

An Autoethnography of Culturally Sustaining CS Teaching in a Multilingual, Multicultural Middle School Classroom

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Abstract

Prior work has shared numerous examples, frameworks, and insights about culturally relevant, responsive, and sustaining computing education. However, prior work has not closely examined how teachers enact and reflect on such pedagogy, and how those reflections shape student learning, particularly in highly multicultural, multilingual classrooms. We conducted a 2-year autoethnographic study of the design, implementation, and iterative revision of a multilingual, justice-centered computing unit to two cohorts of 7th grade students using Wordplay, an accessible, multilingual educational programming language. By examining teacher journals, lesson plans, planning notes, and student surveys through the lens of the *Culturally Relevant Areas of Opportunity for K-12 Computing Lessons* framework, we found evidence of all ten areas of opportunity and its utility as a reflective tool, but also numerous ways in which teacher learning about student identity shaped reflection and instruction, leading to the discovery of additional opportunities for identity expression, language as a cultural resource, languages as cultural artifacts, and educational programming language contributions as authentic community.

CCS Concepts

• Social and professional topics → Computing education.

Keywords

K-12, secondary, justice-centered computing, teacher learning.

ACM Reference Format:

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1 Introduction

Broadening participation in computing requires more than expanding access to computing courses. Equitable computing classrooms also need instructional approaches that build on students' identities, languages, cultures, and lived experiences, and support students in using computing to understand and shape their world [23, 25].



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Researchers have increasingly drawn on culturally relevant [16], responsive [6], and sustaining [22] pedagogies to guide CS teaching [18]. These approaches position students' cultural knowledge and experiences as assets for learning while encouraging students to connect computing to their identities and communities and to critically examine the social and cultural dimensions of technology [23, 25]. Related work also draws on translanguaging pedagogy to argue that students' full linguistic repertoires are assets for learning computational literacies rather than barriers to participation [26].

Researchers have developed frameworks [3, 27], professional development models [17], pedagogical approaches [26], and curriculum resources to support this work. For example, the *Culturally Relevant Areas of Opportunity for K-12 Computing Lessons* framework [27] (CRAO) provides ten instructional prompts for teachers to adapt computing activities for cultural relevance. Subsequent studies on such frameworks have examined teachers' culturally responsive computing practices [8], investigated how teachers adapt computing resources using the CRAO framework [4], illustrated how culturally relevant principles can inform curriculum development and implementation in new instructional contexts [7].

Together, these studies provide important guidance for enacting culturally relevant, responsive, and sustaining computing education. However, they provide less insight into how teachers use these ideas as ongoing resources for planning, implementation, reflection, and revision over multi-year implementations. Prior work has shown that teachers learn continually over time, especially when environments support professional learning and collaboration [1, 14, 15, 19]. Understanding this learning process is particularly important in multilingual and multicultural classrooms, where teachers continually make teaching decisions in response to students' diverse linguistic, cultural, and community resources [9, 10], which can shift between cohorts, and where sustaining cultures means positioning youth with agency.

To better understand these processes, we ask:

- **RQ1:** How are culturally relevant opportunities enacted through the design and implementation of a culturally relevant, responsive, and sustaining secondary computing unit?
- **RQ2:** What additional opportunities emerge through teacher reflective practice?
- **RQ3:** What teaching decisions support these opportunities?

To answer these questions, we engaged in a 2-year autoethnography of the 1st author's teaching of a multilingual, justice-centered computing unit in a required 7th grade technology course. Through retrospective analysis of teaching journals, lesson plans, planning notes, and student surveys, we examine both teacher and student learning that emerged, and the reflective practices enabling them.

