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Multimodal Curriculum Design: Culturally Sustaining SFL Praxis with Multilingual Youth in Out-of-School Contexts

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Abstract
This paper provides a description of the multimodal curriculum design and meaning making processes in what we call a Culturally Sustaining Systemic Functional Linguistics (CS SFL) praxis, developed in the context of an integrated youth and preservice teacher afterschool program. Informed by Halliday's theory of Systemic Functional Linguistics (SFL), in this paper we pay special attention to the mode continuum in our interactive curriculum that we designed to support multi semiotic meaning making and creative re-mixing processes of youth engaged in relational and civic work. We first provide an explanation of the conceptual framework of CS SFL praxis and then illustrate the approach by drawing on data from our program over the course of two years.

1 Introduction

Currently, over 10 percent of public-school students in the United States are classified as English Learners (Els) (Hussar et al., 2020) or what we refer to in this article as multilingual learners. They represent the fastest-growing public-school subgroup within the last ten years alone (Quintero & Hansen, 2017). This robust student population, however, lags behind their non-multilingual peers in terms of high school graduation rates because of their lack of access to quality educational resources (Sanchez, 2017) This equity issue is not surprising, given that in the current market-based approach to education (Kirshner & Jefferson, 2015), corrective educational strategies and high-stakes testing most often fail to incorporate the rich cultural and linguistic resources of multilingual students (Rosenfeld Halverson, 2010). Indeed, routinized school practices foster a system where "young people are not viewed as legitimate stakeholders or participants in institutions that shape their lives" (Kirshner, 2010, p.

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239). Recent research, however, has highlighted the benefits of a multimodal curriculum that positions multilingual learners as agents of their own learning as they are encouraged to draw on all available semiotic resources to make meaning for their social, academic, and political goals (Early & Marshall, 2008; Ntelioglou, et al., 2014; Potts & Moran, 2013).

In interactive curriculum design of youth-oriented participatory programs, most often offered outside school settings, educators use multimodal and critical approaches that support diverse intergenerational groups in working together to study and challenge social equity issues relevant to their local communities and schools (Cammarota & Fine, 2008). In this paper we report on our civic and artistic participatory program for multilingual youth and preservice teachers. The approach aligns with recent research that highlights the power of performance, community research, visual art making and multilingual literacy practices to position youth as civic agents of change and artistic designers of new knowledge (Mirra, et al., 2016; Paris, 2012; Paris & Alim, 2017). Informed by Halliday's theory of Systemic Functional Linguistics (SFL), in this curriculum design paper we pay special attention to the mode continuum in our interactive curriculum that we used to support multi semiotic meaning making and creative re-mixing processes of youth engaged in relational and civic work (Heath, 1993; Humphrey, 2006, 2010). Guiding questions that supported our inquiry are the following: What tenets of SFL supported our curriculum design and how did participants in our program respond to the SFL-informed design and mode sequencing?

2 Conceptual Framework

As articulated by Paris and Alim (2017), a culturally sustaining youth action participatory approach not only strives to incorporate the ideas, desires, and needs of minoritized communities, it *demands* that their ideas, desires, and needs become the centerpiece in everything that is done. In arts-based youth programs, multilingual youth have created counter narratives to express new perspectives on their sociohistorical lives that are constructed through drawing, film making, performance, and poetry writing (Chapell & Faltis, 2013; Ginwright, 2008). Medina and Campano (2006) report how use of performance supported students in reimagining and reinterpreting aspects of their personal, interpersonal, and institutional lives. Indeed, multilingual youth become agentive meaning makers when educators provide them with the space to produce multimodal, embodied, and verbal identity texts to remix for communicative purposes (Cummins et al., 2015). In our civic engagement programs, youth and adult allies engage in a range of inquiry and artistic processes to think about solutions to community and school issues. They are positioned as innovative contributors to the field of environmental design, which often has a disciplinary focus on mapping, surveying, policies, and plans that shape how people experience their immediate surroundings. Importantly, the aim of the program is to support youth in becoming civic leaders over time. Our work in this regard aligns with the culturally sustaining approach of Paris and Alim (2017) in terms of valuing and integrating youth knowledge as inherently relevant and important, not as bridges for assimilation into a dominant culture and language. In previous research, the first author and colleagues have focused on broader theories of culturally sustaining pedagogy and SFL genre pedagogies in science education and arts inquiry programs (see for example Harman & Burke 2020; Harman et al, 2020; Siffrinn & Harman, 2019). Our current paper is distinct from this earlier research in that its predominant focus is on the theoretical and empirical underpinnings of our curriculum design. We illustrate our approach by underlining the interplay of the program's use of a mode continuum and youth meaning making over the course of the program (see Gibbons, 2015).

