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Paths 2 play: teacher's play facilitation in Colombia

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Introduction: The quality of early childhood programs is essential for improving outcomes for children, and play-based practices are a vital component. However, the field is still trying to understand the role of teachers in facilitating play and their beliefs and practices related to play, as well as how to best support these practices.

Methods: Data was collected remotely between June and December 2021 using surveys from 55 teachers and video observations and interviews with directors, teachers, and parents at two aeioTU centers in Cartagena, Colombia. The study aimed to comprehend teachers' understanding and practices of learning through play within a Reggio Emilia inspired program and its professional development supports.

Results: The study found that trainers, teachers, and parents generally viewed learning through play as a joyful, engaging, and socially interactive activity with a natural component. However, the study identified a misalignment between the sophisticated language on play used by trainers and teachers and the examples they provided for learning through play. Additionally, the study revealed a gap between the aeioTU curriculum's comprehensive conceptualization of play and how teachers practice and self-report learning through play in their classrooms. The COVID-19 pandemic and limited policy definitions of play may have contributed to these findings.

Discussion: The study recommends that professional development programs focus on building teachers' knowledge of play facilitation, helping them develop a nuanced understanding of play and its full spectrum and how it maps to their role in classrooms, and tracking the connection between playful experiences and children's learning.

KEYWORDS

play, learning through play, play facilitation, teaching practices, teacher education, professional development

1. Introduction

Early childhood programs have been lauded for their capacity to improve outcomes for children (e.g., Britto et al., 2017). Central to this aim is understanding the quality of early childhood programs and the pathways to sustain quality over time and at scale (Nores et al., 2018; Betancur et al., 2021; Maldonado-Carreño et al., 2022; Nores and Prayag, in press). With no exact agreement on what "quality" means in early childhood programs, there seems to

be consensus on critical aspects of high-quality programs, including providing ample opportunities for play, engaging materials, intentional teacher support of learning during play, and strong curriculum that enhances children's development in all domains (Golinkoff et al., 2006; Fisher et al., 2011; Barker et al., 2014; Goble and Pianta, 2017; Pyle et al., 2018; Yoshikawa et al., 2018).

Grounded on the natural inquiry that children exhibit in childhood (Vygotsky and Cole, 1978; Dewey, 1997/1910), play-based practices in early childhood programs provide both a medium and an opportunity for effective engagement of children and for expanding their learning and development. The field of early child development (ECD) recognizes play as essential to human development and well-being. Studies have demonstrated the effectiveness of play-based learning in enhancing children's school readiness, particularly in areas such as language, literacy, and math. For example, research has shown that play-based interventions can significantly improve children's language skills (Stagnitti et al., 2016; McLeod et al., 2017). In addition to its educational benefits, play can also have a positive impact on children's mental health and help reduce stress and anxiety in young children, promoting positive emotional development (Ginsburg and Committee on Psychosocial Aspects of Child and Family Health, 2007).

While there is agreement on the importance of play, there is less agreement on its definition and on how it should be incorporated and enacted in early childhood programs. Zosh et al. (2018) propose a "more nuanced definition of play," suggesting that play may occur along a spectrum with free play as one end and playful instruction towards the other end. This spectrum includes self-directed play where children initiate and direct their own play, guided play where educators set the space, activity, or scaffold for play engagement, co-opted play where educators intervene and take over, and games where educators set the rules for engagement and lead the play (i.e., games with rules). This implies shifting toward understanding "play-based practices" as educators supporting children's learning and development in play contexts; allowing for this to include providing space, materials and time for children's self-directed play with minimal adult direction as well as guided forms of play where educators join children's play scenarios and activities and onto more direct instruction, where educators explain new concepts, tool use or learning content (Bergen, 2009; Tarman and Tarman, 2011; Toub et al., 2016; Pyle and Danniels, 2017; Zosh et al., 2018; Walsh et al., 2019). In short, play contexts include children's self-chosen and -directed play, joint play between children and educators, guided play, games with rules, and instruction related to play contexts (Zosh et al., 2017; Pramling et al., 2019).

This spectrum is seen in many commonly adopted preschool curriculum models but can vary in emphasis (Frede and Ackerman, 2006), and any of these activities can be done well or poorly. Teachers tend to confine direct instruction to teacher initiated and led activities such as large group meetings or small instruction groups and tend to use free play for observation and limit their interactions to management and support. Some research has shown that when teachers enter children's free play the level of children's discourse and thinking goes down (Brenneman et al., 2009).

The ECD field has produced research showing adults are critical to supporting learning through play (LtP) and learning to play in sophisticated ways (e.g., in socio-dramatic play Barnett et al., 2008; in literacy Weisberg et al., 2013, Cavanaugh et al., 2017, and Pyle et al., 2018; in math Ferrara et al., 2011, Baroody et al., 2019, and Skene

et al., 2022; in science Nayfeld et al., 2011). We also know that professional learning (PL) opportunities can assist teachers in adopting effective play facilitation methods (Ryan and Hornbeck, 2004; Hamre et al., 2017a,b; Pianta et al., 2017; Walsh and Fallon, 2019) and that individual characteristics of teachers (Ginsburg et al., 2008; Kennedy, 2016; Korthagen, 2017) and contextual factors such as accountability systems, class size, teacher turn-over, leadership or classroom materials can mediate the effectiveness of PL (Frede, 2009; Frede et al., 2011; Ryan and Whitebook, 2012; Jensen et al., 2019; Ryan et al., 2019). However, gaps still exist in our understanding of play and teacher's play facilitation (Jensen et al., 2019) and more recently the focus has shifted on further understanding teachers' beliefs in relation to play and play facilitation, their practices, and the degree to which guided play occurs in early childhood spaces (Bubikova-Moan et al., 2019; DeLuca et al., 2020; Pyle et al., 2020).

In the context of this literature, and the definitions proposed in Zosh et al. (2018) and Jensen et al. (2019) this project's aim was to understand teachers' knowledge of and ability to effectively engage in, play facilitation. The study assessed this by engaging (through surveys, interviews and observations) trainers, teachers, and caregivers within their experience in a professional development program. Parents were incorporated into the study given the backdrop of the COVID-19 pandemic and the stay-at-home mandates for children. By situating this study in Colombia, the research hoped to find if more universal features of teacher development and play facilitation emerge in a non-Western context and consider aspects that may differ. The study is grounded on definitions agreed between two simultaneous research teams in Denmark and Colombia and was undertaken against the backdrop of the impact of the COVID-19 pandemic across the world and in Latin America.

1.1. Theoretical background

This study is grounded in methodology agreed upon within the Paths to Play project across two teams of researchers: one in Colombia and another in Denmark (for the findings by the Danish team, see Jensen and Jorgensen, 2022). While the study was designed to explore early educators' play-based practices, it was contextualized within the backdrop of extended remote learning that took place in Colombia due to the COVID pandemic, and the subsequent return to in person learning as the project unfolded. The work was carried out in the context of recent literature on the characteristics of play, the role of the educator in terms of play facilitation (Jensen et al., 2019). We summarize this research below.

1.2. The characteristics of play

A series of characteristics of play in early childhood have been identified by the field. Self-directed and voluntary refers to children engaging in play activities on their own initiative and choosing what and how they want to play (Ginsburg and Committee on Psychosocial Aspects of Child and Family Health, 2007; Barker and Ansari, 2011). Play as imaginative and creative refers to the creation of imaginary scenarios, characters, and stories (Vygotsky, 2004; Singer and Singer, 2013). The repetitive and exploratory nature of play encompasses children's repetition of play activities to explore and understand them

better (Barker and Ansari, 2011). The flexible and adaptable nature of play refers to how play changes and evolves as children explore and learn from them, in an open-ended way (Bodrova and Leong, 2007). The social nature of play has been discussed in relation to children experiencing play interacting with others, such as peers or caregivers (Bodrova and Leong, 2007; Barker and Ansari, 2011). Symbolic play has been defined as children's use of symbols and objects to represent things, events, roles while engaged in play (Pellegrini and Galda, 1993). Play in early childhood is often spontaneous and initiated by the child rather than being directed by an adult (Bodrova and Leong, 2007; Bonawitz et al., 2011; Berk, 2013). Play activities have also been discussed as potentially challenging, requiring children to solve problems, make decisions, and overcome obstacles (Bergen and Fromberg, 2009; Barker and Ansari, 2011). The various characteristics of play in early childhood provide opportunities for children to develop and practice important skills, such as physical coordination, social interaction, problem-solving, and language skills (Bodrova and Leong, 2007; Ginsburg and Committee on Psychosocial Aspects of Child and Family Health, 2007; Bergen and Fromberg, 2009). Zosh et al. (2017) highlighted and summarized five key characteristics of playful learning experiences: joyful, meaningful, actively engaging, iterative, and socially interactive.

