Music Uses in Preschool Classrooms in the U.S.: A Multiple-Methods Study

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Abstract

This study reports preschool educators' uses of music in educational settings, as well as challenges faced in incorporating music in the classroom in the U.S. Through a multiple-methods approach, data from two focus groups (N1 = 8, N2 = 6) and a survey (N = 119) are used to gain insight into how frequently preschool educators in the US use various types of music activities in their classrooms, for what purposes they do so, and what challenges they face in doing so. This study also sheds light on the current linguistic landscape of a sample of early childhood and care settings in the US, highlighting the importance of music activities as a tool to engage and teach children whose home language is different from the instructional language of English. Results indicate that preschool educators use music on a daily basis, for both academic and social-emotional purposes. Additionally, educators who have linguistically diverse students tend to use music more than those who have all English speakers in their classrooms. Finally, educators reported facing several challenges in accessing the necessary resources to lead music activities effectively in their classrooms.

Keywords Early childhood education · Music education · Dual language learners

Introduction

Music-based activities support learning and development in early childhood (Bond, 2012; Hallam, 2010; Politimou et al., 2019), especially in the realms of social and emotional development (Ilari, 2016; Rittblat et al., 2013) and language and literacy development (Bolduc, 2008; Hansen et al., 2014). Further, music-based activities may be particularly useful in supporting dual language learners (DLLs, Paquette & Rieg, 2008), who are defined as young children who speak more than one language at home and in the classroom, and who comprise a significant and growing

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proportion of students in early childhood education (ECE) settings in the U.S. (Baker & Páez, 2018). Given the value of musical experiences in early childhood, it is important to understand how music is currently used in ECE settings with students from diverse language backgrounds.

We know that music has long been used in U.S. early childhood classrooms in both formal and informal ways to structure daily routines, promote creative expression, and integrate curricular themes (Gillespie & Gilder, 2010; Nardo et al., 2006). Additionally, recent studies provide descriptions of how music is used in early childhood classrooms in specific regions within the U.S. (e.g., Rajan, 2017b) or within specific types of early childhood programs (e.g., Reggio Emilia-inspired programs, Bond, 2015). Given the rapidly changing ECE landscape, additional research is needed to document the current use of music in early childhood classrooms across the country, particularly in linguistically diverse classrooms where more than one language other than the language of instruction is represented in the student body (Baker & Paez, 2018). Further, there is ample room for research illuminating whether classroom practices connect to early childhood educators' orientations toward music, and to help understand the challenges educators might face in incorporating music in the classroom.

Music-Based Activities and Early Childhood Learning and Development

Music is linked to a wide range of positive developmental outcomes in early childhood. For example, participation in music-based activities (e.g., singing songs, listening to or dancing to music, playing musical instruments, etc.) has been positively associated with self-regulation (Williams, 2018), cognitive and intellectual development (Neville et al., 2008; Rauscher, 2009),[1] and motor development (Hallam, 2010). Further, music-based activities are often a component of arts-based and play-based educational programs, both of which have been effective at promoting learning in early childhood settings (Brown & Sax, 2013; Nicolopoulou et al., 2015). In particular, music has been found to support language and literacy outcomes (Bond, 2012; Franco et al., 2020; Moreno, 2009; Politimou et al., 2019). Music perception skills are associated with phonological awareness in young children, and musical training may enhance performance on phonological tasks (Degé & Schwarzer, 2011; Moritz et al, 2013). For example, Moritz et al. (2013) found that kindergarteners' rhythmic ability was associated with their phonological awareness and word identification skills two years later, and that students who participated in more musical training showed greater improvement in phonological awareness. This finding was corroborated by Politimou and colleagues (2019) who also found predictive associations between melody perception and grammar acquisition. Beyond phonological awareness, music-based interventions for young children have also led to increases in emergent language and literacy skills ranging from visual-auditory mapping (Moreno et al., 2011) and speech processing (Strait et al., 2013) to vocabulary (Runfola et al., 2012).

Music may have positive developmental impacts in part because it supports social and emotional skills such as prosocial behavior and self-regulation, which in turn allow children to engage in other types of learning. At the individual level, singing and humming were used as self-regulatory strategies by three and four-year-olds enrolled in a structured music program (Winsler et al., 2011). At the group level, Kirschner and Tomasello's (2009) experimental study showed that drumming while in a social context facilitated young children's ability to synchronize their drumming with beat patterns initiated by others. Based partly on this work, Ilari (2016) identified three core elements of early childhood social development which, when applied to music, explain music's social-emotional benefits: social referencing, shared intentionality and joint action. The social nature of music making translates into effects on children's social and emotional development, addressed in many studies. For example, Rittblatt and colleagues (2013) found that preschoolers who attended a school-readiness music program scored higher on teacher-reported social skills scores than preschoolers in a control group. Similar links were found in infancy: six-month-olds who participated in a weekly, one-hour music training for six months scored higher in a parent-reported measure of social reactivity and regulation (Gerry et al., 2012). Looking specifically at self-regulation, Williams (2018) proposed that pairing rhythm and movement synchronization activities with self-regulation activities constituted a promising, research based avenue to support self-regulatory development among young children.

The positive impacts of classroom music on language and literacy development seems to be particularly strong for young DLLs (Fisher, 2001; Shin, 2017), who comprise approximately 32% of U.S. school age children (Child Trends, 2019) and make up a growing proportion of students in early childhood settings (Baker & Páez, 2018). For example, in one experimental study, Spanish–English DLLs who were randomly assigned to teachers who used music-based activities during literacy instruction in kindergarten and first grade scored higher in oral language and reading abilities than those assigned to classrooms using the same literacy curriculum without music (Fisher, 2001). Some of the benefits of music for DLLs may be due to the flexible and child-centered learning environment created during music-based activities (Paquette & Rieg, 2008). In this vein, Shin (2017) argued that music-based activities are effective for young DLLs because they provide engaging, developmentally appropriate, and culturally relevant opportunities for these students to express themselves. The use of music in ECE classrooms is not only associated with academic benefits, but also provides practical and equitable channels to enhance social interaction for linguistically diverse students.

Use of Music in ECE Classrooms and Teachers' Orientations and Challenges

Given the apparent value of music in early childhood, it is important to understand whether children have opportunities to participate in music-based activities in ECE settings. Some families engage children in music-based activities at home (de Vries, 2006)[2] and/or enroll children in structured activities in their communities (e.g., musical instrument lessons or parent–child music classes), and increased access to

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[1] Much of this research is correlational, and some evidence suggests that the cognitive skills developed during music-based activities may not transfer to many non-musical domains (e.g., Yang et al., 2014). More research is needed in this area.