In the next section, we provide an explanation of the key features of our CS SFL praxis.

2.1 Multimodality and Multilingualism

When discussing how language makes meaning in the context of a given situation, the three situational

variables – *field, tenor, and mode* (Halliday and Matthiessen, 2014) – are key to discussion of how language makes meaning in the context of any given situation. When our youth participants meet in our program for the first time, for example, they usually have various topics to discuss (*the field*), a relationship with the people to enact (*the tenor*) and a face-to-face discourse to organize (*the mode*). These three variables are realized simultaneously in the *semiotic register* through an *ideational* representation of reality (e.g., use of concrete nouns and verbs or images and gestures to represent or reflect on their understanding), an *interpersonal relationship* with the listeners and subject matter (e.g., use of intonation, verbal appraisal, body position), and a *textual* organization of the text (e.g., face-to-face versus written or digital channel). Register, in sum, is a "configuration of meanings that are typically associated with a particular situational configuration of field, tenor, and mode" (Halliday & Hasan, 1989, p. 39). From a multimodal perspective, meaning making is achieved not only through language but through ecological configuration of different modes and media (Kress, 2010). In other words, all modes have the potential to enact ideational, interpersonal, and textual meanings.

Recent research has highlighted the beneficial impact of multimodal curriculum for multilingual learners. Ajayi (2008), for example, found that multimodal pedagogy provided multilingual learners with "the opportunity to tap into the different semiotic possibilities for meaning making and communication" (p. 226). Likewise, Choi and Yi (2018) and Grapin (2019) highlighted the nuanced disciplinary understanding that learners gained through multimodal learning. Importantly, Ntelioglou et al. (2014) found that a multilingual and multimodal environment in classrooms shifted normative classroom power dynamics, providing youth with "access to identity positions of expertise, increasing their literacy investment, literacy engagement and learning" (p.6). Overall, research on multimodal curriculum has found that students are supported in expressing themselves more fully with access to a rich range of modes such as gesture, image, and movement (Choi & Yi 2016; Ntelioglou, et al., 2014).

In youth action participatory programs for multilingual youth, educators provide participants with a range of semiotic resources and modalities that can be used to design meaning making for a wide range of registers and purposes. When looking at meaning-making as multimodal design (Cope & Kalantzis, 2009; Jewitt, 2013; Kress, 2003, 2010) and as a design process (Kress & van Leuween, 2001), meaning-making is understood as design in different stages: *available design* (for example, the semiotic resources and activities provided), designing (the work that your participants engage in), and *redesign/new available design* (the new design that they produce). Through immersion in a range of multi semiotic resources and modalities, youth can be supported in coupling multiple modes to enact innovative designs for a range of audiences. For example, participants might accompany verbal explanations with representational gestures to represent or highlight ideational or other meaning systems (Martin & Zappavigna, 2019).

2.2 The body in our work

In our program, we acknowledge the material body as always contributing in significant ways to our relationship and civic knowledge building. Indeed, in addressing limitations of a social semiotic approach to multimodality, McDonald (2012) called for a framework that incorporated meanings expressed in, through and by the body. To support us in integrating material, embodied and semiotic domains in our curriculum design, we have adapted the SFL-informed Teaching/Learning cycle (Siffrinn & Harman, 2019) to put emphasis on necessary inclusion of linguistic, material, and physical resources in our program design (Martin & Zappavigna, 2019). For example, by physically building a 3D artefact out of paper and other artistic materials while also negotiating how it should look with their group members, our youth participants use their physical bodies, material artefacts, and linguistic resources in designing and shaping the colours, shapes, and textures. They become environmental designers not only by talking about it but also using their muscle memory to do so.

