; instead, social mediation and critical consciousness appear to be rather prevalent in the dialogic nature of investigations devoted to explaining transculturalism in multilingual teacher education.

Finally, transdisciplinarity appears to be a rather recent element in second language research, particularly in terms of multilingual teacher education programs. Scholars (i.e., De Costa & Norton, 2017; Douglas Fir Group, 2016) have enunciated the dialogic importance of social mediation and heteroglossia for second language research. However, the explicit utilization of transdisciplinary to understand the intersections of social mediation, heteroglossia, and critical

consciousness that occur in the multilingual teacher preparation process have just recently been analyzed in empirical investigations (i.e., Cárdenas Curiel et al., 2023; Straub et al., 2021), for which its use appears as an area of opportunity for future research.

The 4 “Trans” Intersections in Current Research

Current scholarship has also examined the intersections of translanguaging, transnationalism, transculturalism, and transdisciplinarity. In this context, the intersectional examination of the “4-trans” seems to occur not only naturally but also as the result of progress in research. For example, while some of the seminal investigations in multilingual teacher education referred to any of the “4-trans” in an isolated way (i.e., Baynham, 2007; García & Wei, 2014; Lee & Canagarajah, 2019), scholarly works have evolved to analyze intersections of the “4-trans” more and more frequently. That is, as we present in this section, current investigations tend to naturally move towards spaces of intersections and fluidity (i.e., transnationalism and translanguaging, transculturalism and translanguaging, transdisciplinarity and translanguaging, transnationalism and transculturalism, transnationalism and transdisciplinarity). In the following lines, we examine some of the most significant investigations regarding the “4-trans” and multilingual teacher education.

Recent multilingual teacher education research suggests the prevalence of intersectional spaces between transnationalism and translanguaging (Creese & Blackledge, 2015; Martínez-Prieto et al., 2024; Ostorga & Farruggio, 2014; Reyes, 2016; Zúñiga et al., 2023). For example, in conceptualizing border pedagogy, researchers interweave the transcultural and translanguistic dimensions proposing a situated, fluid, and humanizing teacher education pedagogy. In other words, scholars have cautioned to “steer away from broad and universalist approaches” (Zúñiga et al., 2023, p. 930). In a similar fashion, Reyes (2016) addresses the intersection of transnationalism and translanguaging to question neoliberal policies in U.S. standardized testing. By theoretically problematizing monolingual and fixed perspectives of the language variations used in standardized tests in the United States, he suggests that border pedagogies, or pedagogies that incorporate fluid linguistic practices, can help create spaces to counter the dehumanization and disposability promoted in standardized testing. Conversely, Martínez-Prieto et al. (2024) developed the idea of “transnational translanguaging” to emphasize the linguistic and cultural opportunities that transnational pre-service teachers or pre-service teachers educated in two educational contexts can create to challenge monoglossic ideologies which have permeated language education programs (i.e., the Chomskian notions of the “native” ideal speaker).

In a similar pattern, transculturalism and translanguaging have evolved as complementary concepts (Baker, 2022; Howe & Xu, 2013; Kubota, 2010; Langman, 2014; Thompson, 2011). For example, Langman (2014) studied secondary classrooms in Texas and found that cultural markers, such as

phenotypes and the allocation of multiple languages in student-teacher learning negotiations, make learning more relevant and comprehensible. In a similar way, Kim et al. (2022), when examining the perspectives of a group of international pre-service teachers pursuing education degrees in Korea, suggested that transcultural and translanguaging communication challenges the use of a lingua franca (i.e., English) beyond traditional Western “models,” which position some English variations as superior to others (i.e., U.S., Canadian, and Australian Englishes).

More recently, researchers have infused a transdisciplinary dimension to translanguaging research (i.e., Cárdenas Curiel et al., 2023; Leung & Valdés, 2019; Przymus, 2024). Grounding their study in LatCrit theory, Cárdenas Curiel et al. (2023) explored how bilingual teacher candidates positioned themselves as cultural and linguistic experts and engaged in translanguaging practices as they designed and taught art gallery lessons. The study emphasized art as a literacy practice and highlighted the transdisciplinary dimension, proposing “the honest and ongoing communication between disciplines—used for ongoing self-reflection on language ideologies as well as analyzing linguistic practices, literacies, and power” (p. 603). A transdisciplinary dimension has allowed for a more nuanced discussion of language fluidity across contexts. In this regard, Przymus (2024) called for a critical transdisciplinary and holistic conversation that brings in the contributions of semiotics, applied linguistics, psycholinguistics, and cognitive linguistics to enrich our understanding of bilingualism and multilingualism and the role of translanguaging in meaning-making for more equitable approaches to education. By placing emphasis on the way code-switching has been conceived as a metaphor—which, according to Przymus (2024), relegates the underlying conception of multilingualism to fixed notions of how languages work—the author explained that “that moving from just a metaphoric/code-switching view... can have implications for addressing the hegemony of English, for moving from structural knowledge to community knowledge, and from neocolonial funds of knowledge to decolonial/bilingual funds of knowledge” (p. 609). This understanding can open paths toward the achievement of social justice

Scholars have emphasized the interrelations between transnationalism and transculturalism in the teacher preparation process (Hardee et al., 2012; Howe & Xu, 2013; Kubota, 2010; Leake, 2019; Ostorga & Farruggio, 2014; Ramirez et al., 2016; Smith, 2018; Soong et al., 2021). For instance, Howe and Xu (2013) used their own cultural experiences as transnational scholars teaching in different cultural contexts. Using narrative inquiry, they examined their insights and connections and argued for an East-West bridge in education and teacher preparation where non-Western knowledge is valued with reciprocity vis-à-vis Western epistemologies. The cultural and linguistic tensions that transnational teacher educators experience while dealing with students from different backgrounds in the United States were also examined by Smith (2018), who analyzed the experiences and challenges of three Afro-Caribbean teacher educators at the university level. Smith (2018), in this way, highlighted the cultural adjustments that participants had to adapt to achieve successful communication with students who, regardless of speaking the same language, would have cultural

and communication differences. In general terms, our analysis suggests that, while prevalent in academia, the intersection of transnationalism and transculturalism in terms of multilingual teacher education has focused on the challenges of educators (i.e., university professors) or in theoretically proposing this intersection as relevant in the development of pre-service teachers.