[2] Existing data also reveals community-oriented social-emotional affordances of home-based music interactions (Costa-Giom & Benetti, 2017).

touchscreen devices at home may have expanded and diversified young children's exposure to music activities (Young & Wu, 2019). However, not all children have equal access to these opportunities, whether due to caregivers' lack of time and resources or their belief that children already engage in music in preschool or while in childcare (de Vries, 2006). At the same time, as of 2018, 68% of U.S. four-year-olds and 40% of three-year-olds were attending full-day or half-day preschool, kindergarten, or nursery school programs according to the National Center for Education Statistics (NCES, 2020). In a national survey, Nardo and colleagues found that music was widely used in early childhood classrooms (Nardo et al., 2006), despite the fact that state and national early learning standards vary in their inclusion of music-based activities. For example, music is only referenced once in passing in the Head Start early learning outcomes framework (Administration for Children & Families, 2015), but it is integrated into the preschool standards of many states including California (2012) and New York (2019). Early childhood care settings can therefore serve as important contexts for providing musical experiences to a wider range of children.

Because teachers are the key facilitators of music-based activities in early childhood classrooms, their orientations toward music, including both their experience and comfort using music in the classroom and their beliefs in the benefits of music for children, may shed light on the prevalence of music use in early childhood settings. Few early childhood educators receive music education training (Gruehagen, 2012), which helps teachers feel more prepared and confident in their use of movement and music in their classroom (Barrett et al., 2019; Bautista & Ho, 2021). In fact, Bolduc and Evrald (2017) showed in their survey of 108 early childhood French-Canadian educators that teachers with deeper music knowledge used music more frequently in their classroom compared to those with less knowledge of music. Music education training also helps pre-service early childhood educators develop reflective practices in their music teaching and create authentic music learning experiences (Valerio & Freeman, 2009).

Though many lack formal music training, most ECE teachers believe in the value of music for their students. In the U.S., Kim and Kemple (2011) found that preservice early childhood teachers held strong beliefs about the social-emotional, aesthetic, and quality-of-life benefits of music for their students. Moreover, Rajan (2017b) found that preschool teachers consider music-based activities important for supporting student learning and development. These beliefs seem to drive teachers' use of music in the classroom; indeed, Barrett and colleagues (2018) and Ehrlin and Tivenius (2018) indicated that classroom music use is positively associated with teachers' belief in the value of music in Australia and Sweden. Beyond this research showing that teachers believe music is important for their students, little is known about teachers' *orientations* toward music, by which we mean their comfort using music and their intention to use music for different pedagogical and social purposes in their classrooms.

Some broad patterns have been identified in early childhood teachers' use of music in the classroom. For example, many teachers use music to scaffold students' learning and to structure daily routines and transitions between activities (Gillespie & Gilder, 2010; Rajan, 2017b). Most often, music is used during full-group time, as opposed to during small group or one-on-one time (Gillespie & Gilder, 2010). In at least one study of preschool teachers in a midwestern state, most music activities used were teacher-directed (e.g., students responded to the teacher's musical cues or sang along to recorded music) and provided limited opportunities for students to express themselves creatively (Rajan, 2017b). While these patterns are helpful to understand, more research could provide a fuller picture of how early childhood teachers use music across the country and in different types of ECE settings. In particular, research is needed that illuminates how teachers use music in linguistically diverse classrooms.

Many early childhood teachers face significant challenges using music in the classroom. For example, in most early childhood settings, general education teachers (as opposed to music specialists) are responsible for creating and facilitating music-based activities (Bond, 2012), although this may vary more in privately-owned preschools (Bond, 2015). The lack of formal training in music or music education may serve as a barrier for these teachers in using music with their students. Indeed, there is evidence that teachers' self-reported lack of musical ability and knowledge impedes their use of music (Kim & Kemple, 2011; Rajan, 2017b). In addition to a lack of training, some early childhood teachers have reported difficulties accessing resources for music instruction (Rajan, 2017b), which can include classroom instruments, technology for playing recordings or videos, and music-based lesson plans or curricula. Music is rarely explicitly incorporated into accessible, research-based early childhood curricula and interventions. For example, out of 10 early childhood interventions endorsed by the What Works Clearinghouse, a platform that synthesizes evidence-based interventions in the United States, only one incorporated music and motor-based activities (What Works Clearinghouse, 2013).

Early childhood teachers' challenges in using music have also been exacerbated by education policy. For over a decade now, policies impacting early childhood education have largely focused on accelerating students' academic learning in preparation for kindergarten and, ultimately, for high-stakes, standardized testing in elementary school (Persellin, 2007). More recent policy has continued this trend, often at

the expense of integrating early childhood music education into current curricula (Reynolds & Burton, 2017). These national trends shape the priorities of school and center leaders and can ultimately lead to budget cuts that deprive teachers of resources for musical instruction or program standards that leave little time for music-based activities (Rajan, 2017a; Reynolds & Burton, 2017). Beyond policy changes, other national and global trends including increased technology use in education (Slutsky et al., 2019) and shifting student demographics (Phillips et al., 2017) are affecting early childhood education. Given these changes, new research into music in ECE settings should consider the role of classroom diversity and teachers' access to and use of technology.

The Current Study

As noted in the literature review above, more research is needed to gain a detailed and comprehensive understanding of how music is currently used in early childhood classrooms across the U.S., of teachers' orientations toward using music (i.e., their comfort using music and their intention to use music for different pedagogical and social purposes in their classrooms), and of the challenges teachers face using music in their classrooms. The current research seeks to address these gaps by asking:

1. How is music currently used in a sample of early childhood classrooms across the United States?
2. What are early childhood educators' orientations toward using music in their classrooms?
3. What are the challenges that early childhood educators face (e.g., due to a lack of technology or to classroom language diversity) in using music in their classrooms, and/or the barriers that prevent them from doing so?