2.3 Mode continuum

In this paper, we define mode as "a channel of communication that is culturally ratified as a meaning-making set of signs" such as representational drawing, speaking, and rapping (Harman & Burke, 2020, p 65). When thinking about an embodied multimodal curriculum, educators stress the importance of introducing different modes and physical activities in a sequenced way to support multilingual youth in expanding their cultural and linguistic repertoires and in deepening their disciplinary understanding, in our case of environment design. Waldrip, et al. (2016) suggested that "students who recognized relationships between modes demonstrated better conceptual understandings than students who lacked this knowledge" (p. 1843). In varied disciplinary classrooms, teachers adopt different strategies to connect modes. In science classrooms, Tang (2011), and Tang, et al. (2011) found that teachers' contextualized use of semiotic resources such as gesture, speech intonations, and body distance deepened student disciplinary understanding. Márquez, et al. (2006) defined the relationship among modes as a cooperative relationship or specialized relationship based on the functions that different modes perform. That is, in cooperative relationships, the modes may perform similar functions in the meaning making process as opposed to specialized relationships where the modes achieve differential semiotic work. In our program, we sequence the modes from less specialized to more complex, so that students start easily and then dig deeper. For example, we couple genres of storytelling and simple theater games together in our first module because they achieve similar semiotic work. In later modules, we use a more specialized approach to grouping of modes (e.g., design of a 3D artefact) and verbal argumentation that function as persuasive forces in front of a school principal.

2.4 Multilingual meaning making

Research in the field of second language learning has also found that learners optimally design meaning across modes and materials when afforded a classroom environment where languages and dialects of the community are acknowledged and incorporated into the discourse (Martinez-Roldan, 2015; Rowe & Miller, 2016; Smith, et al., 2017). In other words, a multimodal and multilingual curriculum supports multilingual learners in expanding their semiotic repertories. From an SFL perspective, as Matthiessen (2015) stated, "It makes sense to view multilingual processes together with multi semiotic or multimodal ones to capture the complementarity of and division of semiotic labor" (p.8). Within the designing of our youth programs, we aim to celebrate the "eco-social" nature of semiosis as espoused by Halliday (Lukin, et al., 2011, p.18). As such, this approach supports language variation equity through a multilingual approach that validates and supports bilingual learners in constructing meaning through dynamic reformulations from all available linguistic and multimodal repertoires (García, 2009).

3 Curriculum Design in Our CS SFL Program

To support students in drawing on all available semiotic, somatic and material resources in our CS SFL praxis, we reconceptualize the SFL-informed Teaching/ Learning Cycle (TLC) as having two instructional planes (Siffrinn & Harman, 2019). That is, it supports development of conceptual understanding through both a purposeful range of embodied and multimodal activities and also through collaborative and multilingual discourse strategies generated by pre-service teachers and youth. In the Teaching/Learning Cycle (TLC), the first phase, *deconstruction*, involves extending participants' understanding of the concept under investigation through embodied and discursive strategies (e.g., 3D drawing of a building, deconstructing a map). For example, in small groups our youth and adult participants negotiate meaning around what mapping means and concretely learn how to map an area. In the second stage, *joint construction*, youth are encouraged to write, talk and embody the new concepts

with active participation of intergenerational group members. For instance, they use their knowledge of mapping to survey a particular area of campus while explaining why this area needs to be remapped and reshaped. In the final stage of the cycle, participants apply their understanding to a new task in writing, presenting and performing. CS SFL educators thus design curriculum to support embodied and discursive understanding of disciplinary concepts and to foster meta language awareness (Hammond & Gibbons, 2005; Schleppegrell & Moore, 2018).

As Gibbons (2015) highlighted, mediation is a key socio-cultural construct to explore in enacting effective curriculum design. When working with different groups of youth and adults, we first map out what modes, modalities and verbal interactions can mediate their understanding of civic and literacy engagement. This will differ according to the group interests and dynamics. As illustrated in Figure 1, in our CS SFL program we deliberately move from more familiar modes and modalities to more complex configurations of meaning making. Drawing from Gibbons (2003), we describe our curriculum design as a mode continuum that follows a particular order of discourse. In other words, we start with genres such as storytelling and theater games so that participants feel ready to participate verbally and physically. Gradually, through support from adult participants in our program, our youth move into more complex artistic, embodied and linguistic practices such as theater improvisation of three-line scenes and geographical surveying of their location. When participants have been grounded in these practices, we move into visual and spatial designing of new spaces they want to create on campus or in their community with use of building blocks and art supplies. They are also introduced to the genre of spoken word and rapping to show how a social genre they often listen to and perform in other spaces is a genre that they could use for their own designing purposes in challenging normative practices in school or their communities. The final performance module is persuasive argumentation, which builds on the cumulative sequence of activities, modes and discussions over the course of the program.