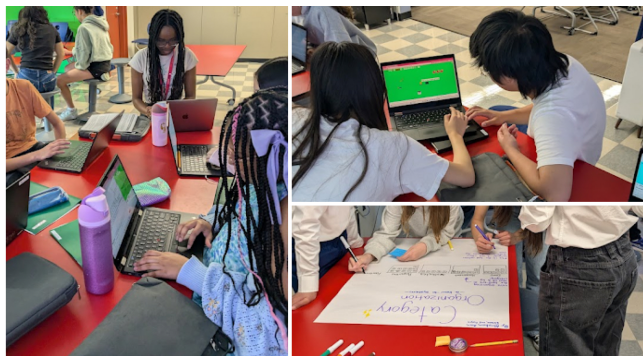


Figure 1: Active learning in the classroom.

2 Methods

We used an autoethnographic approach to study the design, implementation, and iterative refinement of a multilingual, justice-centered computing unit over two school years.¹ Autoethnography is a qualitative methodology that uses researchers’ lived experiences to understand broader social and cultural processes through systematic reflection. It is well suited for studying professional practice because it allows researchers to examine how instructional decisions, classroom experiences, and reflection evolve over time. Collaborative forms of autoethnography [5], including duoethnography, have been used in education and computing education research to support shared reflection and interpretation of practice [11, 20]. We chose autoethnography because our goal was to understand the work of enacting culturally responsive and sustaining computing education, closely examining how frameworks supported curriculum design, instructional decision-making, and teacher reflection across repeated implementations of the same unit.

2.1 Positionality and Reflexivity

The 1st author (the “teacher”) is a certified middle school computer science teacher with over a decade of experience teaching computing and technology. Shortly before this study, she participated in a secondary CS teacher education pathway at a university that emphasized justice-centered computer science pedagogy, culturally relevant computing, critical consciousness, and reflective teaching practice. This project emerged from her interest in integrating these approaches more intentionally into her own classroom practice. Throughout the study, she served as both the classroom teacher and the primary researcher, documenting instructional decisions and reflecting on how the unit evolved through implementation.

The 2nd author (the “researcher”) is a researcher and teacher educator with secondary teaching experience at the high school level. She is the maintainer of Wordplay, the educational programming platform the teacher used in her classroom. She collaborated with the teacher throughout the design, implementation, and interpretation of the study. She viewed her role as both creating spaces for the teacher’s reflections, but also acting as a supportive partner in helping realize her teaching plans by adapting, enhancing, and even redesigning Wordplay to support lesson plans and student feedback.

¹This study was deemed exempt by our institution’s human subjects division.

2.2 School and Classroom Context

The study took place in a 7th grade technology course in the U.S. (see Figure 1). The course was part of a required computer science and technology sequence in the teacher’s school that spans grades 5–8. All 7th grade students participated as part of the curriculum, bringing a wide range of prior computing experience, interests and relationships to technology.

Two cohorts took part across two academic years, with 38 students in each year. The student population was linguistically and culturally diverse. Across both cohorts, families reported speaking 22 home languages including Arabic, Assamese, Cantonese, German, Greek, Gujarati, Hebrew, Hindi, Japanese, Kannada, Korean, Mandarin, Marathi, Polish, Punjabi, Serbian, Spanish, Swedish, Taiwanese, Tamil, Telugu, and Turkish. Students’ relationships to these languages varied considerably: some spoke multiple languages at home, while others were just starting to connect with heritage languages and knew only a few words or phrases. These varied linguistic experiences became an important consideration throughout curriculum design and classroom implementation.

2.3 Curriculum Design and Iteration

After completing the CS teaching pathway, the teacher sought to redesign the required course to better support culturally relevant, responsive, and sustaining computing. The existing unit used *Code.org App Lab*, which supported only English. Having taught both cohorts during the required 5th and 6th grade technology courses, the teacher knew her students brought diverse linguistic resources and sought to design a multilingual, justice-centered computing unit inviting students to draw on those resources.

We began curriculum design during a summer collaboration at the researcher’s university. We envisioned a new unit using Wordplay, an educational programming language designed to support multilingual, justice-centered approaches to computing [13]. The teacher’s design drew on the CRAO framework, unit sketches from *Critically Conscious Computing: Methods for Secondary Education* [12], observations of a multilingual Wordplay course developed through a university Upward Bound program [24], the teacher’s prior middle school CS teaching experience, and the researcher’s expertise in programming language design, teacher education, and justice-centered computing.