Multilingual teacher preparation investigations have explored culture from a trans perspective in the context of transdisciplinary knowledge. For instance, Gutsein's (2010) work uncovers the intersections of critical transculturalism and critical mathematics. Gutsein (2010) argued that learning mathematics should be grounded on understanding and reading the world as a pathway to fight injustice and improve society—meaning that teachers should recognize the transcultural perspectives of their students to move beyond the apparent neutrality of mathematical learning. In a similar pattern, Fernández and Ortiz Galarza (2023) adapted the Mathematical Knowledge for Teaching (MKT) framework—a framework developed by Ball et al. (2008) with specific guidelines to promote mathematical learning—to address the specific needs of multilingual students. Fernández and Ortiz Galarza (2023) expanded this framework by problematizing that the MKT did not account for the linguistic and cultural characteristics of multilingual learners. For this reason, they proposed an asset-based view founded on culturally responsive pedagogy for individuals who navigate transcultural spaces (i.e., home communities and formal school settings).

Finally, scholars have recently concentrated on analyzing the relationship between transnationalism and transdisciplinarity in multilingual teacher education. For example, Byrd Clark's and Roy's (2022) study examined bilingual education in Canadian provinces Alberta and Ontario. They positioned transdisciplinarity as an Indigenous worldview "which offers multiple ways of knowing the world" (p. 192). Such a perspective shows the interconnectedness of knowledge. Elsewhere, in Vienni-Batista's and Klein's (2022) edited book, the authors examined transdisciplinarity across several national contexts with contributors of diverse origins. These scholars described transdisciplinarity efforts in diverse countries as related to each country's unique "history, culture, political system, socio-ecological situation, and role of its respective universities" (p. iii). The unique value of describing transdisciplinarity in these different contexts is its "integration of approaches from two or more disciplines or bodies of knowledge with the aim of advancing a new understanding or solution to a complex problem, question, or topic that cannot be handled from a single perspective" (Vienni-Batista & Klein, 2022, p. 3).

Our analysis suggests that current discussions of the "4-trans" have found intersectional spaces as regular patterns in current research. However, we have noted that intersectional "trans" spaces have not been explored homogeneously or, in other words, that scholars have concentrated on only some intersections. For example, intersectional research regarding translanguaging and transnationalism, or translanguaging and transculturalism, is more prevalent compared to other intersectional spaces (i.e., transculturalism and transdisciplinarity). In a similar pattern, while current discussions in the "4-trans" have advanced towards

intersectionality, investigations regarding multilingual teacher education are yet to explicitly address the simultaneous analysis of the “4-trans” in a systematic manner.

Concluding Reflection

In this article, we have argued for the necessity of a dialogical approach in multilingual teacher education based on a simultaneous and purposeful understanding of transnationalism, transculturalism, translanguaging, and transdisciplinarity through the articulation of a Vygotskian notion of social mediation, a Bakhtinian perspective of heteroglossia, and a Freirean idea of critical awareness. To support the intersectional amalgamation of the “4-trans” in a multidimensional model, we systematically analyzed literature and advancements in multilingual education research, exploring intersectional dialogic spaces. We found that a salient current scholarship about translanguaging theory and pedagogies in the preparation of multilingual teachers is anchored in the conceptualization of transnationalism to address issues of language ideology, equity, and social justice, as well as to explain how a linguistic repertoire and national identity traverse in the process of becoming and being a multilingual teacher. Less frequently, the literature highlights intersections of transdisciplinarity, transculturalism, and transnationalism to dig deeper into the multidimensionality and complexity of teacher education. Nonetheless, our systematic review of the literature allows us to understand that, while the “4-trans” are usually first conceived and researched in isolation, investigations regarding multilingual teacher education have organically advanced towards intersectional spaces.

Ultimately, while some empirical investigations have addressed some of the dimensions of the “4-trans” explicitly or implicitly, we believe further research should address the fluidity and intersectionality of transnationalism, transculturalism, translanguaging, and transdisciplinarity in a complementary way. As future research regarding multilingual teachers is expected to focus on more and more intersectional spaces, it is our hope that the “4-trans” theoretical foundations can serve to better examine the complexity in the preparation of multilingual teachers in arenas that transcend fixed notions of cultural, national, disciplinary, and linguistic affiliations, as well as challenge standardized and compartmentalized understandings of teaching and learning. That is, we hope that the present framework can serve as a reference for future empirical investigations to embrace and cultivate the fluid, dynamic, and complex ways in which languages, cultures, nationalities, and disciplines interact in the preparation of teachers who can position themselves as agents of change for multilingual education and advocates for social justice.

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Author Contact

David Martínez-Prieto, david.martinezprieto@utrgv.edu

Sandra I. Musanti, sandra.musanti@utrgv.edu

Xiaodi Zhou, xiaodi.zhou@utrgv.edu