The deliberate mode continuum supports participants in accessing and using an expanding set of semiotic and material resources (visual, verbal, action) while developing meta awareness of the affordances of each resource that they can decide to use in designing new knowledge and structures for their community. In Gibbon's (2003) work, the focus was on fostering among students an awareness of the complex configurations of disciplinary discourse that becomes more semantically dense in secondary classrooms. In our work, the objective is to support immersion and meta awareness of the affordances and complexities of community genres, resources and languages that can be configured to achieve particular social and political purposes. Overall, the purpose of our CS SFL praxis is to ensure that youth's dynamic repertoires are validated, integrated, and extended in the co-construction of new civic knowledge.

Figure 1

Modules in CS SFL Praxis
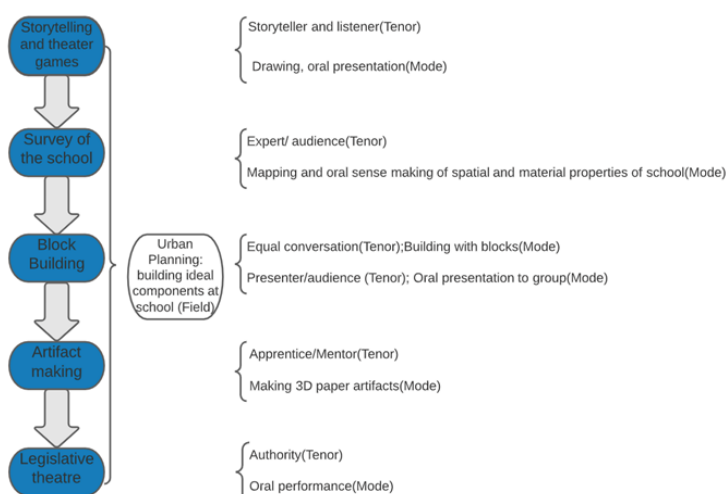
As Figure 1 demonstrates, all of the modules focus on deepening student understanding of environment design. However, in each module, the interpersonal relationships and the modes differ. For example, in the module of storytelling and theater games, the interpersonal relationship among participants tends to be storyteller and listener or as actors and audience. The modes are verbal, actional and visual. In the surveying of the school, the relationship of the participants tends to be expert and newcomer (the expert being the youth member); and the modes used tend to be mapping, gesturing, and verbal sense making of the spatial and material properties of the school.

Overall, our curriculum design for our CS SFL praxis is used to support youth and adult allies in moving through a set of modes, creative processes, dialogic and formal interactions, and creative re-mixing of designs. In the next section of the paper, we illustrate our work by focusing on the processes and products of our youth participants in 2018 and 2019 when engaged in the curriculum.

3.1 Context of our work

In a small city with a very high poverty rate in the southeast of the United States, the first author of this paper, along with several colleagues (see Harman & Burke, 2020), has been running the CS SFL youth program during the summer and after school since 2016. The purpose of the program is to engage multilingual youth and pre-service teachers in community problem solving and critical inquiry within the field of environment design. We invite urban geographers, visual artists and musicians to join us in deepening our understanding of how to engage in community problem solving. Studies have found that having youth document and analyze their surroundings opens their eyes to the constructed, contingent nature of their lived environments and inspires them to critique practices and processes that reinforce the status quo (Harman et al, 2016). As Ajayi (2008) found, involving multilingual youth in critical exploration of the socio political conditions of their lives is highly beneficial also for their academic and social trajectories. To this end, our programs strive to position youth as experts on their communities and as vibrant multilingual learners; and the programs position adults, mostly graduate students and pre-service teachers, as youth co-researchers. The adult participants are charged, also, with conducting case study research on the literate practices of their youth partners as they engage with, at times, difficult conversations around community values, entrenched poverty, and structural racism through multiple affordances of art.