1.3. Play facilitation

The concept of "play-based practices" broadly defined as educators supporting children's learning and development in play contexts; this can include providing space, materials and time for children's self-directed play with minimal adult direction to guided forms of play where educators join children's play scenarios and activities and onto more direct instruction, where educators explain new concepts, tool use or learning content (Bergen, 2009; Toub et al., 2016; Pyle and Danniels, 2017; Zosh et al., 2018; Walsh et al., 2019). In short, play contexts include children's self-chosen and -directed play, joint play between children and educators, guided play, games with rules, and instruction related to play contexts. As in Zosh et al. (2017) and Pramling et al. (2019) we consider play in a continuum.

Play facilitation in this context is based on responsive and autonomy-supportive teaching (Reeve, 2009; Pianta et al., 2012), with a focus on diversity (Souto-Manning and Mitchell, 2010). Educators foster children's engagement by being responsive, having positive relationships, and meeting their needs (Hamre, 2014; Wolf et al., 2018). Responsiveness includes building on children's interests, supporting interaction and higher order thinking, and connecting lessons to their lives. Autonomy-supportive teaching involves adopting children's perspectives, welcoming their thoughts, and fostering their competence and autonomy (Stefanou et al., 2004; Reeve, 2009; Stroet et al., 2015). Studies suggest that a responsive adult role is needed for children's gains (Hatfield et al., 2016). Educators balance their intended goals with children's agency in play activities (Toub et al., 2016), and their roles in play range from absent to play director (Pyle and Danniels, 2017; Zosh et al., 2018; Bautista et al., 2019; Jensen et al., 2019).

In terms of responsive teaching, quality interactions are gauged on a continuum from low to high quality (Pianta et al., 2016), while the autonomy-supportive style is on one end of a scale and the controlling style rests on the other (Reeve, 2009). Studies increasingly suggest that a minimum level of responsiveness (i.e., a more involved adult role) is needed to yield gains for young

children (Hatfield et al., 2016). Stipek and Byler (2004) propose that when educators are more withdrawn, children also have fewer opportunities to express and elaborate on their thoughts; peer interactions are neither restricted nor supported; children deal with peer conflicts, unless these escalate, and while participation may be high, little systematic effort is made to foster learning.

1.4. Educator roles in play

When guiding children's learning through play, educators strike a balance between achieving their own intended learning goal and children's agency in a playful activity (Toub et al., 2016). Classroom observation studies across cultures have generally found a continuum of educator roles in play (see Figure 1, as per Jensen et al., 2019; and Pyle and Danniels, 2017; Pyle et al., 2018; Zosh et al., 2018; Bautista et al., 2019): absent, not attending to children's play activities; observer of children's play; play manager, supporting children's play by providing materials, and resolving conflicts; co-player, joining play scenarios or activities as an equal partner with children, without directing the play; play guide, intentionally enriching the play scenario or scaffolding children's understanding or skills development without disrupting or taking over the play; play director, orchestrating children's play by telling children where to go, what to do and how.

1.5. Context

The project incorporated an "opportunity space model" (Mortensen et al., 2020) to identify important context factors that likely influence the early educators' play based practices. The model differentiates between mandatory and local conditions. Mandatory conditions refer to context factors beyond the influence of centers and early educators, that is, legislation, political priorities, and in this study, also includes the effect of the pandemic on the provision of early education services in the country at large. Local conditions refer to organizational culture and routines, leadership support and priority, staff autonomy, etc. which frames how our research participants enact everyday practices. In relation to this, we discuss both the national context and the early childhood program (and embedded professional learning) in which this study was set.

1.6. Colombia's early childhood policy

In Colombia, a national early childhood strategy called "From Zero to Forever" (De Cero a Siempre, or DCAS) was established in 2011. The goal is to support the comprehensive development of children from prenatal to 6 years of age, and it forms the basis for the current Ley 1808 de (2016), which establishes the state policy for early childhood development. The public provision of early childhood education in Colombia focuses on promoting children's development of identity, expression, and representation of reality, as well as their enjoyment of learning.

Although there is no national curriculum, quality standards and technical guidelines were developed to ensure quality services and guide educational processes (Ministerio de Educación Nacional (MEN), 2014c). These guidelines highlight play, art,
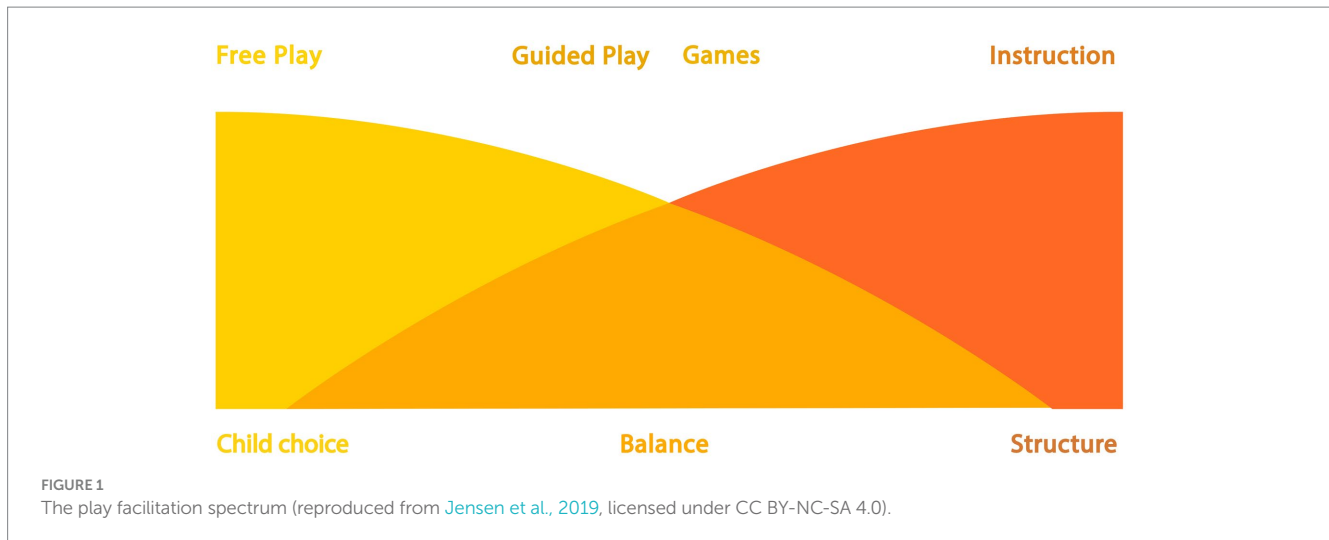
literature, and exploration of the environment as central activities in early childhood development. Play is seen as a self-regulated and voluntary activity that can generate new ideas about the world and give meanings to past experiences (Ministerio de Educación Nacional, 2014a). Children are encouraged to take the lead in play, making decisions, solving problems, and demonstrating their abilities (Ministerio de Educación Nacional, 2014b). The guidelines reject the notion that play should have specific learning objectives, and instead emphasize the importance of child-led play (Ministerio de Educación Nacional, 2014a). The role of the teacher is defined as "setting the space, observing and intervening at the right time" (Ministerio de Educación Nacional, 2017, p. 119). Teachers are also expected to teach traditional games and games with rules that are culturally meaningful (Ministerio de Educación Nacional, 2014a).

1.7. The aeioTU educational experience

aeioTU is a private organization that focuses on developing the full potential of children so they can become competent and creative citizens and society builders. The organization's pedagogical model is based on the Reggio Emilia philosophy, which places children at the center of the learning experience (Nores et al., 2018, 2019). This model values the child as a partner in the educational process, highlighting the importance of interactions with others, the classroom environment and materials, and learning strategies such as exploration, play, and research projects (aeioTU, 2015). These strategies are supported by art and documentation, which guide teachers in reflecting, analyzing, and carrying out their practice. Educators are expected to develop skills in designing meaningful experiences for children by actively listening to their interests, observing their characteristics, and organizing work in small groups to promote interaction and collaboration The educator acts as a facilitator, encouraging dialogue and conflict resolution, while also planning experiences based on children's interests and defining objectives.

aeioTU views play as a spiral that begins with exploration and moves on to imagination, transformation, and collective play to start a new cycle. The focus is on experimenting, expressing thoughts and emotions, and allowing children to act, imagine, and represent according to their interests. The environment plays a crucial role in facilitating play experiences, with materials and resources available to

children and spaces that are provocative, joyful, and allow for movement and exchange. Play is considered significant when children are given adequate spaces to develop their own activities and be the main protagonists without adult intervention.