During the 1st implementation, the authors met weekly to discuss classroom experiences, instructional decisions, and potential revisions. Following the 1st implementation, the teacher reviewed her reflective journals, student feedback surveys (described below), and the CRAO framework to identify strengths and areas for improvement. The authors collaborated again the following summer to revise the curriculum before the 2nd implementation.

Revisions included additional open-ended project types, student-designed features for peer sharing of Wordplay tutorials, and refined lessons. Weekly planning and reflection meetings continued throughout the 2nd year, supporting ongoing revision of both the curriculum and the Wordplay platform.

Figure 2 shows how the units in both years progressed from examining computing as a cultural practice toward increasingly open-ended computational projects, incorporating numerous practices for identity-inclusive learning.

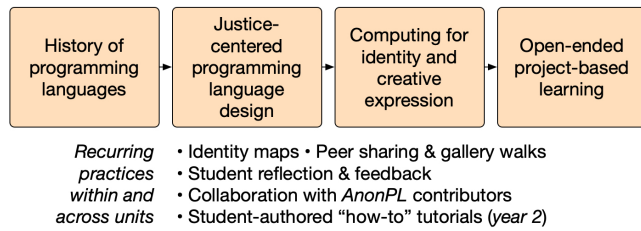


Figure 2: The unit arc each year and supporting teaching practices.

2.4 Data and Analysis

We drew on four data sources. The teacher kept **reflective journals** throughout both years, usually weekly and, when possible, after individual lessons. These journals documented instructional decisions, classroom interactions, emerging questions, and observations about student learning. The journals also captured ideas for revising the curriculum between implementations. We reflected on successive versions of **lesson plans**, together with **planning notes** from weekly planning discussions, which documented curriculum revisions, instructional decisions, and their rationale, providing a record of how teacher reflection informed iterative refinement. We only address students’ CS learning to the extent it was part of teacher reflective practice.

At the end of each unit, students completed an end-of-unit **reflection survey** as part of the teacher’s regular instructional practice. Open-ended questions invited students to reflect on their experiences during the unit, including what they found meaningful or challenging, and how they experienced programming, language, identity, and community. The teacher intended for surveys to support her reflection and curriculum revision rather than to serve as direct research data. After reviewing responses, the teacher wrote reflective summaries documenting recurring patterns, questions, and implications for future iterations in her journal.

Throughout and following year 2, both authors used a reflexive thematic analysis approach [2, 21], deeply, iteratively, and inductively creating meaning from the data above, using a codebook to scaffold this iteration and collaboration. We began our analysis through the lens of the CRAO framework because it had guided the teacher’s curriculum design and reflection, focusing on teacher journals first, because they most directly documented implementation and reflection. The goal of this sensemaking was intentional subjective interpretation, with the goal of capturing patterns of meaning in the data as themes. The codebook evolved as patterns emerged across journals, lesson plans, planning notes, and survey reflections. While early themes fell within scope of CRAO, themes began to consistently appear that were not fully captured by the CRAO framework, and so we added new codes and revised earlier coding as needed, as we found claims about the data that better accounted for teacher learning. Comparing across sources helped us distinguish recurring themes from observations that appeared only in a single artifact or implementation. After initial coding, both authors discussed the emerging themes and their interpretation. The researcher did not code the data directly, preserving student privacy, but served as a critical thought partner, challenging teacher interpretations, helping to refine the final themes and explicate their relationship to the existing framework.

3 Results

Our analyses produced themes across RQ 1-3, spanning teacher enactment of relevant, responsive, and sustaining pedagogy, the student experiences that followed from these teaching decisions, and how those learning experiences further shaped enactment.