4 Illustrations: CS SFL Praxis

To support understanding of our SFL-informed approach to youth programs, we draw from our program in 2017 and 2018 to illustrate key elements that we have found of particular importance in our work. We want to emphasize that the modes and sequencing will change depending on the age, interests and context of the group. However, in both these years the approach was the same because we were with middle school students and pre-service teachers in the same after school context.
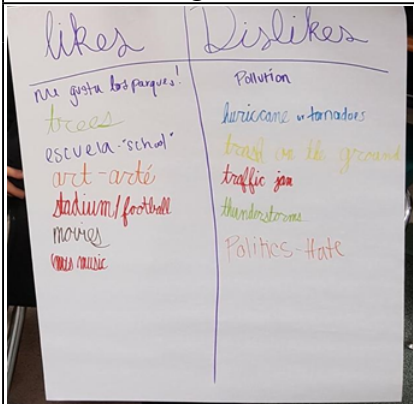
4.1 Storytelling and theater games: Building relationships and knowledge

Our first communal module includes playing theater games and listening to each other's family and community stories. We integrate movement games, improvisation and storytelling into the module because we see them as relational building resources for the group. The theater games move the group into a playful space where adults and youth throw imaginary balls at each other, citing nonsensical words (Bibbity Bop! Zip Zap Zop) and running imaginatively in wild circles. Through this sense of play, the adult and youth participants begin to break down hierarchical identities. We also ask participants

in intergenerational and interracial small groups to share stories about joys and challenges they have encountered in their neighborhoods and school and listen actively to each other as illustrated in Figure 2. For example, the participants discussed negative impact of violence and pollution on their communities.

Figure 2

Youth and Adult Dislikes and Likes

| Student Writing		Retyped students' writing	
		Likes	Dislikes
		Me gusta los parques	Pollution
		(I like the parks)	Hurricane & tornadoes
		Trees	Trash on the ground
		Escuela – "school"	Traffic jams
		Art – arté	Thunderstorms
		Stadium / football	Politics – Hate
		Movies	
		Music	

This initial module supports participants in using play, discussion, drawing, and categorizing of community concerns to support relational building among the group members and to start thinking about the issues that truly concern them. Their use of various home languages (e.g., Spanish, Mandarin-Chinese, African Vernacular English and Vietnamese) open up a dynamic multilingual environment that they continue to use throughout our program (Rowe & Miller, 2016). They also are deepening their collective ideational understanding of what community and school means to them.

4.2 Mapping and surveying

Our next module gets to the heart of our CS SFL work. We see maps and the act of surveying as vital semiotic and material resources for supporting youth in locating and reengineering their lived experience of place (Harman et al, 2020). In this reflection literacy (Hasan, 1996), youth are positioned as movers of social policy, directing that movement through the literal re-mapping, re-shaping, of the spaces that affect them in their lives. We invite experts in urban design to present key concepts and terminology that our participants can use in surveying the school and in mapping out areas for improvement and re-design. As illustrated in Figure 3, the urban designers also provide images and free space on survey handouts that participants can use to support their understanding and add visual representations of buildings or other features of the campus.

Figure 3

Sample Items from the Survey
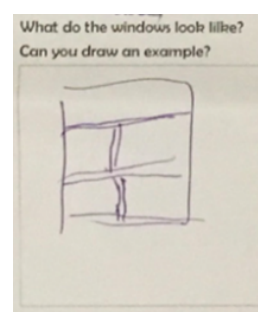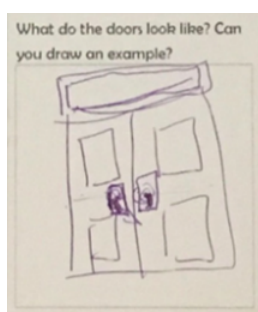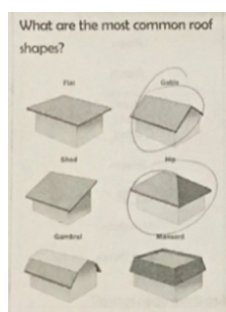
As illustrated in Figure 3, in one activity, the youth member compared the roof of their school with the pictures and circled the appropriate one. This multimodal and physical activity (as they walked around the school) allowed them to expand their semiotic repertoires as they drew on visual and spatial literacies. Such multi-representational literacy praxis (Waldrip, et al., 2010) can support co-participants in deepening their understanding of spatial and urban design.