For each of these research questions, we also consider how the findings are associated with classroom linguistic diversity. Using a multiple methods approach with focus groups and a quantitative survey, we aim to capture early childhood educators' attitudes and practices in depth as well as in a larger sample to find a convergence between the qualitative and quantitative data (Creswell, 2009). While all five authors are education researchers interested in promoting learning in early childhood settings, the two first authors and the second author also have previous experience as musicians and music educators. The co-first author has a multilingual background and personal experience using music as a medium for language learning and multicultural community building. Further, the second author also has a multilingual background and has previously developed music-based literacy programs for DLLs in bilingual classrooms. Our research design and interpretation are influenced by these backgrounds; by our beliefs, supported by existing

research, in the value of early music education; and by our desire to learn from the perspectives and lived experiences of early childhood educators.

Methods

Data for this study were collected in two phases: first, two in-person focus groups were conducted in November, 2019 and March, 2020. These focus groups were designed to provide a forum for local preschool teachers to share their experiences using music in the classroom and teaching in linguistically diverse settings. The focus group protocol also included some questions about teachers' language and literacy instruction, due to the researchers' initial interest in music as a way to support language development. Based on focus group data, and because of the small size of the focus group samples, we designed the second phase of the study which consisted of an online survey conducted between July and December, 2020. The survey was designed to gain a broader understanding of how teachers use music across the United States and across different types of EC centers. The survey data was collected during the COVID-19 pandemic. We acknowledge that our survey participants were likely facing challenges as a result of the pandemic that may have influenced the data they provided. All components of this study were approved by the local university research ethics board.

Focus Group

Focus Group Development

Focus group questions fell into three main topic areas: *use of music in the classroom (including challenges to using music in the classroom), language and literacy practices,* and *linguistic diversity.* For example, in the first topic area, participants were asked questions such as: "What are the challenges or barriers to using music in your classroom?" In the second topic area, participants were asked questions like: "What kinds of language and literacy activities do you use in your classroom?" In the third topic area, participants were asked questions like: "How has the language diversity in your classroom changed during your time as a teacher?".

Focus Group Procedure

We conducted two focus groups, one in October, 2019 and one in March, 2020. The focus groups took place at two different early childhood centers managed by the same non-profit organization in the greater-Boston area and involved teachers from the centers where the focus groups took place. Both centers were partially funded by Head Start. The

second author, who was a doctoral student at the time the research was conducted, had worked with the centers previously and recruited them to participate. The second author facilitated the focus groups along with two other doctoral student researchers, the co-first authors.

The first focus group involved eight teachers and the second focus group involved six teachers. In both cases, participants were a mix of lead and assistant teachers who worked with 2–5-year-olds in center-based care. All focus group participants were women. Each focus group took place on a weekday afternoon and lasted approximately one hour. The researchers elicited verbal responses and for some questions asked participants to write on sticky-notes. The focus groups were video recorded, but teachers had the option to sit where their faces would not be visible in the recording. Following the focus groups, the recordings were summarized in analytic memos and key quotes were transcribed. Participants were compensated with $10 Amazon gift cards.

Focus Group Analysis

Following each of the two focus groups, a team of four researchers including the co-first authors and second author watched the focus group recording independently, taking detailed notes on all responses and transcribing key quotes to retain the participants' own words. From these listening notes and transcribed quotes, each research team member identified initial themes that characterized shared experiences of the focus group participants. For example, these themes included *classroom language diversity as a challenge, using songs to facilitate transitions, and music activities must be engaging and inviting*. The research team then met to discuss and refine these themes collaboratively, constructing a single set of themes for each focus group that captured their collective interpretation of the data. These themes are reflected in the subheadings of the Findings section below.

Survey

Survey Development

Drawing on data from the two focus groups and the existing literature, we developed an online survey to elicit exploratory data about early childhood teachers' musical practices as well as demographic data about the teachers and their classrooms. Our analysis of the focus group data suggested that participating ECE teachers had strongly positive orientations toward using music. In order to follow-up on this finding and determine whether ECE teachers across different regional and linguistic contexts held similarly positive orientations, we also included a scale measuring teachers' orientations toward music. The survey contains 83 items

that fall within four main topics: (1) *use of music in the classroom*, (2) *purpose of music in the classroom*, (3) *comfort with music*, *and* (4) *challenges in using music in the classroom.* Participants were also asked to report on their program characteristics and their demographic background. Questions use a mix of frequency-based multiple choice and free-response formats.

First, to explore how early childhood educators used music in their classrooms, we asked participants about the frequency with which they used a range of music activities (e.g., singing songs, listening to recorded music, dancing, etc.) across three main formats: whole group or circle time; small group, centers, or one-on-one time; and transitions. The activities listed and the formats were informed by the focus group responses. Additionally, we asked participants to list and rank specific songs they used in the classroom (pre-populated with focus group responses), as well as whether they used music as part of a music theme/unit, and whether they used music in languages other than English. Second, we asked about the intended purposes for which participants used music, with response options that were informed by current learning goals for Head Start programs (Administration for Children & Families, 2015). Third, to measure educators' comfort with music, we selected relevant items from the Goldsmiths Musical Sophistication Index (Gold-MSI; (Müllensiefen et al., 2014). Finally, to determine which challenges or barriers early childhood educators faced in using music in the classroom, we asked participants to select challenges they experienced and to say whether they would use music more frequently if each challenge were addressed. The list of challenges was developed based on teacher responses during the focus groups and our review of the literature.

Survey Procedure

The survey was administered via the online software Qualtrics. Eligible participants were lead or co-lead teachers in U.S. preschools who had served children aged 12 months to five years between 2018 and 2020. The survey was promoted online over a five-month period via listservs and social media groups for early childhood teachers, including groups for Head Start teachers and other national organizations. Social media groups were chosen based on size (over 1000 members) and to reach a range of teachers in different parts of the country and different types of early childhood programs (e.g., center based, home based.) Recruitment tools said that the survey would be used to help researchers learn more about classroom music and language practices. Interested individuals were instructed to contact the research team, at which point they were provided with an anonymous, personalized Qualtrics link. The survey took approximately 20 min to complete. All but two questions

required participants to respond. All participants took the survey anonymously and were compensated through entry in a random drawing of a $50 Amazon gift card (one $50 gift card was drawn per each 10 participants.) Out of 210 teachers who received a survey link, 154 participated. Twenty participants started but did not complete the survey, and an additional 15 participants did not meet the eligibility requirements (i.e., specialist teachers/teaching assistants; non-U.S. based). Our analytic sample thus included responses of 119 participants who were eligible and completed the survey. Almost all (96%) of the preschool teachers in our sample identified as female, and 76% identified as White. For comparison, as of 2019, 97.5% of preschool and kindergarten teachers are female (Data USA, 2019), and as of 2018, 63% of school and center based early childhood educators were White (Whitebook et al., 2018). Teachers in our sample ranged in age from 23 to 68 (M = 40, SD = 10.7), and in teaching experience from 1 to 46 years (M = 25, SD = 14.5).