3.1 Teacher Learning Through Enactment

3.1.1 Areas of opportunity scaffolded reflective practice. During initial planning, the CRAO framework served as a design resource, helping us select, adapt, and sequence instructional activities. Planning conversations centered on modifying existing resources to create richer opportunities for culturally relevant content, relevant context, accessibility, student agency, and collaboration. As implementation progressed, the teacher’s journals showed the framework increasingly became part of our reflective practice. Revisiting the framework during the unit, and after the 1st implementation, helped us interpret classroom experiences and consider which AOs were significant and which needed further development. These reflections shifted the framework’s role from supporting initial design to identifying priorities for revision.

This process was particularly visible during curriculum revision between implementations. During the 1st implementation, the teacher noticed students becoming deeply engaged in reporting bugs, proposing new features, and discussing improvements with Wordplay contributors. Revisiting the framework prompted us to reconsider these experiences as an important aspect of student agency warranting more intentional support. Before the 2nd implementation, we revised the curriculum to include structured opportunities for students to independently report bugs, submit feature ideas, and make localization contributions, and to author tutorials supporting classmates and future learners, expanding students’ participation beyond their own programming projects.

3.1.2 Curriculum design evolved through continuous learning about students. The teacher’s journals documented that many of the most significant curriculum revisions resulted from students revealing opportunities her original design had overlooked. Classroom observations, student projects, and student reflections shaped ongoing revision of curriculum activities.

One unexpected pattern involved students’ relationships to language. Although the teacher entered the unit expecting multilingual programming to help students incorporate home languages into computing, implementation revealed far more diverse linguistic experiences. Some students were fluent speakers but could not read or write their home language. Others understood heritage languages but rarely spoke them, while still others began reconnecting with family languages through their programming projects. Classroom interactions revealed further opportunities for peer learning, including students comparing regional vocabulary across shared languages, using home languages with university visitors, and expressing excitement about learning new words in a heritage language to create projects family members could understand. These observations prompted revisions such as additional opportunities for students to discuss their relationships to language, more support for incorporating multilingual text, and structures for learning from peers’ linguistic experiences.

Although the teacher had taught these students for two previous years, projects in this unit revealed aspects of their identities that had not surfaced in earlier computing classes. Students shared stories about cooking with grandparents, family migration, neighborhood histories, community connections, and cultural practices. The teacher's journals repeatedly documented learning new things about students through their computational artifacts. Those discoveries prompted revisions to later activities, including additional gallery walks, peer sharing, and classroom discussions that let students learn from one another's lived experiences. Others shared their reluctance to share, because of family values around privacy.

This continual learning about students extended beyond this unit's curriculum. While preparing a lesson for a concurrent course, the teacher noticed the curriculum introduced ASCII without mentioning that other systems exist for representing languages beyond English (e.g., Unicode), and without discussing how technical standards reflect human decisions. Following the 1st year, she revised additional computing units outside the scope of this study to incorporate these conversations, documenting in her journals that learning about students through this unit had begun reshaping her broader computing curriculum. Across both implementations and multiple other courses, curriculum design became increasingly intertwined with learning about students.

3.1.3 Collaborative reflection expanded practice. The teacher's journals documented her strong predisposition to focus on students' experiences during implementation. Entries primarily centered on students' questions, projects, interactions, and learning, with comparatively little attention to her own instructional decision-making or professional uncertainties. In contrast, notes from regular planning conversations with the researcher consistently shifted focus to the teacher's own practice, surfacing questions and tensions that rarely appeared in her individual reflections.

One recurring topic involved the teacher's uncertainty about facilitating conversations around identity, culture, and language in the computing classroom. Although she entered the project committed to culturally responsive and sustaining computing, planning notes document ongoing discussions about whether particular activities invited meaningful identity exploration, how students might respond to sharing personal experiences through computing, and how to invite identity expression without prescribing what aspects of identity students should represent. Rather than providing definitive answers, these conversations created space to examine those uncertainties and revisit them after teaching. The teacher's journals documented growing confidence in expanding identity-centered activities in the 2nd implementation.

A second tension centered on the teacher's own linguistic identity. As a monolingual English speaker teaching in a classroom of twenty-two home languages, she was uncertain how to support multilingual programming and monitor classroom conversations in languages she could not understand. Planning conversations explored decentering her as the "expert" and creating classroom structures in which students became resources for one another.