Throughout the mapping and surveying activities, when all our participants are moving across spaces in the school, youth are positioned as campus experts who share with their co-participants their knowledge of the environment, which includes their spatial and communal use of the campus (Jones, et al., 2016). The discourse among the co-participants tends to be highly contextualized with use of deixis (e.g., over there, this building), gestures (pointing and waving) and concrete descriptions (gray building, community garden). When interacting with adult participants about the spatial structure of the school, multilingual youth also use maps and physical action such as movement or gestures to articulate their understandings about the environment. Through immersion in spatial and surveying activities, students' verbal literacy is complemented and enhanced through visual artifacts and embodied use of other semiotic resources such as the survey and map. For example, Fernando[ii] talked with his adult co researcher BJ in the following way when discussing the layout of the school:

> Fernando: All of this and right there (*(gestures to paper in SS's hands with pencil)*)
>
> BJ: And do ya'll like get to play soccer or whatever- football?
>
> F: Actually … this is the field we play (*(gesturing at paper with pencil)*) this is like (*(dropping pencil, continues pointing with index finger and picks up pencil)*) in front of the art building ↑ (*(gestures at paper with two fingers)*) and this, that square is like the soccer field (*(leans in and points at paper)*) It's like this (*(backs up, gesturing with finger in the air while SS holds paper at an angle)*).

As evidenced here, Fernando and BJ co-constructed an understanding of the physical and social layout of the school through the embodied multimodal use of pencil, map, verbal discourse, gestures and physical action such as walking around the campus. The assemblage supported Fernando in playing the expert community member with BJ.

4.3 Building with blocks

In the following module, through use of building blocks, youth take the lead in designing and reimagining the school campus and surrounding landscape into a space that supports their "creativity, curiosity, expansive subject positions, and social critique" (Jones et al., 2016, p. 1154). Participants draw from haptic, verbal, and visual modal resources to realize their scaled model of a dream work/ life/family space. For example, Lucia and her group conceptualized the school space as having apartments, a community garden, and stores including a taco stand and an ice cream shop where families could live, learn, and engage in community activities. In other words, the somewhat desolate landscape of the campus was remodeled into a dynamic cultural hybrid space. This aligns closely with findings from Jones et al. (2016) on the importance of place for youth. They explain that how youth "co-create their places are central to how they will experience, enact, and confront those discourses and practices" (p. 1153).

Figure 4 highlights Lucia's *simultaneous* use of verbiage, gesture, and visual modal resources in sharing her end design with other program participants.

Figure 4

Lucia: Visual, Verbal and Gestural Modal Resources

Building with blocks supported co-participants in laying out the exact position of each item they wanted to put in their ideal community. Indeed, as a form of material semiotics, the wooden block pieces were hard and solid in texture, and physically differentiated by height, width, and shape. Using this variety of block features supported the co-participants in realizing the spatial, perspectival, and scalar dimensions of their model. The embodied activities also supported them in using different discourse strategies as they interactively moved from negotiation with each other in building the design to explanation in front of the whole group.

4.4 Three dimensional artefact building

In the following module, university-based art educators were invited to facilitate 3D design workshops. The purpose of these workshops was to support the co-participants in designing a 3D artifact from their ideal community model that would be a feasible and sustainable contribution to the current school campus. These malleable 3D artifacts would be used in the following legislative theater module to advocate for changes and reallocation of community resources.

Ernesto and Fernando, for example, argued for inclusion of a taco stand to supplement what they perceived as meager culinary offerings at the school. Building sequentially from their previous use of other modes and modal resources (e.g., maps, language, and blocks), they expanded their understanding of what it meant to be an urban designer. In a small intergenerational group, they co-constructed their 3D artifact through deliberate shaping of the design, using cut-out paper, colors, verbal texts, and shape to enact their multimodal ensemble (Kress, 2003). Figure 5 shows the 3D artifact that Fernando and Ernesto used with the principal to argue for inclusion of a taco stand. By constructing a moveable object that they could manipulate in their hands, they were able to display the different dimensions of their product in ways that a two-dimensional drawing would not have allowed. This opened Ernesto and Fernando to imaginative, spatial, and visual literacies to create a new artifact that was intertextually connected to the other mappings and drawings they had previously made.

Figure 5

Taco Stand
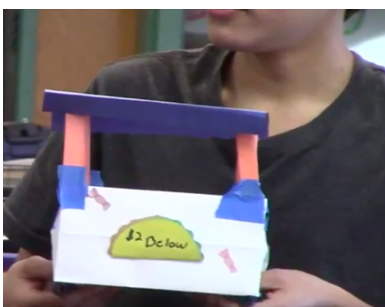
Ernesto and Fernando's 3D artifact illustrates a typical taco stand. For the decoration, the students drew and cut out the shape of a taco. They used yellow paper, similar to the color of a corn tortilla, for the taco. The wavy lines indicated meat and lettuce on a taco. Through the visual modes deployed in this 3D artifact, with the price below it, the youth conveyed directly what they wanted to see in the community.