Findings

Focus Groups

We organize our focus group findings based on three major themes that emerged from analyzing teachers' responses. While most of these themes came up in both focus groups, we draw distinctions between the two groups of teachers where appropriate.

Teachers' Use of Music During Transitions and for Classroom Management

Echoing the existing literature, teachers in both focus groups reported using music-based activities frequently. At one of the centers, teachers shared some of their favorite classroom songs, which included well-known children's songs like "Head, Shoulders, Knees & Toes", "The Wheels on the Bus", "The Itsy Bitsy Spider", "Old MacDonald", "If You're Happy and You Know it", and "The Alphabet Song". Teachers also reported a few niche songs, including songs that they invented or that had been shared with them by other early childhood educators. In general, the teachers reported a preference for songs that have built-in movements or directions.

Teachers reported using music throughout the day, but primarily during circle time and transitions. Both groups mentioned their "transition songs" multiple times. These were songs that teachers used repeatedly and that helped to provide familiarity and structure to moments of change during the day. For example, one teacher used a song called "Stop, Look and Listen" while helping her students cross the street on their way to the park. Another teacher described her transition songs in the following way: "We use a lot of

action songs, like they really like the song 'We're Going on a Bear Hunt'… they really act out the music, so it's not just free dancing, it's like they're playing a part, and they really like to be silly and goofy. Then too, when we're cleaning, we announce 'clean up!' and then we'll sing 'I see Jane cleaning, cleaning, cleaning, doing a good job"… or when they're running down the hall, we'll sing 'walk, walk, walk together." Teachers described these songs as helping students to regulate their behavior, explaining that "music helps the kids get redirected… it helps burn off their energy." The ways teachers described using music reflected their perceptions of its value, including its value specifically for DLLs. As one teacher noted, "Cueing them [DLL students] to transitions with words and songs that are consistent, even if they don't understand the words we are saying, they know that that song, that sound happens during certain things." Other teachers described using more repetitive songs to help DLLs become familiar with the vocabulary in the lyrics.

Teachers in both centers reported using some songs in languages other than English in their classrooms. They perceived these songs as effective because "it's something different" that catches the attention of all students (whether or not those students are familiar with the language) and because, when teachers were able to find songs in the home languages of DLLs, those students responded positively to hearing their languages in the classroom. However, the extent to which teachers felt able to use songs in languages other than English depended on teachers' own language backgrounds and the languages spoken by their students; in many cases, the teachers who mentioned using songs in languages other than English were the bilingual teachers who were also fluent in another language. All the teachers were enthusiastic about the idea of using *more* music in other languages than English in the classroom, but they also saw that as a challenge, as described below.

Teachers' Perception of Music as Engaging and Supporting Diverse Students, Including DLLs

Teachers in both focus groups reported perceiving music-based activities (especially those that included movement) as valuable for supporting the classroom engagement and language development of diverse groups of students. They stressed that music and movement activities were essential for drawing children to circle time and holding their attention. Even during read-alouds, teachers found they needed to augment the story with music and movement, to keep their students engaged.

In particular, teachers described music as a "go-to" activity for supporting students with limited English proficiency, including DLLs. Supporting DLLs was clearly salient to the teachers, as evidenced by the fact that teachers in both groups mentioned the linguistic diversity of

their classrooms before they were asked about it. In each focus group, teachers counted over 15 distinct language backgrounds that were represented across their classrooms. Over the past few years, that number had increased substantially; whereas the families of DLLs enrolled in both centers had once been primarily Portuguese and Spanish-speaking, more languages were represented among current families, such as Hatian Creole, Arabic, and Indian and African languages, forming a superdiverse linguistic environment in the classroom. Teachers articulated the challenges of this shift, noting that it was now common for students' families to speak languages that few, if any, teachers in the centers spoke. As one teacher explained, even pronouncing individual words in certain languages was hard for teachers: "For languages like Arabic or Berber, we do have teachers who speak Arabic now, but for us [monolingual English-speaking teachers] to say those words… like, they try to tell us and we try to repeat it, but it doesn't sound the same, obviously."

In addition to the challenges of increasing linguistic diversity, teachers explicitly voiced their empathy for their DLL students and their desire to support them. For example, one teacher, in describing an Arabic-speaking DLL in her classroom, shared that "it's very hard for him… because he can't express himself. Sometimes I feel frustrated, because I don't know how to help him." Teachers also shared some of the strategies they had developed to support their students, including learning basic phrases in children's home languages, collaborating with parents and multilingual colleagues, asking students to "show instead of tell," and using visuals and sign language in their classrooms.

In addition to these strategies, teachers highlighted the value of music-based activities for the DLLs in their classrooms. They shared how simple, repetitive songs engaged DLL students, even if those students were unable to understand the meanings of the words. They described seeing DLLs becoming "invested" in joining in with the movements that went along with songs or participating in simple call-and-response motifs. Further, teachers perceived DLLs' engagement in music-based activities as useful in supporting their language and literacy development. As one teacher explained, "You can see [the DLL students] learn more with music because it repeats the same song, and the kids can't read but they can have [the words] in their head." Teachers also described how music-based activities help their students practice their expressive language. For example, while describing a song she uses in her classroom, one teacher noted that "[non English-speaking DLLs] still verbalize, even though they can't say the words, they still attempt to. So, I feel like you get the most language-learning from that."

Teachers' Lack of Access to Musical Resources, Including Resources in Languages Other than English

When asked about the challenges they encountered using music in their classrooms, teachers in both focus groups cited a lack of access to materials facilitating the use of music, including musical instruments, CDs, and songbooks. At these two centers in particular, teachers were not permitted to use computers or cellphones in their classrooms, so they used a combination of iPods (which had been donated to one of the centers) and CD players. However, both methods were unreliable; the iPods were old and it was cumbersome to load new music on them, and the CDs were outdated and scratched easily. Teachers also mentioned struggling with access to space in which to lead music-based activities, since many teachers shared classroom space and were thus prevented from making too much noise.