Exploration plays a role in the construction of knowledge by allowing children to make connections with their environment. It occurs throughout all stages of development and stimulates children's curiosity through manipulating and discovering materials. Educators play a crucial role in promoting exploration by providing new materials and objects based on observing and listening to children.

Research projects in the educational model involve children in in-depth investigations that start with a stimulus or idea of interest that is initiated by a child or group of children. Teachers recognize these interests in children and facilitate their deeper investigation. The goal of research projects is to develop and deepen knowledge through hands-on exploration and discovery. This strategy views classrooms as learning labs where children can construct knowledge through their own inquiries.

Art is seen as a tool for discovery in play, exploration, and research projects and includes an aesthetic experience and creative processes. It requires diverse materials available to children in the classroom. Documentation helps to review previous experiences and activities, allowing children to reflect on their actions.

1.8. The professional learning program

The "Sumérgete 2.0'" ("Dive 2.0") training program by aeioTU aims to improve the leadership skills of local center directors to support children's learning and development. The program is developed by a central team and has a train-the-trainer model, in which directors in centers considered "references of good practices" are trained as pedagogical leaders and then train other center directors, who in turn train their teachers. Training activities include mentoring meetings, assemblies, discussion meetings, reading circles, educational workshops, and gatherings. All training activities have a similar structure and involve discussion and reflection, allowing for replication by the pedagogical leader or Director. During the COVID-19 pandemic, training was virtual, but then shifted to a hybrid model with some in-person and some virtual participation.

2. Methodological approach

2.1. Research questions

Based on the aeioTU training program in Colombia, as well as the interest in understanding mechanisms to improve and sustain professional development strategies that strengthen learning through play, we developed a mixed-methods approach to address (among others) the following research questions:

How do train the trainer teams understand and interpret learning through play?

What are teachers' concepts of learning through play within the context of changes in delivery (remote to in person) due to the COVID-19 pandemic?

What are caregivers' (parents) understanding of learning through play?

How are teachers' concepts of learning through play manifested in their work?

With caregivers in a remote learning context?

When they are back in classrooms and providing in person learning?

2.2. Timeline

The study included two components: a small intensive study that followed the professional development process of 6 teachers from 2 aeioTU centers and a larger-scale study that aimed to understand the findings from the small study in relation to a larger sample of teachers from all aeioTU centers in Colombia. The study was conducted between June and December 2021 and data was collected through 2 cycles of observations and feedback sessions. The study also included 2 surveys, one focused on pre-pandemic pedagogical practices and the other on practices when centers returned to in-person learning. All research protocols were remote due to the COVID-19 pandemic, and the study design was modified to adapt to changes imposed on the program. The timeline for the project is shown in Figure 2. The study utilized active consent procedures for all participants. The study was approved by the internal review boards of Rutgers University (United States) and Universidad de Los Andes (Colombia). For further details on the study refer to Nores et al. (2023).

2.3. Methodology

2.3.1. Large study

The large-scale study collected data through a survey in two rounds, one investigating pre-pandemic practices and another reporting practices as children and teachers returned from remote to in-person learning. The survey collected information about the teachers' sociodemographic characteristics, beliefs, and practices about Learning through Play (LtP), activities carried out in the classroom, availability of materials, and stress and burnout levels. It included closed and open-ended reflection questions with an emphasis on self-reported practices. The P2P research team reviewed existing surveys related to adult-child interaction, play facilitation, and pedagogical practices, including the Teacher Beliefs and Practices Survey (Kim and Buchanan, 2009), the Modernity Scale (Schaefer and Edgerton, 1981), the Self-Evaluation for Science and Mathematics Education (SESAME, Frede et al., 2010), and the Supports for Early Literacy Assessment (SELA, Smith et al., 2001). The final survey was developed with some adapted concepts from these surveys, and with a focus on play facilitation. A novel section asked early educators to describe their role in different types of activities, recall and reflect on past activities, and provide concrete examples of playful situations. The survey was piloted with eight early educators in June 2021 and the final version was adjusted based on feedback received. The study included a stress and burnout measure in the first and second round of surveys (i.e., Maslach Burnout Inventory; Maslach et al., 1997), in consideration of the possibility that stress may mediate the types of LtP that may be present in classrooms and that stress may have been heightened with the pandemic. The incidence among the sample was low in both time periods. We therefore do not include related analyses.

2.3.2. Small study

The small qualitative and observational component included video observations and interviews with directors, teachers, and parents. All data collection was done remotely due to COVID-19 restrictions. Semi-structured interviews with directors and teachers were conducted to learn about their experiences in the professional development process, beliefs, and ideas about learning through play, and strategies to support families and monitor development. In addition, for teachers, 1:1 meetings were scheduled after their video observations in order to reflect on the practices observed. Semi-structured interviews with parents aimed to understand their experiences while working with children at home in the first cycle of data collection, as Colombia remained under remote learning mandates. The research team observed training activities. Teachers recorded videos of their classroom sessions with tablets provided by the research team. Four video observations were submitted and coded during the first cycle, and 11 observations were submitted and coded during the second cycle.

2.4. Sample

2.4.1. Large scale study

Eleven aeioTU centers across Colombia were invited to participate in the study. A total of 306 aeioTU teachers were sent the survey, and 57 of them responded, followed by 55 in the second survey. These teachers were from seven different municipalities, including Cartagena, Santa Marta, Medellín, Pradera, Sopó, Bogotá, Soacha, and Tocancipá.[1] The teachers had an average age of about 34 years, with about 9 years of

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1 These were from seven different municipalities such as Cartagena (30.91%), Santa Marta (29.09%), Medellín (23.64%), Pradera (5.45%), Sopó (5.45%), Bogotá (1.82%), Soacha (1.82%), and Tocancipá (1.82%). In 2021 aeioTU had 394 teachers. Of the total number of teachers 2.03% were in Bogotá, 10.91% in Cartagena, 0.25% in La Calera, 5.58% in Soacha, 5.58% in Sopó, 23.35% in Medellín, 31.98% in Santa Marta, and 20.30% in Pradera.
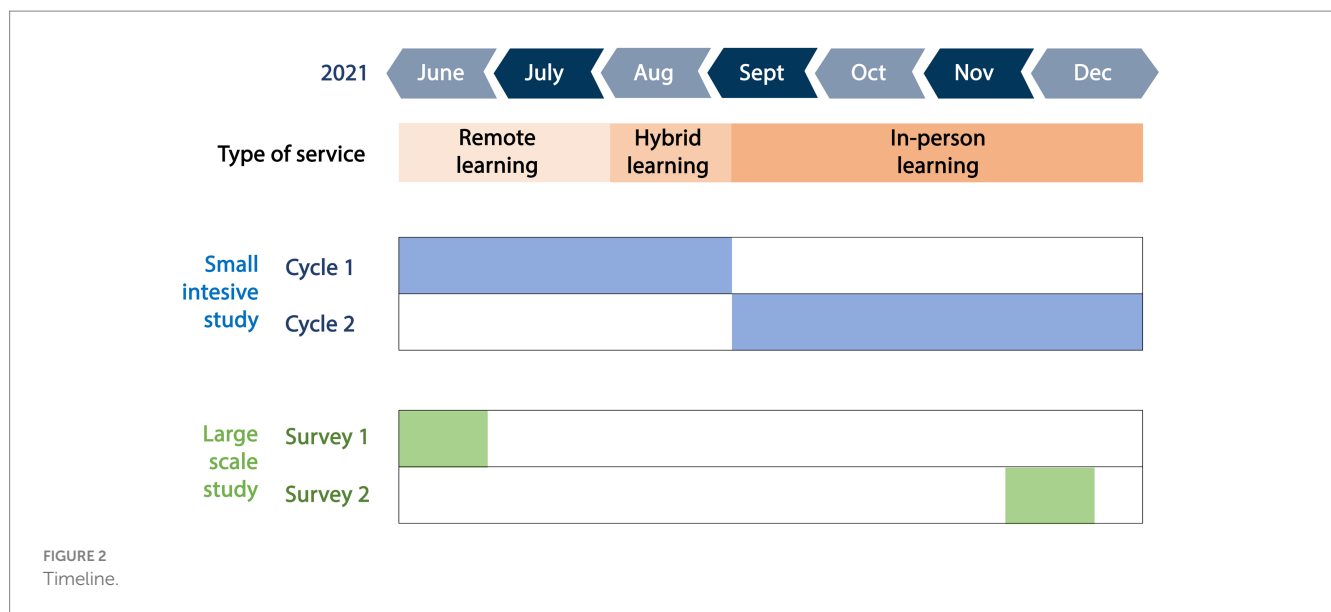
FIGURE 2
Timeline.