Collaborative reflection also supported the teacher's growing comfort with co-learning an emerging programming language alongside her students. Because both the curriculum and the platform evolved throughout the study, conversations often centered

on questions neither author could answer immediately, including how to scaffold project types, what programming patterns students would find most challenging, and how students would receive new platform features. Collaborative reflection helped reframe these uncertainties not as instructional shortcomings but as a natural part of designing new curriculum and instruction alongside an evolving programming language. Across both implementations, these conversations document a gradual shift from waiting to feel like an expert toward learning alongside students and inviting students to participate in the ongoing development of Wordplay itself.

3.2 Culture and Language as Assets

3.2.1 Students' identity expression was a resource for collective learning. The CRAO framework encourages teachers to learn about students' identities and to represent them in instruction and classroom materials. Journals showed that throughout both implementations, students routinely drew on their identities as they created artifacts reflecting the stories behind their names, home languages, family histories, neighborhoods, cultural traditions, hobbies, and lived experiences. These artifacts became resources for collective learning as students discovered new aspects of their peers' identities.

In her journals from the 1st implementation, the teacher noticed students using identity maps as ongoing collaborative design resources, although we had initially intended identity mapping as an introductory "get to know you" activity for learning about students. Students returned to these maps throughout the unit as they selected project topics, developed their programs, and reflected on new aspects of identity expression that emerged through peer sharing. Recognizing this pattern, we revised the 2nd implementation to include more explicit opportunities to revisit identity maps.

During an emoji design activity, students revisited their identity maps to identify aspects of personal and community identities missing from existing emoji, then designed representations to address those gaps. One student designed an emoji representing the head covering worn by boys in his religion after noticing that Unicode included the adult version but not a children's version, while another combined flags to represent his hybrid cultural identity. Later in the unit, a student animated a folk song from her cultural heritage, and another created an animated poem about cooking a family recipe with her grandmother. Several students' personal maps combined landmarks from their current community with important places from countries where they or their families had lived.

Students' reflections described these projects as feeling different from previous computing assignments. Many appreciated creating projects that felt personal, expressing their cultures in new ways, and bringing parts of themselves into technology class for the first time. Several described pride in representing where they came from through programming and in expressing their full lives and identities. At the same time, students frequently emphasized that sharing these projects was as meaningful as creating them. Students consistently identified gallery walks and peer sharing as favorite parts of the unit because they offered chances to learn about classmates' families, languages, traditions, and experiences that do not typically surface at school. As students' artifacts became more personal, they also became shared classroom resources, creating new opportunities for participation and collaboration.

3.2.2 Students drew upon language as a cultural resource. The CRAO framework encourages teachers to ensure that the language in materials is understandable by learners whose first language is not English, while related work has emphasized treating students' linguistic repertoires as assets for learning computing [26]. During implementation, the teacher reflected on how language became a shared resource through which students expressed identity, learned about one another, explored relationships to home and heritage languages, and built understanding across a linguistically diverse classroom. Throughout both units, many students used languages of meaning to them: they customized the platform's interface into languages they spoke or recognized, and also incorporated home languages into their projects' code, discussed their relationships to those languages, and translated programs into home languages to deepen language fluency and share with family.

These conversations revealed that students' relationships to language varied widely. Some described speaking a heritage language fluently but not reading or writing it. Others understood a language spoken by family members but rarely used it, while others knew only a few words or phrases that remained important parts of their identities. These differences frequently became topics of classroom discussion. During one activity, two students who shared a home language discovered they used different words for the same street food because they came from different regions. Their conversation quickly expanded into comparing other regional vocabulary, family traditions, and foods, creating new connections among students. Others noted barriers to text entry, or distance from their ethnic identity, wishing instead to center other aspects of their identity.