4.5 Legislative theater

We often use Boal's legislative theater as a culminating activity in our collaborative community problem solving. Boal developed legislative theater forums in Brazil and elsewhere to engage local communities in raising their voices for equity and access (Boal, 1979, 1998). Our use of legislative theater functions to provide participants with a public forum to rehearse arguments for what they perceive as needed changes in their environment (Ginwright, 2008). Youth participants take on the role of community activists invested in arguing for change to the school administration. In small groups, they develop arguments and rationale to use in the improvised scenes.

In the overall performance scenario, Ernesto and Fernando worked to persuade the principal to allow them to build their taco stand. The roleplaying encouraged them to think across systems of communication – verbal, embodied, and visual modes – to make meaning and reflect on community assets and challenges. As Medina and Campano (2006) stated, "critical engagement with drama may disrupt the cycle of 'literacy for domestication' that narrowly circumscribes teaching and delimits the learning experiences in so many culturally diverse multilingual schools" (p. 333). In 2018, the youth members of our program were successful in getting the principal of the school to change the layout of the school media center so that it would become more youth centered and to include a new signage in the school that was more effective in publishing the accomplishments of students. Such tangible results support our youth even more in seeing how their complex meaning making has challenged and shifted school or city norms because of their civic engagement.

5 Discussion and Implications

In previous analysis of our programs (see for example Harman & Burke, 2020), we have found that youth participants expanded their repertoires of meaning-making when designing new spatial and artefactual resources for a more culturally sustaining school campus or city space. For example, their 3D artifacts were born from investment in their community (Kress and van Leeuwen, 1996), their evolving understanding of the affordances of the modes and their meaning potential (Kist, 2005; Lankshear and Knobel, 2003) and their spatialized understandings of their school and neighborhood environment(s) (Jones et al., 2016). Analysis showed also that youth participants with varied experiences, linguistic repertoires, and cultural backgrounds participated in the projects in diverse ways that supported their ongoing learning about urban design. Similarly, Heath (1993) found that youth became engaged in highly sophisticated literacies when immersed in theater and the arts that felt meaningful and purposeful to them. Indeed, some youth members of our programs have returned to become leaders of the next summer program because they feel the work is seminal for emergent bilingual learners new to the United States.

As demonstrated in Table 1, the CS SFL orchestration of modes and modalities supported participants in engaging in an increasingly complex set of activities, and genres. For example, in terms of verbal discourse strategies, the first unit in our work began with storytelling and active listening; the next unit involved explaining and describing features of the school campus; the following module involved negotiation and explanation of the ideal community model and the legislative theater involved use of argumentation. As Herbel-Eisenmann, et al. (2013) stated, the use of SFL "assumes that if students do not learn to use particular kinds of language with meaning, it is because they have had too few opportunities

to use that language meaningfully in relevant contexts" (p. 185). Our work is to provide our youth with opportunities to expand use of different discourses strategies and the coupling of modes that seem most effective for their civic work (Martin & Zappavigna, 2019).

Table 1

CS SFL Orchestration of Modes, Body, and Discourse Strategies

Module	Field	Tenor (relationship between youth participants and adult researchers)	Mode	Physical use of body	Discourse strategies
Storytelling and theater games		Storyteller and listener	Drawing, oral presentation	Using hand and the whole body involved	Discussion in small groups
Survey of School	Urban Planning (building ideal components at school)	Expert/ audience	Mapping and oral sense making of special and material properties of school	Walking around school	Negotiation and description in informal groups
Building ideal addition to school campus		Equal conversation	Building with blocks	Using hands and whole body in the process	Face to face negotiation with adult co-researchers on building choices
		Presenter/audience	Oral presentation to groups	Using gesture, body posture and eye contact	Reporting to the whole group
Artifact making		Apprentice/Mentor	Making 3D paper artifacts	Using scissors, cutting gluing, coloring	Negotiation with adult researchers providing more vocabulary in the field
Legislative theatre		Authority	Oral performance; holding 3D design	Moving, gesturing and acting	Persuasive arguments in front of the principal

As evidenced in Table 1, through the CS SFL sequence and orchestration of modes and modalities youth could "participate in the larger disciplinary discourse" (Draper & Siebert, 2004, p. 957) related to environment design.