TABLE 1 Large-scale study sample information (N = 55).

	F	%
Educational level		
Technical degree[a]	16	29.09
Professional degree	37	67.27
Other	2	3.64
Degree related with ECE	53	96.36
Currently studying	6	10.91
Type of contract		
Fixed-term contracts	6	10.91
Indefinite-term contracts	2	3.64
Consultant	47	85.45

[a]1 or 2 years of study post high school.

teaching experience, 8 years of experience in early childhood, and 5 years of experience working with aeioTU. Most teachers completed both surveys (N = 55). Table 1 summarizes the teacher characteristics, including education, ECE qualifications, current study status, and their contract with aeioTU.

2.4.2. Small intensive study

Two aeioTU centers in Cartagena, Colombia, were selected for participation in the study due to their willingness to share information about their practices. One center was in an urban area, while the other was in a peri-urban area. Cartagena is a city with high levels of social inequality, with nearly half of the population living below the poverty line. The invitation to participate was extended to the center directors and a group of early educators in each center. Six teachers were selected based on serving children ages 3–5 and their willingness to participate in all activities (interviews, observations, and communication with parents). All the selected teachers held a professional degree, with five of them having a degree in early childhood education. They had an average

of 9 years of teaching experience, with 4 years of experience working with aeioTU.

2.5. Analyses

The research team used a mixed-methods approach that combined both quantitative and qualitative data and analysis (Kvale and Brinkmann, 2015; Ryan, 2020) to answer the research questions. Descriptive analyses on frequencies were conducted using Stata (StataCorp, 2021). Interviews, trainings, open-ended questions in teacher surveys, and video data were coded using qualitative methods. Thematic analysis was used as a starting point, with a codebook created by the research team that included families of codes to guide the deductive coding strategy. The codebook was developed in relation to the research questions and the research framework guiding the research. Qualitative data was analyzed using Dedoose, a web-based platform that facilitates collaboration. The data was transcribed and imported into Dedoose, and all analyses were conducted in Spanish.

The following types of data were ultimately collected: professional learning activities, video observations, interviews with parents, interviews with teachers, interviews with center directors and trainers, and surveys. These produced a total of 94 resources to be analyzed.

Researchers engaged in a series of coding exercises across the various sources of data and employed inductive coding to ensure that the codes were shaped by the teachers' and trainers' perspectives in relation to LtP. This process was iterative, and analytical memos were used to help reflect on the information that emerged from the first wave of data collection and to guide subsequent data collection. The researchers met to compare codes and identify cross data themes and organized the codes further in relation to the sources and the research questions. The deductive set of codes included eight families of codes on the following: various learning experiences, learning through play experiences, professional learning, communication, assessment, aeioTU experience and characteristics of play. Across these areas, 138 grandparent, parent and child codes were used in the analyses. Coding

activities resulted in 1,608 excerpts. Analyses included comparing and contrasting data between the small and the large study, as well as among the different activities observed, surveyed or interviewed. The quotes included in this report were all translated from Spanish, and all names were changed to protect confidentiality.

3. Results

The present study aimed to investigate early educators' play facilitation as self-reported across a large sample and as observed and self-reported in a small sample. Results for each research question are discussed, with a focus on understanding the relationship between self-reported and observed practices. The study was conducted in the context of a rapidly evolving educational program that underwent shifts between remote, hybrid, and in-person learning modalities during the research period due to the COVID-19 pandemic.

3.1. Center directors' characterizations of play and the role of the teacher

3.1.1. Play and learning through play

The study sought to identify the characteristics and elements that define an activity as play in the context of an aeioTU educational experience. Play was seen as a crucial learning strategy that offers fun, joy, movement, and exchange, and should be incorporated into all moments of the day. According to the Center Directors (Carmen and Dorys), play can be either socially interactive or solitary and can lead to learning regardless of the presence of the educator.

The Directors agreed that play is an innate characteristic of childhood and is the central strategy that enables all else. It is seen as the means through which children are spontaneous and learn, and as a way for children to understand and make sense of the world. The Directors also emphasized the importance of joy and fun in play, with Dorys discussing a playful mindset and Carmen noting that play allows children to develop their full potential and abilities.

> *"For us, play is the excuse to learn… Play allows the child, while engaged, to develop all his/her full potential and abilities while doing it, whether or not it is facilitated by an adult (…). I believe that play in it and of itself, whether alone, in a group, or directed, has the power to generate specific learnings."* (Interview 1, Carmen, Director)

> *"[Play] is something innate in the child; the child is playing all the time, at all times, and even everywhere, at least here in the center. … And at the same time, it is a means through which children learn, so in fact, for me, it is the strategy that… enables exploration, enables documentation, enables research, enables means and materials of the language of art. I feel it is the strategy that enables everything else…"* (Interview 1, Dorys, Director)

The study found some differences between the two focal centers, with one center not explicitly mentioning joy or fun as indicators of success in play experiences, while the other center emphasized it. However, both Directors repeated references to play as a naturally occurring activity initiated by children. In sum, center directors show a shared conceptualization of play as a crucial strategy for learning and discovery in the aeioTU educational experience, with the Directors highlighting its innate, spontaneous, and joyful nature.

The center Directors state that play plays a crucial role in acquiring socioemotional learning and executive functions, specifically in developing self-regulation: "Play allows children to learn, to live together, and to interact. Through play, they do everything, and what do they learn? They learn everything you want them to learn (Dorys, Director)." Play also enhances domain-specific learning, such as logical-mathematical thinking. Carmen believes play prepares children and brings them closer to the world they live in, helping them understand it. On the other hand, Dorys views play as a natural way of learning, where children learn content by playing and manipulating materials.

The Directors believe that play enables children to learn by building thinking skills and developing life skills that allow them to understand the world, interact, and manage themselves. Play also helps children to learn social skills and enhance their cognitive abilities such as counting and seriation. The Directors associate play with learning language and literacy skills, including communication skills, vocabulary acquisition, character creation, graphic development, and writing. Teachers take initiative to frequently incorporate art-related activities in the training sessions and planning, promoting the development of artistic skills and corporal expression.

The training program discussions presented play as a strategy for recognizing and including cultural identity. In the classrooms, Directors focus on recognizing aspects of children and their families, such as types of hair, or incorporating aspects related to typical foods in the community, as part of the learning experience. Music or "sound language" also forms a part of the play experience, with Directors describing experiences exploring sound and its properties, as well as incorporating music and dances connected to the cultural identity of the center's community. For example, in the sound learning center, children differentiate between different types of sounds and how they change with different materials. The morning greeting activities also incorporate sound language and music through dance, connecting with the local independence festivities.

3.1.2. The role of the teacher in LtP

Directors perceive play as manifested across all the experiences designed and developed by the teachers. The Directors highlight the program's focus on the child, and the teachers' purposeful planning that adapts to the characteristics, interests, and needs of the children. However, differences emerge across the centers on how they define the intentionality within LtP and the role of teachers across it.

The Directors at two learning centers, evidenced different views on play and its role in transitioning children into the classroom and facilitating learning. During the 2nd cycle of in-person learning, Directors at these centers described play as a tool to transition children into the classroom, welcome them, and reinforce health and safety protocols. Most of the play described by Dorys (Center A) was structured with rules and traditional games, with limited child agency. She did not engage with the concept of free play. In contrast, Carmen (Center B) described play as a powerful tool for learning, with various forms such as free play, games with rules, guided play, and intentional play as another form of play that facilitates learning. Carmen views play

as a learning process and recognizes the significance of play in all daily moments and spaces, not just within a learning activity.

The Director at Center A, Dorys, views play as exploration and feels reticent to use the term "guided play." But rather she proposes that through play, children can explore their relationships and interactions with others, quantities, distances, and measurements.

> *"In the construction corner if we are building a world, for example, the children will maybe be dressed as engineers… In that activity play is not really guided, because children are exploring, but it can be a means to invite them to explore it… [The] child is not going to be playing, jumping, or running with the magnifying glass in his hand, the child is going to be concentrated obviously on what he is exploring, but through play or an invitation from the teacher, he can explore…"* (Interview 2, Dorys, Director)

Quite differently, the Director at Center B, Carmen, discusses free play as happening in all spaces, such as the park or classroom, and is associated with the environment the child is in.

> *"I believe that play in it and of itself, whether alone, in a group, or directed, has the power to generate specific learnings…"*
>
> *"There is a learning process in the middle of this through play, but also sensory play, intentional play…"*
>
> *"… play is happening in all the daily moments and in all spaces, not just the play defined within a learning activity."* (Pedagogical Day 3, Center B, Carmen)

For Directors, teachers must develop the ability to reflect on their teaching. Carmen talks about the ability to reflect as supported, i.e., by capturing in a photo or video their work and reflecting on what they see. Dorys describes reflection as a collaborative process with the teachers that allows them to incorporate play and exploration into their learning processes.