Additionally, teachers noted a specific lack of resources for using songs in languages other than English. As noted above, teachers felt that songs in other languages were engaging and exciting for their students (including both DLLs and monolingual English speakers). However, they explained that those songs, as well as the lyrics, pronunciation guides, and recordings that would make them more accessible, were difficult for teachers to find. As one teacher explained, even when their students react positively to the songs, teachers may feel lost. "I was trying to incorporate Korean songs in, but unless you really know what they're saying, you have no idea. I googled 'Korean children's songs' and the Korean little girl sitting next to me, she recognized the songs, but she couldn't help me to say it." When teachers did come across songs in other languages, they also worried that they might choose an inappropriate song due to a lack of context and knowledge of the language. They expressed the desire for more models for using music in languages other than English in the classroom which they could emulate.

Survey

Despite sharing the survey on some social media pages specifically for home-based providers, our sample was almost entirely made up of center and school-based early childhood teachers (94%), and 77% of teachers taught in full-day programs. Most participants (58%) taught within fully publicly-funded contexts. Participants taught a range of age groups, from 1–2 year olds, to 4–5 year olds, as well as mixed-age groups. An equal proportion of participants taught 3–4 year olds and 4–5 year olds (29%), and nearly as many participants reported teaching mixed age-groups (25%). As presented in Table 1, 62.2% of participants reported there were DLLs in their classrooms, and this proportion was higher among teachers who worked in publicly funded programs.

**Table 1** Teacher demographics and language background (n = 119)

	%	n
Gender		
Female	95.80	114
Male	3.36	4
Nonbinary	0.84	1
Race/ethnicity		
White	75.63	90
Mixed race/ethnicity	6.72	8
African American	5.04	6
Latinx	3.36	4
American Indian or Alaskan Native	3.36	4
Asian	2.52	3
Other/prefer not to answer	3.36	4
Language background		
Monolingual	86.55	103
Bi- or multilingual	13.44	16
First language		
English	96.64	115
Languages other than English (including Cantonese, Korean, and Spanish)	3.36	4
DLLs present in classroom		
Yes	62.18	74
No	36.97	44
Not sure	0.84	1
Highest grade/year of schooling		
High school diploma/GED	2.52	3
Some college but no degree	5.04	6
Associate degree (2 year degree)/vocational program post HS	16.80	20
Bachelor's degree (4 year degree)	26.89	32
Some graduate or professional school	8.40	10
Doctoral degree (PhD, EdD)	0.84	1
Funding		
Publicly funded	57.98	69
Privately funded	28.57	34
Both public and private	8.40	10
Not sure/other	5.0	6
Head Start status		
Head Start program	37.82	45
Non-Head Start/not sure	62.18	74

All teachers reported using English in the classroom, however, some teachers reported using other languages in the classroom as well, including Spanish (39%), ASL (6%), and French (4%).

Teachers' Use of Music in the Classroom

All surveyed teachers reported using music in their classrooms. We found that 95.8% of teachers reported using music at least once a day, of whom 71.9% reported using music three or more times per day. Interestingly, we found that 77% of teachers who reported having DLLs reported using music three or more times per day whereas a significantly smaller proportion of teachers who reported *not* having DLLs (56%) in their classrooms used music at the same frequency [$t(116) = -2.34$, $p < 0.05$]. The vast majority of teachers reported using music during whole group or circle time (96.64%) and during transitions (86.55%), and about half of the teachers reported using music in small groups (55.46%). Beyond these three times of day, which we listed as options on the survey, a handful of teachers used an open-ended question to share that they also use music during rest

Fig. 1 Distribution of music activities used daily (n = 119)
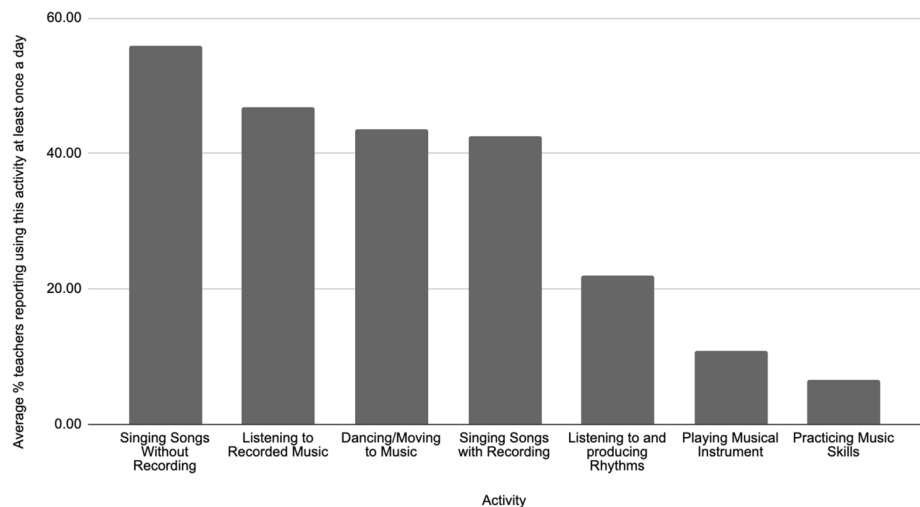
or nap time (5 teachers), during dedicated music instruction time (5 teachers), or during recess or outdoor play time (5 teachers). Additionally, a few teachers described using music spontaneously or as needed throughout the day, describing "singing songs on the fly" and "singing kinda off the handle."

Across these times of day and at varying frequencies, teachers used multiple types of music activities, from singing songs (with or without recordings), dancing/moving to music, playing musical instruments, learning musical skills, listening to music, or practicing listening to and producing rhythms. Figure 1 summarizes the distribution of music activities that teachers reported using at least once daily. The activity that was reported to be used most frequently was *singing songs without recordings*; over two-thirds of teachers reported using this activity at least once a day, and one in four teachers used this activity three or more times per day. Conversely, the activity that was reported to be used least frequently is *using music to learn or practice musical skills,* as 39.5% of teachers reported using this activity rarely or never. However, as this option is broad and could include many types of activities (e.g., learning to sing or play a scale, learning to produce a technique on an instructment, learning to read music, learning to produce particular rhythms, etc.), it is likely that learning and practicing skills overlapped with other activities teachers noted.