5.1 Limitations of our work

When working in community settings with youth, we see failure as a trustworthy indication that we are not imposing our vision or pedagogy on our participants but that we are allowing room for youth to resist, disrupt and change what we intended to achieve in our modules. In other words, because our work centers youth and their interests and demands, our curriculum design is necessarily only a sketch of what will happen when we all come together in community problem solving and relationship building. As Tuck and Yang (2014) insisted, we need to always be aware of our positionality and mainstream privilege when working with youth. If we do not do so, we fail to "turn the gaze back upon power, specifically the colonial modalities of knowing persons as bodies to be differentially counted, violated, saved, and put to work" (Tuck & Yang, 2014, p. 241). Our program, in other words, is necessarily set up to fail again and again, because we are members of an inequitable colonizing institution and economic class that always is complicit in exploiting others with fewer resources. Because of this, we can only attempt to create a

democratic process with our youth and adult participants, making sure to attempt to center their visions and stories. In concrete ways, our youth work is also limited by our failure as yet to create a youth center where time for deep inquiry is not shortened by the arrival of school buses and other limitations of after school programs. In addition, our supporting youth in deepening their critical semiotic awareness of modes, materials and body is limited because of these time constraints.

5.2 Implications for future research and teaching

Most youth thrive in spaces that privilege the arts and collaborative inquiry related to local civic issues (Paris & Alim, 2014). In addition, pre-service teachers develop a heightened understanding of the social and institutional issues that face their students and how embodied and multimodal curriculum practices can help to overcome them (Abu El-Haj & Rubin, 2009). For example, pre-service teachers immersed in our program continued to draw on SFL and our youth-oriented approach to multimodal curriculum design when they became full-time teachers in our state (Harman et al, 2020). In addition, youth members of our group have continued to serve as mentors and leaders in our programs in subsequent years, convinced that they can effect change through their continued involvement. One youth leader stated that his reasons for returning were because he felt:

> the CS SFL program support students, the youth, to build up that confidence to build a pathway into good connections, to actually succeed in life, to get to represent what they believe in, to represent their societies, to represent what they've seen. (Ernesto personal communication, 2019)

Our paper highlights how we see resource pedagogies such as CS SFL as pivotal in challenging the current high-stakes testing and anti-immigration discourses that inform institutional practices. In a recent workshop at a middle school, one young boy responded to a question about what he had valued about our Boalian drama workshops by saying, "I learned that we could have opinions too." The fact that a 14-year-old boy felt he was not entitled to have opinions in school spaces points to the urgent need to support multilingual youth to raise their voices through culturally sustaining approaches.

Overall, in this current era of global health pandemics, and high-stakes testing school reform, educators need to move beyond mere awareness of the social inequities and injustices that their students face. We are, instead, called upon to engage in culturally sustaining approaches that "work within and against the systems they are a part of to disrupt or challenge ideologies of social reproduction through the literacy curriculum" (Simon & Campano, 2013, p.22). As illustrated in this paper, a CS SFL praxis can support youth in interpreting, using, and embodying rich multimodal, material and linguistic repertoires that they already use in their everyday lives and that can be leveraged for disciplinary knowledge generation and collective social action (Pacheco, 2012).

For educators interested in developing CS SFL practices, we recommend the following areas of expertise: (1) a working knowledge of systemic functional linguistics and genre pedagogical approaches to support careful use of the Teaching/ Learning cycle; (2) an understanding of the importance of co-constructing new knowledge with youth in embodied modules that culminate in a project with a broader purpose and audience; (3) an awareness of how multilingualism and free choice cultivate a rich dialogic space for adults and youth; and (4) development of a youth oriented collective that supports participatory research and design-based instruction.

Some may argue that our programs are different from regular school practices because they are supported by a rich set of resources such as access to adult co-researchers, art educators and community artists. However, we believe that youth program facilitators can develop similar types of relationships with college and community groups willing to participate in civic agency programs that support stronger ties and relationships across age, race and class.

To conclude, we believe that *all* teachers and youth educators in our multilingual and multicultural 21st century need to afford minoritized youth with a multimodal and multilingual curriculum that disrupts hegemonic ways of being, doing and knowing.

Notes

1. We have chosen to use the term multilingual youth to include young people who speak at home or in community a language other than Dominant American English (DAE) (i.e., Spanish, Hindi, Youruba) and/or speak a non-dominant variety of English (i.e. African American English (AAE), Chinglish (Chinese English).
2. All names of students and places are pseudonyms

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