> *"I think that an important exercise for me for a teacher to have is to reflect on what they do. There is a strategy that helps a lot with that, which is to take a photographic record and sit down to see what happens."* (Interview 2, Carmen, Director)

Carmen expresses difficulty in supporting teachers' understanding of what their role should be in LtP, and in the proposed play activities. She states teachers have had difficulties understanding these and applying them in their classrooms. She also states that play allows children to learn, even without the facilitation of an adult.

> *"One of the things that have been the most difficult for the teachers is to understand… that difference between formal education, where there is a teacher who directs, and understanding play as a free process (a process that has many questions), that experimenting is important, [and] that questions are important…*
>
> *It has been difficult for the teachers, that is, to understand the characteristics and how I can enter this [child] process; not to direct [it], not to control [it]…"* (Interview 1, Carmen, Director)

Both center Directors reported providing support to the teachers and children in diverse ways, such as thinking creatively to promote resourcefulness, analyzing, and deciding on the materials to be used in a play center to promote LtP and supporting teachers with reflection questions during their planning.

> *"Well, the answer is how I have been helping them. It is to try to find out what the role is for that resource that is missing, and what we can replace it with that has a similar role…"* (Interview 2, Carmen, Director)

> *"What things have worked well? If we focus on collective play, I can tell you that the children are enjoying their playground, with all the materials we have provided. It has been quite a process of analysis to identify things that they like, and [how] they have enjoyed one by one the things we have made available for them. Concerning play in the classroom… I can tell you that they have been inviting moments and that the children also enjoy them."* (Interview 2, Dorys, Director)

Although there is consistency in the importance both center directors place on play, differences emerged in what they perceive learning to play to be, as well as in what they perceive the teacher's role should be. In particular, there are differences in how narrowly, versus encompassing these are across the two center directors, who ultimately lead the center-based trainings, and one which is also the regional trainer for both centers' teaching and learning teams.

3.2. Teachers' characterization and understandings of play and learning through play

3.2.1. What does it mean for children to learn through play?

As mentioned earlier, the first teacher survey sought to gather their experiences with LtP prior to the pandemic, as they had been engaged in remote learning for approximately a year, and the second one investigated their views on LtP in relation to their current in-person teaching practices. The open-ended responses by teachers mostly referred to play as a means to facilitate meaningful learning experiences, promote interaction with others, and provide a source of enjoyment, both prior to the pandemic and upon returning to in-person classrooms (Figure 3). However, the frequency of these types of responses decreased significantly in the second survey.

Two possible explanations for this trend emerge. Firstly, the teachers' recall of their pre-pandemic practices may have been influenced by the amount of time they had spent away from classrooms, leading to an inflated perception. Secondly, the return to in-person teaching may have been characterized by more restrictive experiences for children due to COVID-19 protocols and procedures. Overall, teachers' emphasis on the joyful, fun, and playful aspects of play, as well as its interactive and spontaneous nature, aligns with the perspectives expressed by the professional development (P.D.) team. The following are some examples of teacher responses that reflect these codes:

> *"From play children acquire life skills as to solve conflicts, being patient, take turns, and assume the error as a new opportunity to learn how to live with others."* (Survey 1, Catalina, Teacher)
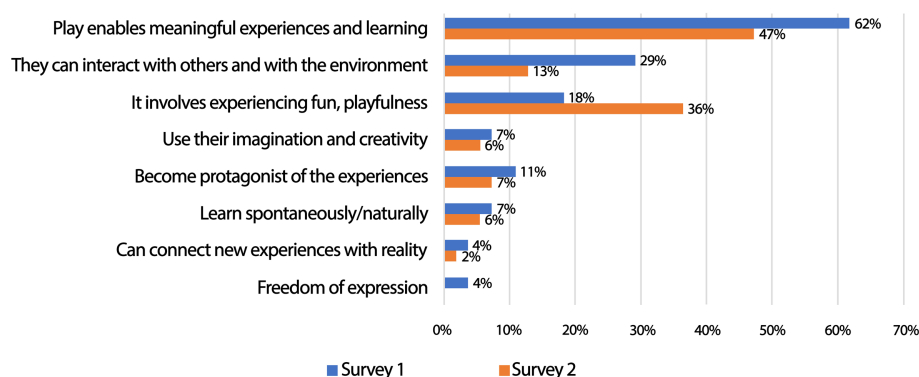
FIGURE 3
How would you describe what it means for children to learn through play? (*N* = 55).

"They learn in a more practical and fun way by developing their full potential and signifying all the material in the environment." (Translation, Survey 1, Robin, Teacher)

"It is everything because thanks to play, children obtain meaningful learning, they really appropriate knowledge, and they learn through experiencing the world, and relationships, among others." (Survey 2, Estefania, Teacher)

"[Play] is fun, joy, and a constant element in their own learning; it is a trigger that facilitates the acquisition of considerable skills and learning." (Survey 2, Violeta, Teacher)

Similar perspectives emerged from teachers' interviews in the small study. Teachers conceptualize play as a learning strategy. For them, play is a fundamental aspect of children's daily existence. These teachers acknowledge its significance in developing children's skills and abilities, as well as in facilitating meaningful experiences. For example, Nancy states that,

"Play allows them to interact with each other, establish a connection, create agreements, relate with the environment, and respect the environment. Play enables them to develop fine motor skills, gross motor skills, construct knowledge about what they see, hear. Therefore, play is a learning booster." (Interview 1, Nancy, Teacher)

Teachers in this study view play as a central component of children's learning and development. They conceptualize play as a shift away from traditional teaching methods towards more dynamic, developmentally appropriate strategies that allow children to learn creatively and playfully. They see play as a means to foster joy and fun in learning and recognize its positive impact on children's social interactions and emotional well-being.

"Therefore, play for us as teachers in aeioTU is the transversal pedagogical axis that allows the child (…) to learn more creatively and playfully… Play is the principal axis that helps strengthen, establish, and guarantee that the child [learns] more playfully and appropriately in the development process." (Interview 1, Cristina, Teacher)

"[Play] is a learning strategy, a method, I think, which needs to be used all the time with children because children enjoy it. … So long as there is an invitation through learning through play, the child will want to do it. It is the fastest and most meaningful way for a child to learn." (Interview 4, Elizabeth, Teacher)

3.2.2. How do teachers characterize learning through play?

We found alignment between the characteristics of LtP defined in the framework above, and those that emerged from teacher's interviews. Teachers emphasized the importance of play as a joyful learning strategy. The teachers described play as a means to promote fun, excitement, and enjoyment for children. One teacher emphasized that making learning fun is a crucial role for teachers. Nancy stated, "[the] child enjoyed and interacted not only with the adult, but also with the children that were in their home environment. Therefore, we define it as play because it allowed the child to enjoy it." Elizabeth said play "generates enjoyment, generates pleasure…" Consuelo explained "play allows children a joyful way to construct their learning."

Teachers also emphasize the social aspect of learning through play, referring to terms such as cooperation, collaborative constructions, group participation, and strengthening relationships between children. They also mention the interactions between children and teachers. Nancy stated play "allows [children] to construct relationships." Claudia notes play "invites [children to] investigate, have fun, and share with their peers and teachers (Interview 3)." One teacher highlights the cooperative nature of play, saying it is "shared" and "cooperative," as several individuals interact and engage in collective play (Interview 3, Alida). And finally, one teacher comments on the role of group play in helping children build more complex skills.

Teachers also emphasize that LtP experiences foster active engagement in children. This engagement is reflected in children's interest and sustained participation in activities, as well as their manipulation of materials and their dialogue. Their responses reflect the idea that even games with rules can still result in active engagement for children. Teachers noted that children's active participation in these experiences allows for a deeper level of engagement and active, "minds-on" learning. For example, exploration leads to play, which can lead to the development of ideas, the representation of characters,

and the creation of dialogues. Teachers emphasized that through play, children can maintain active listening, establish dialogue, reflect on their agreements and ways to improve them, consider hypotheses, and produce questions.

> *"Through exploration generally play is created… Maybe from the exploration of sounds in the environment, they can start to represent characters, they can start to reproduce sounds and to create dialogues that allow us to develop play."* (Interview 3, Nancy, Teacher)

Teachers view LtP as a natural way of learning for children. According to Nancy, "It is the natural way children create learning." Consuelo also views LtP as a core learning strategy that enables children to build their own learning in a natural manner. Elizabeth believes that LtP is immersed in all the children's experiences. Alida believes that play encompasses many of the daily activities currently done with the children at the center.