The most popular music activities for whole-group settings were singing songs without recordings (88.24%), listening to music recordings (83.19%), singing songs with recordings (82.36%), and listening to and producing rhythms (75.62%). During transitions, singing songs with no recordings was the most popular activity, used at least once a week by 78.15% of teachers. In small groups or one-on-one, teachers reported doing various kinds of activities at least once a week such as listening to recorded music (43.7%), singing songs without recordings (46.22%), singing

songs with recordings (38.66%), and playing musical instruments (30.25%). When asked to share any additional ways in which they use music, teachers noted examples like making instruments or songbooks, creating a musical performance for family members, and watching a performance by a musician visiting the classroom. Additionally, we asked about teachers' use of 14 popular songs. The three most used songs for music-based activities were "Head, Shoulders, Knees, and Toes" (99.16%), "The Alphabet Song" (93.28%), and "If You're Happy and You Know It" (91.60%). Other widely used songs for music activities included "Wheels on the Bus" (87.39%), "The Itsy Bitsy Spider" (85.71%), and "We're Going on a Bear Hunt" (84.87%).

Since technology is often necessary to integrate music in the classroom, we asked the participants about their technology use. Participants reported a variety of technology use policies in their settings, from complete interdiction to encouraged use of internet-enabled devices such as smartphones, tablets, and computers in the classroom. About half of the participants had either a limited-use (40.34%) or prohibited use (9.24%) policy in their setting. Conversely, about 33.61% of participants' programs encouraged technology use in the classroom. It is worth noting that 11.76% of participants' settings did not have a policy around technology use, which may imply that these participants were free to decide whether or not to use technology in their classrooms. To accompany their music activities, participants reported using a CD player (69.75%), musical instruments (66.39%), a smart speaker (66.39%), a computer or laptop (57.98%), a smartphone (49.58%), an MP3 player (20.17%), as well as other forms of technology such as smart boards, tablets, and Apple TV.

Despite teachers' frequent use of music, 31.93% of teachers still reported wishing they could have spent *more* time using music. Out of the 84 teachers who responded to an open-ended question about *how* they would like to use

Fig. 2 Distribution of purposes for which participants used music activities often/all of the time (N = 119)
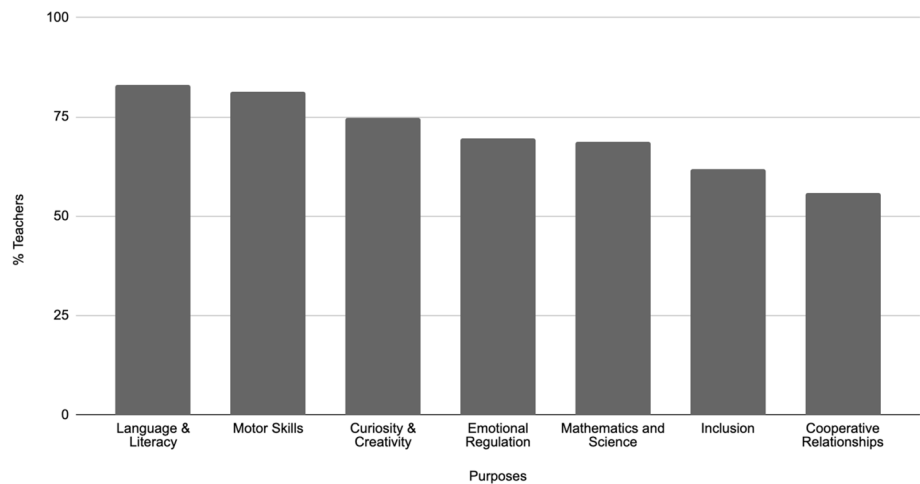
music more, 36 mentioned wanting to use musical instruments more. Additionally, 11 teachers said they would like to use more music from other countries or cultures (including music in other languages, and music-based activities to "support DLL students"), and nine teachers said they would like to have more live musical performances in the classroom.

Teachers' Orientations Towards Music

To answer our second research question (What are early childhood educators' orientations toward using music in their classrooms?), we wanted to understand, in part, why teachers use music in their classrooms and what they see as the purpose(s) of musical activities. Based on current early childhood education standards and our own experiences as musicians and music educators, we developed a range of hypothesized purposes (e.g., to support language and literacy development, to promote feelings of inclusion in the classroom) and we asked teachers how frequently they used music for each of those purposes (i.e., "How often did you use music to promote feelings of inclusion in the classroom?"). Figure 2 illustrates the purposes that teachers reported using music for most frequently. These purposes include developing children's language, literacy and motor skills. It should be noted that we conceptualized these "purposes" as above and beyond "music for music's sake" as a purpose, so it is possible that in addition to the purposes teachers identified, teachers may be using music purely for the innate value they perceive in students developing musical skills.

While we did not ask any open-ended survey questions specifically about the purposes of music, teachers commented on the purposes of music throughout the open-ended survey questions (e.g., when describing how they use music and how they would like to use music). Most striking in these qualitative responses was the variety of

ways in which teachers described using music to "help children regulate their behavior and/or emotions" (which 98.32% of teachers reported doing at least some of the time). Numerous teachers noted that music "engaged" their students. Others shared that music "quiets [students'] brains," "soothed" students, helped students to "de-escalate," helped students "get in the mood" to learn, "quieted [their] bodies," "promotes calmness and focusing capacity," can "get [students] to move, release energy, and feel better," and helps them "regulate emotions." Teachers also described how the social-emotional impact of music on their students influenced their teaching. For example, one teacher shared: "If the class was ever getting too noisy or too wild, I would just start singing a song that they knew, and before long they all would be singing along. Eventually, I would sing in a whisper voice, and as a result, the entire room would become calm. No yelling or preaching for them to be quiet. Just eased into it with song."

Teachers varied in their comfort and experience with music. Many lacked confidence in at least some of their musical abilities, but this was not uniformly true. Over half of surveyed teachers did *not* consider themselves to be musicians (54.62%), and most believed they could not sing or play music from memory (70%). Additionally, less than half of the teachers reported being able to sing in tune (41.19%). However, the majority of teachers reported that they *have* had some formal voice and/or instrument lessons during their lifetimes (56.3%) and that they are usually able to sing a song on their own after hearing it two or three times (57.15%). In response to open-ended survey questions about the challenges they face and their backgrounds in music, a number of teachers noted that while they see themselves as "bad" singers, they do not worry about singing with their young students in the same way they would worry about singing for adults. As one teacher explained, "I don't like to sing in front of other employees. I can be kind of a shy person. But I love singing in front