Our instructional design also positioned language as something students could share and learn from one another. We encouraged students to bring their languages into their work, explain linguistic choices in their projects, and collaborate to navigate multilingual programming. When students first encountered Wordplay's multilingual interface, the teacher observed excitement as students found their own and their classmates' languages included. During classroom visits from college Wordplay contributors, students often sought out collaborators who spoke their home languages, leading to conversations that shifted among programming, family, language, and culture. The teacher noted that she had rarely observed students speaking home languages during previous technology courses.

Reflecting on end-of-unit survey summaries, the teacher noted a pattern across both implementations. Students frequently described incorporating home and heritage languages as one of the most meaningful aspects of the unit. Many explained that these languages allowed them to express themselves in ways not previously possible in CS classes, while others emphasized creating and sharing projects that family members who did not read English could understand. Several described learning new words in heritage languages while creating projects, or incorporating languages spoken by parents or grandparents to strengthen family connections. Although students entered the unit with widely different relationships to home and heritage languages, classroom activities made those linguistic experiences shared resources for learning. In this way, linguistic diversity became a collective classroom resource rather than solely an individual asset.

3.2.3 Students critically examined programming languages as cultural artifacts. The CRAO framework encourages teachers to incorporate culturally relevant computing topics, including accessibility, ethics, and social justice. Across both implementations, we designed learning experiences inviting students to examine programming languages (PL) as objects of critical inquiry rather than neutral tools. Students explored the history of PL, the reliance of many contemporary PL on English, the development of Unicode and emoji, and Wordplay's justice-centered design goals. Throughout the unit, we prompted students to consider who designs PL, whose perspectives those designs reflect, and who might be excluded.

Early in the unit, the teacher solicited ideas about where PL come from and noted that no student could identify a PL creator, with many responding that PL came "from computers." This became a starting point for examining PL as products of human decisions. As students researched the histories of several popular PL, they noticed patterns among the people who designed them and questioned how those designers' perspectives might shape the languages themselves. For example, nearly every small group independently noted that error messages were available only in English and often assumed substantial prior programming experience. The teacher's journals documented that students consistently interpreted these messages as designed for experienced, non-disabled, English-speaking programmers and questioned their accessibility for people learning English, new programmers, or people with disabilities.

Students also examined the history of Unicode and emoji as examples of how technical standards reflect human choices. When presented with the original Unicode emoji set, students immediately identified patterns of inclusion and exclusion without prompting. These reflections led to discussions of subsequent efforts to broaden emoji representation, including proposals from individuals and youth seeking to represent additional cultures, identities, and lived experiences. Students then designed custom emoji in Wordplay to represent aspects of themselves and their communities they believed were missing (several described above). The teacher also noted one student reflecting that existing emoji already represented every aspect of her identity, prompting discussion of how representation is experienced differently across communities.

These conversations continued during classroom visits from university contributors to the platform's design and development. Students asked how PL are created, how accessibility decisions are made, how new features are proposed, and whether PL communities welcome people with different identities, languages, and abilities. Across classroom observations and survey summaries, the teacher noted that students increasingly connected the people who design PL with the accessibility and inclusiveness of those languages.

3.2.4 Students participated in an authentic PL community. The CRAO framework encourages teachers to structure collaboration and promote student agency. Throughout both years, we extended these opportunities beyond the classroom by positioning students as contributors to the Wordplay community. From the beginning of the unit, students learned that Wordplay was an evolving PL whose future their ideas, questions, and feedback could help shape. Rather than treating Wordplay as a "finished" tool, we presented it as a language that continues to evolve through contributions from its community, now including the students themselves.

Throughout the unit, students worked directly with university Wordplay contributors, discussing programming challenges, testing new features, suggesting improvements to the language and platform, and questioning design decisions. These collaborations positioned programming language development as an ongoing community effort rather than something completed by distant experts.

Students also contributed to Wordplay’s development. As they encountered bugs or confusing behavior, students learned to capture error messages using browser developer tools and submit bug reports. The teacher noticed unexpected enthusiasm for this work: students not experiencing errors expressed disappointment that they had no bug reports to contribute. In subsequent lessons, students celebrated learning that bugs they had identified or suggestions were addressed in later versions of Wordplay. During the 2nd year, participation expanded as students began contributing instructional resources to the Wordplay community. A summer co-design session with students between units led to a shared “How-To” space within Wordplay. Students authored tutorials explaining programming techniques they had discovered, requested tutorials from classmates, and used each others’ resources to create projects.