Similarly, teachers also referred to learning through play as occurring spontaneously, and that the selection of materials and spaces as displayed allow children to engage in play that is conducive to learning and to develop their abilities. Nancy defines play as "a learning strategy that allows children to learn in a natural, joyful way, enjoying learning, acquiring knowledge in the moment … In a spontaneous way, without effort, without questioning it (Interview 3, Nancy, Teacher)."

Teachers also see LtP as closely connected to exploration, which is one of the other learning strategies emphasized by the aeioTU model. In addition, one teacher mentioned the role of play in engaging children's imagination and creativity. Claudia states learning through play is "where children use their imagination and creativity when doing it (Interview 4 Claudia, Teacher)."

Overall, the findings from both large-scale and in-depth studies on teacher's perspectives on play align with each other. Teachers in both studies describe play as fun, socially interactive, child-directed, and intentional. Additionally, some teachers in the in-depth studies also view play as spontaneous, natural, voluntary, and thought-provoking.

3.3. Parents' understandings of play and learning through play

With the shift to remote learning during the COVID-19 pandemic, which translated into children being at home and supported remotely by teachers at the beginning of our study, we also explored caregivers' (parents) understanding of learning through play. In the context of Colombia, remote learning meant communication over the phone or WhatsApp (a phone-based texting and calling application).

Caregivers in the study also focused on the role of play in children's learning and development, emphasizing its importance for skills such as gross motor skills, as well as math and language content. They share a similar view with teachers that learning through play occurs naturally and without children being aware of it. This alignment in perspectives between caregivers and teachers is a common theme throughout the study. They mention that through play, children also

"learn to distract themselves," "to count," "to be patient." They describe play as teaching many things, including colors and expressions, exercise, geometric figures and "daily words."

Parents also mentioned that play allows children to develop social and emotional skills, such as to collaborate with others, to trust and help others, to communicate, and to take turns. One caregiver notes, "What can they learn? For example, to trust themselves, to trust, to have some skills" (Interview 1, Patricia, Caregiver). One mother mentioned that children can also learn bad words and behaviors through peer play experiences.

Caregivers of children who engage in learning through play (LtP) emphasized the value of repetition and iteration, allowing children to progress at their own pace. As one caregiver, Martha, stated, "In this way, [the child] used the lid of the same color and placed it in the cube of the same color, but without saying what color it was. Or he would say another color. We were able to repeat it and repeat it so that he was able to identify it."

Joyful experiences were also frequently associated with LtP, as caregivers recognized the importance of positive emotions in helping children to engage and have fun. As Carlos, a caregiver, said, "Through play one learns, has fun, and information stays … it's significant and at the same time not boring. Right? Because sometimes we teach them things like planets, numbers, letters, biology things, and all that, and he learns them by playing. So, he feels that it's fun to learn things." Caregivers also discussed the importance of active engagement and voluntariness in LtP. They explained that play does not feel like an obligation to children and that this is what allows them to want to engage in the experience.

Caregiver's interviews also brought up examples of highly controlled activities. This may be the result of parents perceiving an expectation from teachers that activities would be done "in the way I want them to do it" (Interview 1, Alida). The activities described by parents appear to be mostly adult controlled with limited input and engagement from children. Yet some responses from caregivers point to situations where the child would show agency in LtP and propose to carry out the activity in a different way, with a role more aligned with guided play emerging, as they would go along with what the child would suggest.

3.4. Teacher's perceptions on their role in LtP

In the *large study*, teachers were asked to reflect on their role as early educators in two different ways. Firstly, they were asked to recall their experiences with different types of play (Figure 4). Secondly, they were asked to reflect on their role in facilitating learning through play (Figure 5). Most of the teachers reported aligning their practices with the concept of guided play, both before the COVID-19 pandemic and after returning to in-person learning. The teachers reported various categories of play experiences, including children's own play, co-created play, guided play, and adult-led play. Children's own play involved exploration and play processes that were initiated and directed by the children, with some participation from the teacher. Co-created play involved opportunities where the teachers considered the children's play initiatives and incorporated those into their
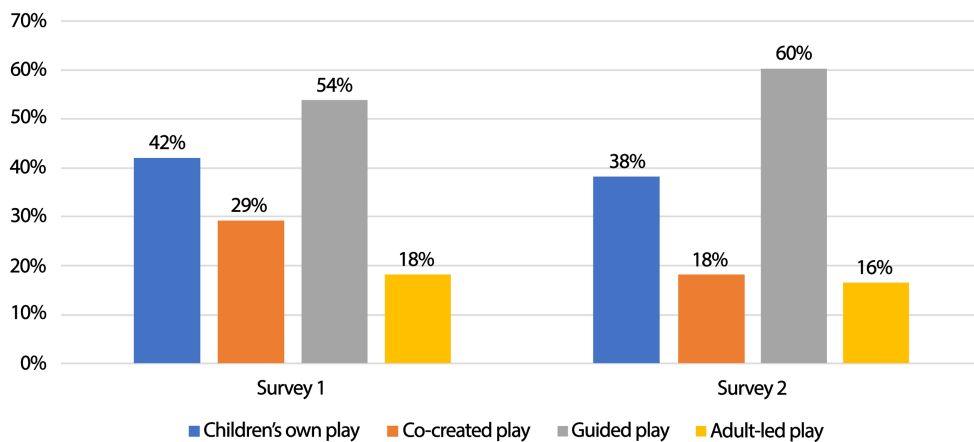
FIGURE 4
What types of activities do you recall as learning through play?

planned experiences. Guided play involved experiences proposed by the teachers, in which children participated, and had a pedagogical intention to guide and enhance the children's learning and development processes. Finally, adult-led play mainly consisted of experiences directed by the teacher and games with rules.

Figure 5 presents how most of the teachers perceived their role within the play experiences they recalled. The majority of teachers described themselves as "play managers," focusing on the preparation and organization of the conditions for play, such as arranging the materials, the space, resolving conflicts, and creating scenarios that facilitate interactions among the children. A smaller proportion of teachers (less than 11%) saw themselves as actively participating as peers. These teachers acknowledge their crucial role in promoting learning and skill development, but do not specify how they achieve this.

Teachers' self-reflections on their role in guiding play are exemplified in the following answers they provided in the survey:

"My approach during play is to observe and guide, allowing me to create a relaxed and permissive atmosphere where children can express themselves while respecting the rules and interests of others." (Survey 1, Margarita, Teacher)

"My central role was to facilitate the empowerment of the different learning processes woven into during play." (Survey 1, Gloria, Teacher)

"Children live moments full of play and exploration through which they strengthen their skills and abilities and live with their peers. As a teacher, I accompany and guide them in their significant moments." (Survey 2, Mercedes, Teacher)

"Provoking children [by] making available all the necessary resources." (Survey 1, Consuelo, Teacher)

Only a few teachers recognized the importance of asking thought-provoking questions, documenting, or taking notes (less than 10%).

"[My role was] to observe and ask some provoking questions that facilitated and deepened the learning process." (Survey 1, Juliana, Teacher)

"My role was to generate a provocation for them and then to become an observer to document the process they went through." (Survey 1, Alma, Teacher)

Regarding contextual or center characteristics that enhance the teachers' ability to develop learning experiences through play, most teachers mentioned the availability of spaces and materials within the center, and a few talked about the pedagogical model of aeioTU and the culture of the center or the community. For example:

"Environments with a diversity of materials are fundamental in exploration and play." (Survey 1, Salomé, Teacher)

"The methodology of Reggio Emilia can be one of the teacher's tools to help them play." (Survey 2, Margarita, Teacher)

3.5. Teacher's practice in relation to LtP

3.5.1. Work with caregivers

We examined the strategies employed by teachers to help caregivers understand the significance of LtP and support them in becoming play facilitators. As revealed by the study, the key components of this process include being attentive to both parents and children, providing support, fostering reflection, and encouraging resourcefulness.