Fig. 3 Distribution of reported challenges in using music in the classroom (N = 119)
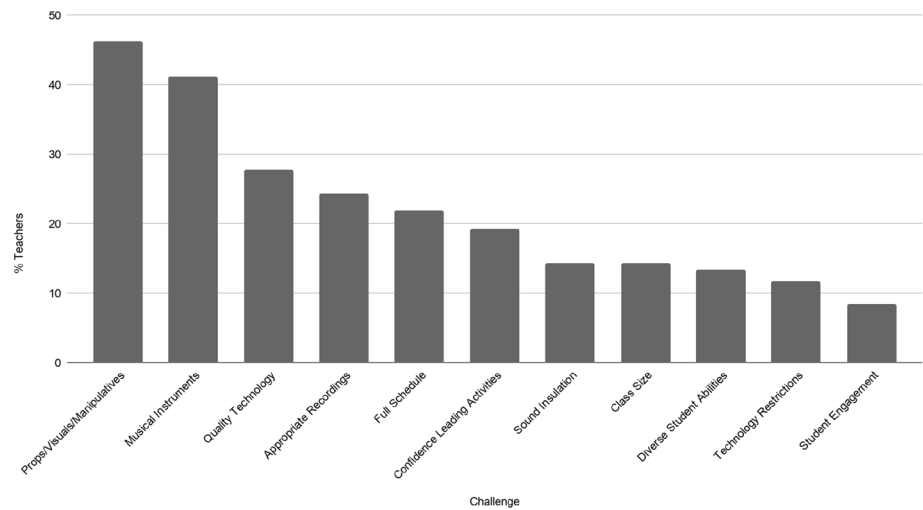
of the kids." After all, as another teacher noted, "[Kids] don't judge."

Teachers' Challenges Using Music

Although all teachers reported using music in their classrooms, they also reported facing some challenges (as illustrated in Fig. 3). Most of the reported challenges had to do with educators' access to resources and materials that would enable them to effectively and efficiently implement music activities in the classroom. For example, the most common challenges were access to musical instruments in the classroom (41.18%) and visuals and/or manipulatives for music activities (46.22%). Participants who taught in technology-limiting settings reported lacking visuals and manipulatives significantly more than participants who taught in technology-encouraging settings [$t(110) = 2.13$, $p < 0.05$]. Approximately 1 in 4 teachers reported lacking appropriate recordings (such as CDs or digital sound files), and 27.73% of teachers reported lacking access to quality technology (e.g., working CD players, reliable internet). It is worth noting that 30% of the participants who reported a lack of access to quality technology (n = 12) were teaching in a program that explicitly encouraged technology use. Also noteworthy is that participants who reported lacking access to quality technology worked in publicly-funded (30.43%), privately-funded (20.59%) and public–private-funded (30%) settings. Interestingly, though perhaps not surprisingly, few teachers found it challenging to engage children in music activities (8.4%), and only about 1 in 5 teachers reported lacking the confidence to lead music activities (19.33%) or lacking time in the day to conduct music activities (21.85%). Although teachers reported using music in spite of these challenges, the vast majority reported they would use music more frequently if the challenges they experienced were addressed.

Finally, we found that more participants with DLLs than without DLLs reported having flexible language goals, meaning that they supported DLLs in their home language while teaching in English, or that they provided bilingual/dual language instruction [$t(99) = 6.11$, $p < 0.001$. See Fig. 4]. Furthermore, we found that teachers with DLLs sang songs in languages other than English at a statistically significantly higher rate than teachers without DLLs in their classrooms [$t(116) = -2.53$, $p < 0.05$]. Nevertheless, 92% of the 63 teachers who did not sing songs in other languages reported being willing to do so. Nearly half of the teachers (47%) sang songs in another language than English, and the non-English language in which most teachers sang songs was Spanish (78%).

Discussion and Conclusion

This study's findings contribute to a small but growing body of literature exploring current uses of music in early childhood classrooms. Few studies to date (see Nardo et al., 2006) and none in the past five years have surveyed preschool teachers at a national level in the United States to inquire about their classroom music use. The present study findings echo other studies that established the prevalence of music in American and international early childhood classrooms (Bolduc & Evrard, 2017; Bond, 2012; Gillespie and Gilder, 2010; Rajan, 2017b). Indeed, in our sample, the majority of teachers (68.91%) used music in their classrooms not only daily, but three or more times per day. Additionally, we found that teachers with DLL students use music significantly more than teachers with no DLL students. Similar to Gillespie and Gilder (2010), our study found that preschool educators use music most often during whole group time and during classroom transitions. However, our findings add nuance to the existing literature regarding the types

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Fig. 4 Distribution of educator's language goals by DLL presence in the classroom
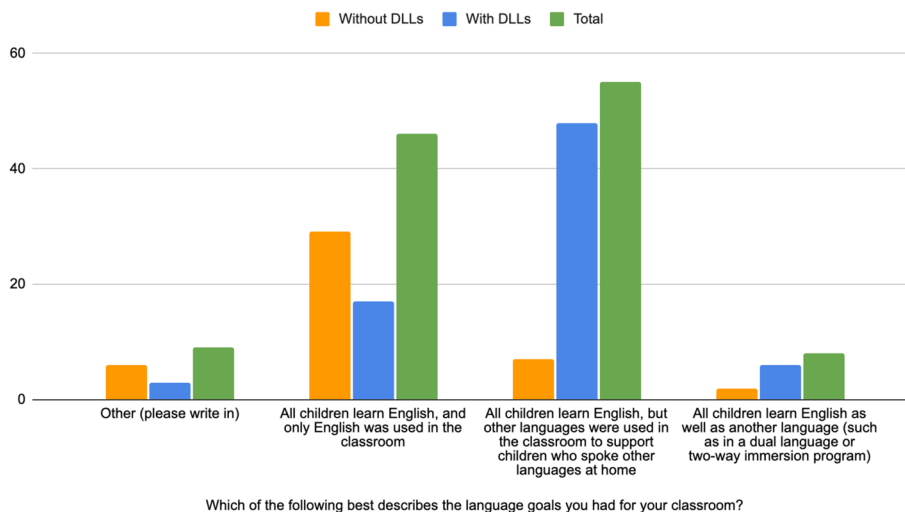
of music-based activities teachers use and how that varies between whole group, small group, and transition time. Finally, our findings shed light on the forms of technology that teachers use to accompany music-based activities.