The teacher’s reflections noted that students increasingly described themselves as contributors rather than learners. Students consistently emphasized knowing that their feedback, bug reports, feature suggestions, and tutorials would improve Wordplay for future users, including people who speak languages other than English or have different accessibility needs. The teacher interpreted these reflections as evidence that students experienced themselves as legitimate participants in an authentic PL community who could help shape the future of computing.

4 Discussion

We asked three questions: how are culturally relevant areas of opportunity enacted (**RQ1**), what opportunities emerge through reflective practice (**RQ2**), and what teaching decisions enabled these opportunities (**RQ3**)? Across 2 years, we found the CRAO framework was valuable not only for planning, but for ongoing reflection and revision of teaching and lesson plans. Several opportunities became visible only through iterative enactment and reflection. These included students learning about each other, language as a cultural resource, examining PL as cultural artifacts, and participating in an authentic PL community. Throughout both years, we cultivated these opportunities through cycles of planning, teaching, observation, reflection, and curriculum revision.

Together, these opportunities describe increasingly expansive forms of participation in computing. Students first shared their identities and learned about one another through computational artifacts. They then drew upon linguistic resources that connected computing to families and communities, examined PL as products of human decisions rather than neutral technologies, and experienced themselves as contributors to computing rather than learners of it. Rather than four isolated findings, these opportunities built upon one another throughout the unit.

A second contribution concerns the teacher work of enacting culturally responsive and sustaining computing. Although the CRAO framework provided a valuable structure for reviewing and adapting instruction, we did not anticipate many of these opportunities

during initial design. Instead, they became visible through classroom interactions that prompted new questions, revisions, and instructional decisions. The teacher’s journals and planning conversations document how curriculum design and classroom enactment became increasingly intertwined. Classroom experiences informed subsequent decisions, which created new opportunities for students, which prompted further reflection and revision. In our case, responsive and sustaining pedagogy did not unfold through implementing a fixed curriculum, but through ongoing interactions among the teacher, students, collaborators, and the evolving plans and PL.

Existing frameworks [3, 27] already emphasize learning about students, engaging in reflective practice, and adapting instruction to local contexts. This study complements and extends that work by offering a detailed account of the iterative teacher learning that accompanied enactment over two years in a multilingual, multicultural computing classroom. Future research might continue documenting how teachers enact culturally responsive computing over time, how reflective partnerships support that work, and how different school and classroom contexts shape the opportunities that become visible through implementation.

For teachers, our experience suggests that culturally responsive and sustaining computing is unlikely to fully emerge from implementing a curriculum as written, however intentionally designed. Instead, opportunities develop through sustained attention to students’ ideas and identities, classroom interactions, and computational artifacts. Seemingly modest instructional decisions such as returning to identity maps throughout the unit, expanding peer sharing, inviting students to use languages meaningful to them, selecting programmable media that support multilingualism and accessibility, and treating student feedback as a resource for curriculum revision accumulated to create conditions in which new forms of participation became possible.

Our autoethnography had limitations. It reflects one teacher’s experience in one school using an educational PL designed to support multilingualism, accessibility, and educational justice. The proximity of the platform’s developer community also made possible forms of authentic participation that may not scale. As an autoethnography, we intentionally centered the teacher’s experiences and interpretations as a lens into the teaching cultures at her school and region. Teachers implementing similar approaches in other contexts would likely identify different opportunities, challenges, or instructional decisions.

By making visible one teacher’s enactment of an existing culturally relevant computing framework over two years, this study contributes an account of the iterative work through which culturally responsive and sustaining opportunities were recognized, interpreted, and cultivated in practice. Our findings suggest that understanding culturally responsive and sustaining computing requires attention not only to the opportunities students experience, but also to the teacher learning that makes them possible.

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