During the early stages of the study, when remote services dominated early care and education, teachers reported working with fathers and mothers through phone or chat-based platforms. This involved being attentive to the needs and experiences of families, adapting activities and materials as necessary, and remaining flexible and responsive to the needs of children. As noted by Elizabeth, a caregiver, "when we prepare the experience, we describe all the materials that you can imagine, we give [parents] all the options, and if a parent maybe does not have [something], we make sure we propose everyday materials."
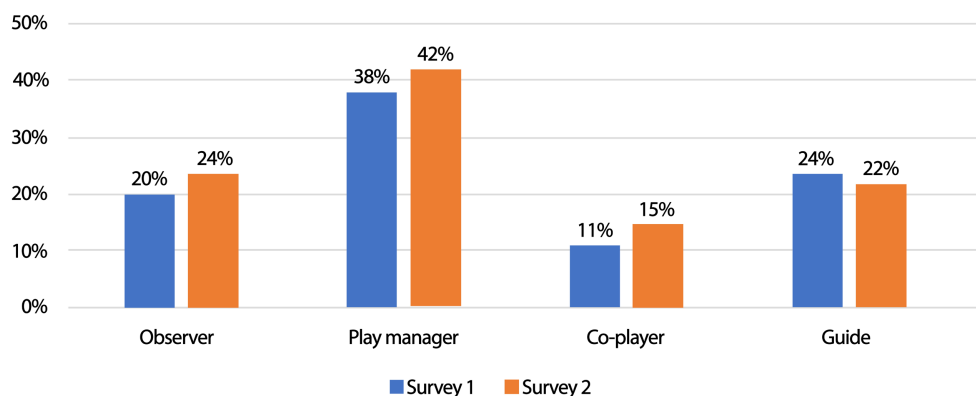
FIGURE 5
How would you define your role in terms of play?

The process of play facilitation also involves scaffolding children's play, encouraging their creativity and competence, and helping them feel confident in the learning process. In a remote learning context, teachers provide similar support to caregivers by sharing their planning process, providing resources and orientation, and offering real-time support as caregivers engage in the activity with their children. As Cristina, a caregiver, stated, "before giving them a call, I send them an overview of the experience that we propose in the aeioTU planning format, and I give them a call and explain it. I asked them if they have any questions."

Teachers also promoted reflection among parents by inviting them to consider what is important for children and by modeling positive behaviors. Some teachers utilized personal anecdotes from their own childhood to encourage reflection among parents. As Alida, a teacher, explained, "I would find a way for them to understand so I would say 'Let us talk about this in our call … yes, let us put this in context. Let us go back to that time in our childhood in which we played with our cousins, our friends. Then, it's the same.'"

Finally, promoting resourcefulness and flexibility was critical in developing LtP experiences during remote learning. The aeioTU model, which focuses on the use of natural, recycled, and easily available materials, was aligned with these efforts. Teachers provided ideas and encouraged parents and children to find different uses for resources and materials they had available at home. As one teacher explained, "we would use what there was… for colors for example, their clothes, their toys, associating these."

3.5.2. Work back in the classrooms

As discussed earlier, when the teachers returned to in-person activities, they were asked to record videos of their classrooms as part of the small intensive study. Our team coded the teachers' reported learning-through-play activities into five categories. Unstructured free play and exploration gave children the opportunity to take the lead as play protagonists. These activities were initiated by the children, and the teachers only occasionally intervened briefly, allowing the children to primarily direct and make decisions. During guided play, the teachers shared a directive role with the children, with clear pedagogical intentions evident in the arrangement of materials and spaces. The teacher supported play through relevant comments or interventions related to the theme or goal. Games and directed play

were structured experiences, with rules imposed either by the game itself or the teacher, limiting the children's decision-making. Teachers mostly chose games or directed play in their classrooms, thereby exercising greater control over their group of children (Figure 6).

We observed that the teachers in the study mainly played the role of a directive and play manager. They arranged the resources and space for the children. Our findings highlight a discrepancy between the role the teachers assumed during play activities and their reported ideal role in play (discussed above). The videos also revealed the teachers playing the role of an orienting guide and participating as a peer. The results of these observations are depicted in Figure 7.

Observations revealed that teachers frequently used closed-ended questions, limiting children's opportunities for deeper engagement with their learning. On the other hand, teachers' comments and open-ended questions that encouraged reflection and understanding of a learning goal were less common. Additionally, children were rarely asked questions about their interests and experiences related to the learning goal. This aligns with the previously described practices of teachers and coordinators.

4. Conclusion

This project inquired into existing training processes in aeioTU, a large-scale Reggio Emilia inspired early childhood program in Colombia, South America with the aim of exploring how learning through play is understood in the training processes, conceptualized by trainers and teachers, and manifested in their practices. Critically, this exploratory study hoped to investigate the influence of context on practice, which in this case, also included a COVID-19 pandemic backdrop. While the original intent was to understand these processes within the experiences of teachers in the professional development program, the transition from remote, to hybrid and then to in-person programming meant that the findings represent perspectives and experiences within these changing conditions, and that protocols needed to be adapted accordingly. This also required that the study include parents as they supported their children's learning during remote learning.
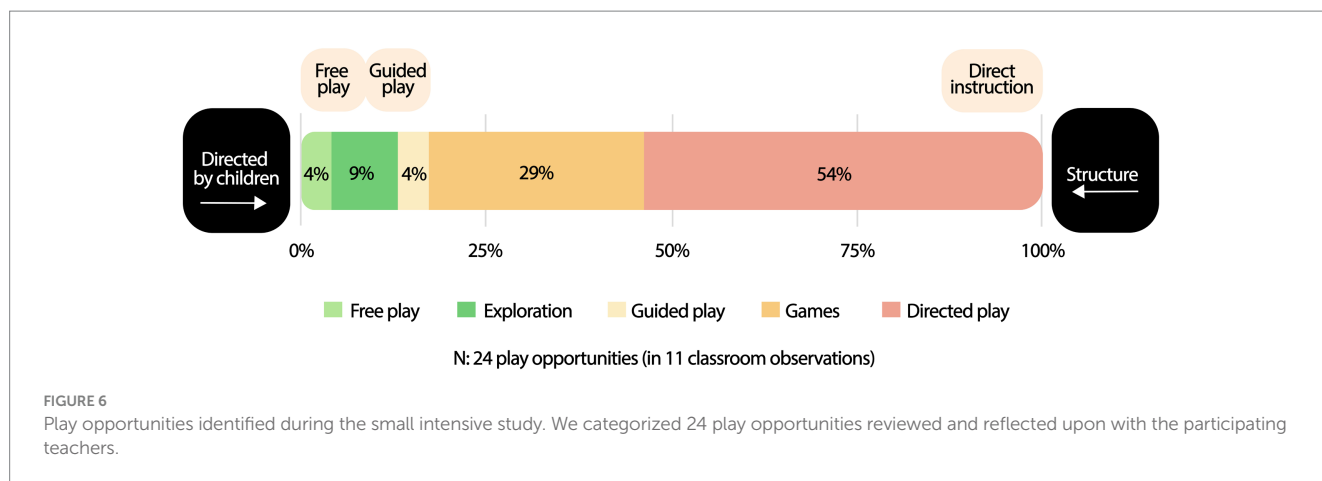
FIGURE 6
Play opportunities identified during the small intensive study. We categorized 24 play opportunities reviewed and reflected upon with the participating teachers.
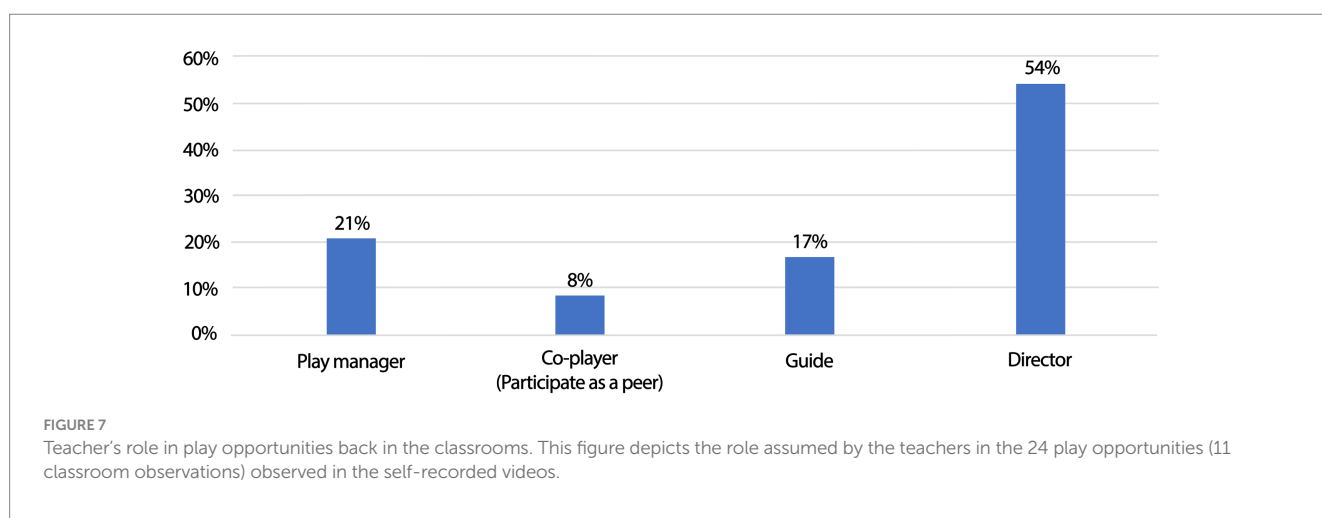

FIGURE 7
Teacher's role in play opportunities back in the classrooms. This figure depicts the role assumed by the teachers in the 24 play opportunities (11 classroom observations) observed in the self-recorded videos.