As noted in the introduction, little is known about early childhood teachers' orientations toward music, beyond the fact that teachers perceive it as valuable for student learning. Like the existing literature, we found that teachers in our sample value music (Barrett al., 2018; Ehrlin & Tivenius, 2018; Kim & Kemple, 2011) and see it as a way to support their students' learning (Rajan, 2017b). Expanding on these existing findings, we found that teachers use music to support students' language and literacy development in particular. Teachers who participated in our survey reported using music most frequently for the purpose of supporting language and literacy development and teachers who participated in our focus groups described using music to promote the language and literacy development of their DLL students. Further, we found that teachers in our survey used music for a variety of other purposes, including supporting students' curiosity and creativity, promoting a climate of inclusion, and fostering relationships. In our focus groups, teachers commented in particular on the importance of music for helping students to regulate their emotions and behaviors and for supporting DLL students.

Early childhood teachers face a number of challenges in using music, including a lack of musical expertise and confidence (Bond, 2012; Kim & Kemple, 2011; Rajan, 2017b) and a lack of resources for musical instruction (Rajan, 2017b). In our sample, teachers varied in their experience and comfort using music. Although a majority did not consider themselves "musicians" and reported a lack of ability to perform technical musical skills (e.g., performing music from memory, singing in tune), many came into the classroom with some past musical training, which may have bolstered their confidence. Our qualitative data also

adds nuance to the discussion of teachers' confidence using music, by highlighting the fact that musical activities like singing in front of others may be perceived as more comfortable when the audience is made up of young children. A lack of resources was a more prevalent challenge in our sample. In particular, teachers noted a need for more props and instruments. Additionally, teachers in our focus groups asked specifically for resources designed to support music-based activities with DLL students (e.g., recordings and song books in other languages).

This research has important implications for ECE practice. In particular, the results suggest that ECE teachers in centers and school-based programs may require more support in order to use music to the extent that they would like to do so. Teachers in our sample perceived the value of music for supporting diverse students and noted that they would like to use it more frequently. Additionally, nearly all of the teachers we surveyed said that they would use music *more* if the challenges they faced, including a lack of music resources, were reduced. Given our findings, providing more funding or resources to teachers could increase the musical experiences that children have access to in early childhood classrooms.

Like other research happening during the global pandemic, we reflect on potential limitations of our study relevant to COVID-19. During our data collection period, many early childhood programs across the U.S. were forced to close or to switch to a fully or partially virtual format. Because of the center closure, our second focus group and survey participants were reporting on an unusually wide range of teaching formats (in-person, virtual, hybrid). However, because the focus group and survey questions asked about teachers' typical practices with their most recent group of students, we assume that teachers' responses were informed by their experiences before as well as during the pandemic. In addition, because data

collection took place during a potentially stressful time for educators, data collection was slower than expected, and the number of responses that could be collected during the study period were limited. However, we felt comfortable moving forward with a relatively small national sample because the demographics of our repondants mirror national statistics and because responses from 35 states show that many regions were represented. Finally, we recognize additional interpretative limitations. Conducting our focus groups with educators from two facilities within the same network of early childhood centers and in the same metropolitan area limits the generalizability of our findings. At the same time, our work is limited by the Whiteness of the U.S. early childhood field and workforce, which is also represented in our sample. While the racial demographics of our survey sample roughly reflected the national workforce, this meant that the majority of our participants were White. Had we constructed a sample with more racial and ethnic diversity, for example by taking a more explicitly critical or race-focused research approach, we might have gained insight into different musical practices and purposes for using music in the classroom.

Despite the methodological limitations noted, our research adds to a body of literature documenting adult–child musical experiences during COVID-19. Caregivers of young children have turned to musical engagement frequently during the pandemic, using musical recordings and joint musical activities to connect with their children and help children regulate their emotions (Cho & Ilari, 2021; Steinberg et al., 2021). Similarly, secondary music educators in Australia prioritized building relationships with their students through music (de Bruin, 2021). In our study, early childhood teachers also valued and used music for its social benefits in the months leading up to and during the pandemic, seeing music as a way to help children engage, regulate their emotions, and feel included in the classroom.

Given the timing of our study, researchers should continue to explore teachers' use of music, as well as their beliefs and the challenges they face, as they adapt to the ongoing pandemic. We suggest multiple avenues for this future research. For example, our finding that teachers may lack musical self-efficacy even after musical training is troubling; further investigation into when and why teachers feel confident using music in their classrooms is warranted. Given that our findings about the purposes of music do not directly address teachers' potential use of music for music's sake, future research might investigate this perspective and, more broadly, elicit more open-ended data from teachers about how they would define their purposes in using music. Finally, there is a need for further research into the use of music in linguistically diverse classrooms and its benefits for DLL students.

Our research also has implications for how early childhood teachers are trained and supported. Teachers need better access to physical materials like musical instruments and functioning technology. Furthermore, our study highlights a need for accessible, research-based resources for early childhood teachers, including curricula and songbooks for using music in multiple languages. While resources like these do exist (e.g., Gabriela Montoya-Stier's Kodály resources for bilingual classrooms), strategies to make them more visible and accessible to teachers are needed. At the same time, design-based research approaches can support the creation of new resources as well as evaluating their impacts when implemented in classrooms. In this vein, we are currently engaged in developing multilingual music-based activities to support language and literacy development, drawing on the perspectives of our focus group participants.

Music-based activities have affordances for early childhood development in general (Bond, 2012; Hallam, 2010; Politimou et al., 2019), and for language and literacy development specifically (Bolduc, 2008; Hansen et al., 2014), especially for DLLs (Paquette & Rieg, 2008). While we have known for a long time that early childhood teachers use music frequently (Gillespie & Gilder; 2010; Nardo et al., 2006), this study sheds additional light on why and how they do so. Our findings suggest that early childhood teachers use music-based activities for a variety of educational and developmental purposes and that teachers with DLL students tend to rely on music-based activities even more than their peers in linguistically homogeneous classrooms. Finally, our findings provide important details about the kinds of music-based activities teachers use, when they use those activities, and how they overcome existing and potential barriers in order to engage in this important educational work.

Data Availability Supplemental materials are available online at: https://osf.io/fz5v3/?view_only=34ac3bc224a34982b9b5026f53cd16f2.

Code Availability Not applicable.

Declarations

Conflict of interest The authors declare no conflict of or competing interests in conducting this study.

Ethical Approval This study was approved under by the Institutional Review Board (IRB) of the Harvard University-Area under protocol IRB18-0523.

Consent to Participate All participants provided written consent to participate in the survey and focus groups.

Consent for Publication We have consent to publish the results of this research.

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