The aeioTU educational curricular guidelines center three teaching and learning strategies. These are play, exploration and projects. The role of the environment as a provocation for learning, a central cornerstone of aeioTU, comes through in the documentation and in responses of aeioTu teachers. Trainers, teachers, and to some extent, parents, evidenced a comprehensive understanding of LtP. They recognized it as a joyful, socially interactive, and engaging activity with a natural component. The agency of the child was considered critical, highlighting the voluntary nature of LtP. These definitions were in line with the Colombian early childhood policy, which defines play as a self-regulated and voluntary activity in which children interact with adults and peers to understand the world and build their identity.

However, the role of the teacher in LtP came across with less clarity. Directors and teachers emphasized child-centered perspectives, but some respondents focused on the structured role of the teacher in facilitating play, while others emphasized the teacher's role in child-driven play. There was significant evidence of games with rules introduced across the learning experience and at the other extreme, the description of teachers as "providing the environment or materials", "accompanying" children and "observing" children. These two contrasting roles situate teachers closer to the extremes in the play facilitation continuum, with limited facilitation with intentionality.

Partly, the disconnect between the language on play used by trainers and teachers may be due to the rigid protocols imposed by the pandemic on teachers, spaces, and individuals as they re-integrated into in person learning and teaching. As the study moved away from the transition back into classrooms, the predominance of either structured versus free play experiences over facilitated LtP remained. The emphasis on these aspects emerged from the large-scale study as well as the small study and observed practices. Feasibly, context also matters given that the national technical guidelines reject the notion that play should have learning objectives, and teachers are expected to teach children traditional games and games with rules. This may also lead teachers to situate their role closer to the extremes on the spectrum on play practices, rather than as play guides who intentionally scaffold the development of skills and understandings within children's chosen activities and goals.

In addition, there seems to be a disconnect between the depth of the conceptualization of play in the aeioTU curriculum and how teachers think and enact learning through play practices in their classrooms. As per the Reggio Emilia philosophy, teachers see their role as curators of the environment to elicit child interest. The emphasis on curating the environment with intentionality centers the space as an additional dimension for learning, but in teacher self-reflections and the observations in the project, these opportunities appear to miss the reflection process and scaffolding that should

cement learning. The teacher is therefore missing the opportunity to harvest from the experience. While the processes of shared and scaffolded reflection are threaded through all of aeioTUs PD practices, a similar process of scaffolded reflection on the play experience are neither observed nor reported in LtP experiences with children.

The aeioTU program provides a strong foundation for play, but additional support is needed for teachers to facilitate learning through play experiences, including connecting play to learning goals, and tracking children's progress. While the study provides evidence of learning through play activities in classrooms, there is limited evidence on teachers harvesting learning from these playful experiences to understand what learning sticks in children. The COVID-19 pandemic and the limited definition of play in the policy context may have contributed to these findings.

In conclusion, teachers need support in developing their understanding of play and its role in children's learning and development, as well as in understanding the full spectrum of play practices and recognizing how their activities map to these, in order to facilitate learning through play effectively. The goal is for teachers to not only curate the environment but also connect the play experiences with knowledge and learning, and track children's progress towards their goals and objectives.

5. Discussion

Several authors, including Pellegrini (2009a) and Jensen et al. (2019), have emphasized the importance of professional development for teachers in supporting LtP. A professional development approach that focuses on building teachers' knowledge and understanding of play and its relationship to learning is necessary to help teachers develop their capacity to facilitate LtP. Programs such as aeioTU provide a solid foundation for play and incorporate benchmarks for assessing child developmental progress, but other supports are required to help teachers effectively facilitate learning through play experiences in their everyday practices. This requires trainers and teachers in professional learning programs to be aligned in their understanding of learning through play and their role in facilitating it. Ideally, teachers will emerge from these learning experiences with an ability to map their practices to the learning through play spectrum and make intentional choices as to when and how to facilitate learning in specific ways.

Teachers who curate the environment and invite children to engage in specific learning experiences provide valuable experiential contexts for children's learning and development (Bodrova and Leong, 1996). However, to fully facilitate learning through play (LtP), this is insufficient. Teachers must also be able to connect the play experiences with knowledge and learning, and track children's progress towards achieving their goals and objectives (Pellegrini, 2009b; Fisher et al., 2011). For example, Pellegrini discusses the possibility of using play-based experiences to teach learning content in literacy and math, and to support children's socio-emotional development. Observations of that process then provides information on the degree to which the children are progressing towards the learning goals set forward.

Parker et al. (2022) discuss how despite growing support for LtP at a global level, and evidence of playful pedagogies, implementation is underpinned by challenges in a lack of consensus of LtP, among other things. We found teachers did not necessarily harvest children's learning from their engagement in play activities, nor did we find evidence of LtP

practices across the spectrum. Reasonably, this could be due to the challenges posed by the COVID-19 pandemic which forced teachers to "control" children's spaces and physical interactions in various ways and throughout the day. Feasibly, the pandemic could have enhanced teachers' stress and an emphasis on "catching up," both of which could have led to more directive teaching. A measure of burnout included in the study shows no indication of issues (and was excluded in this report) but it may have failed to capture stress adequately in the pandemic's context. In addition, the definition of play in the Colombian policy context situates play at the extremes, with little space for "facilitation." Grieshaber et al. (2021) discusses how intentional teaching and learning in early childhood is dependent on how it is defined in policy.

It is critical for all levels of the professional learning process to have a shared understanding of LtP and its fundamental aspects and concepts (Fleer, 2021; Parker et al., 2022). Jensen et al. (2019) discuss the importance of teachers' ability to facilitate learning and connect play experiences to learning goals, balancing child agency and learning goals. Loizou (2017) and Ryan and Northey-Berg (2014) discuss the importance of professional development for teachers in supporting children's learning through play, including strategies for building teachers' capacity to facilitate learning through play experiences and mechanisms for self-reflection on their role. Professional development approaches could more strategically focus on building teachers' knowledge and understanding of play and its relationship to learning, and at a minimum include an understanding of play (present in the aeioTU program) but also an understanding of their role (including promoting LtP, but also facilitating learning, connecting play to learning goals, and tracking children's progress).

The goal is then for teachers to go beyond being observers and curators of the space, but also to develop the ability to connect the LtP activities and experiences with knowledge and learning, keeping track of how children are progressing towards goals and objectives and scaffolding their learning in their play experiences. This requires intentional, in-depth and shared notions not just of play (as perceived in participants in this study), but also of LtP and play facilitation in order for educators to effectively facilitate "learning" (Hedges and Cooper, 2018; Jensen et al., 2021). Further research is needed to investigate intentional effective strategies to support teachers in zeroing in on the facilitation aspect of learning through play and in strengthening their capacity to harvest the learning that emerges from these playful experiences, as exemplified in Sørensen et al.'s (2022) study of a professional development program specifically in play facilitation.

5.1. Limitations

The generalizability of the study to the region or country is limited as it focused on survey and observational data within a specific educational program, aeioTU, which serves children in Colombia. Our study is exploratory and aimed at documenting practitioner changes in response to the professional learning activities within the aeioTU early childhood program in Colombia. However, the study underwent various changes in methodology and research aims due to the impact of the COVID-19 pandemic on educational programs in Colombia. For instance, the first cycle of data collection had to shift to a focus on teacher's work with parents as programs were still

remote and offline. The second cycle of data collection focused on observed classroom activities within the small study group as learning had shifted back to the classroom. However, due to COVID-19 protocols, teachers had to self-record videos of their classrooms. The samples were reduced to allow for a more in-depth focus on a smaller group of teachers, as the study was extended to include parents. Despite these challenges, the study still collected a substantial amount of rich data which provided insights into the beliefs and practices of teachers. It is important to note that the findings of the study should be interpreted with caution, as it did not attempt to establish causal relationships.

Data availability statement

The datasets presented in this article are not readily available because the original contributions presented in the study are included in the article. The datasets for this study will not be made publicly available. Requests to access the datasets should be directed to the corresponding author.

Ethics statement

The study was approved by the internal review boards of Rutgers University (United States) and Universidad de Los Andes (Colombia). The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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