

PATHS TO PLAY COMPETENCY (P2P):
TEACHERS' EXPERIENCES AND THEIR
PROFESSIONAL DEVELOPMENT.
FINAL REPORT.

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Executive summary

The purpose of this research was to expand our understanding of what it takes for practitioners to become intentional, competent facilitators of children's learning in play and to explore the influencing roles of personal, system and contextual factors. Further, we aimed to explore adaptations of simple tools that capture shifts in their knowledge, attitudes, and practices over time, in alignment with a Denmark Paths 2 Play (P2P) team. By following the journeys of practitioners in Colombia as they consider their roles in play and expand their practice repertoire, this research aimed to:

- Understand patterns in practitioner change journeys in Colombia, considering the influencing roles of personal, and contextual and cultural factors.
- Explore feasible ways to capture change in practitioner approaches to learning through play (i.e., knowledge, attitudes, and practices) that allow for comparisons across settings and programs.
- Gain insights on how practices across the spectrum support children's opportunities to engage with a breadth of skills, as well as on how teachers describe learning through play.

This study is grounded in methodology developed within the P2P project across the Colombia and Danish teams. 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 as the project unfolded. The work was carried out with the following agreed upon definitions. In the P2P study, definitions in LEGO Foundation's white paper (Zosh, 2017) on play facilitation were used as our starting point.

This project inquired into existing training processes in aeioTU, a large-scale Reggio Emilia inspired early childhood program in Colombia, South America. We aimed to understand how learning through play is understood in the training processes, how it is conceptualized by trainers and teachers, how it manifested in practice, and the degree to which materials are integrated and support Learning through Play (LtP) teaching practices. Critically, this exploratory study hoped to explore this within the context, which giving the timeline of this study, also included a COVID-19 pandemic backdrop. This had implications for what the research team was able to observe and capture. 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 implies the findings represent perspectives and experiences within this continuously changing reality.

Both trainers and teachers in the system, and to some degree parents, have encompassing definitions of learning through play. Beyond the conceptualization of LtP as joyful, socially interactive and engaging, individuals in the study recognized a natural component to it and identified the agency of the child as critical, highlighting a "voluntary" characteristic of LtP. In addition, spontaneity, and an interconnection with exploration (a central component of the aeioTU strategy) were evident.

Beyond these aspects, the role of the teacher came through with less clarity. Child-centered perspectives were emphasized by coordinators and teachers, but some respondents tended to focus on the structured role of the teacher in facilitating play (e.g., games with rules) while others emphasized the teachers' role in child-driven play. The description of teachers as 'providing the environment or materials', 'accompanying' children and 'observing' children, in addition to the preponderance of games, situate teachers closer to the extremes in the play facilitation continuum. In addition, there seems to be a disconnect between the depth of the conceptualization of play in the curriculum put forth by aeioTU and how teachers think and enact learning through play practices in their classrooms.

Partly, the disconnect may be the consequence of the rigid protocols that the pandemic imposed on teachers, spaces, and individuals as they re-entered classroom spaces. As the study moved away from the transition back into classrooms, the predominance of either structured or free play experiences over guided LtP remained. The emphasis on these aspects emerged from large-scale survey data as well as small sample classroom observations and interviews. Teachers seemed to miss the opportunity to harvest from the learning through play experiences, as they carefully set the stage for playful learning to occur yet did not effectively capitalize on these to solidify learnings in alignment with expected child outcomes. The aeioTU team did, however, engage with this study with the hopes of learning and reflecting on the findings in order to further strengthen the learning dimension of the concept of playful learning.

Future research in this area should consider various mechanisms and tools to observe playful learning and understand not only the role of the play facilitator, but also the degree to which the reflection processes with children facilitate learning and strengthen outcomes. In addition, piloting tools that engage teachers in self-reflection in their roles as play facilitators and their roles scaffolding children's learning in this process would also help teachers and systems strengthen teachers' roles in the learning process.

Introduction

Facilitating children's engaged learning through play requires intentionality from adults as they adjust the degree of guidance provided and even join children as co-players. The degree to which they do this over a typical day and across activities requires intentional considerations of how children learn and what they can learn, as well as their developmental goals. Practitioners often find such role as play facilitators difficult to balance (see, Pyle, Poliszczuk, & Danniels, 2018 and also a previous study from Colombia, Nores et al., 2018, p. 214).

The purpose of this research was to expand our understanding of what it takes for practitioners to become intentional competent facilitators of children's learning in play and explore the influencing roles of personal, system and contextual factors; for example, how different professionals adopt playful practices, and what kinds of support and contextual conditions they need. Further, we aimed to explore adaptations of simple tools that capture shifts in their knowledge, attitudes and practices over time, in alignment with the Denmark Paths 2 Play team.

This study took place in the context of the professional development program of aeioTU, a private organization that provides early childhood education by operating public centers in Colombia. By following the journeys of practitioners in Colombia as they consider their roles in play and expand their practice repertoire, this research aimed to:

- Understand patterns in practitioner change journeys in Colombia, considering the influencing roles of personal, and contextual and cultural factors.
- Explore feasible ways to capture change in practitioner approaches to learning through play (i.e., knowledge, attitudes and practices) that allow for comparisons across settings and programs,
- Gain insights on how practices across the spectrum support children's opportunities to engage with a breadth of skills, as well as on how teachers describe learning through play.

With the onset of the COVID-19 pandemic across the world, and with the closure of classrooms for almost two years in Colombia, this project pivoted slightly. In essence, as teachers took on new roles in guiding parents and caregivers in their role as play facilitators, the research team made an intentional effort to understand this process, as well as how parents understood, and engaged with, learning through play. Moreover, in a context of dramatic and unpredictable changes in early childhood education and at large, the research and programming teams together decided on a method that would engage in rapid-cycle analyses to inform practice as it developed through the pandemic. This strategy was in synch with the aeioTU program's culture of continuous quality improvement and evaluation, as well as with the research team's goal of co-creating knowledge and supporting practices.

Theoretical background

This study is grounded in methodology developed within the P2P across the Colombia and Danish teams (for the findings by the Danish team, see Jensen & 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 as the project unfolded. The work was carried out with the following agreed upon definitions. In the P2P study, definitions in LEGO Foundation's white paper (Jensen, et al., 2019) were used as a starting point and contextualized throughout the study.

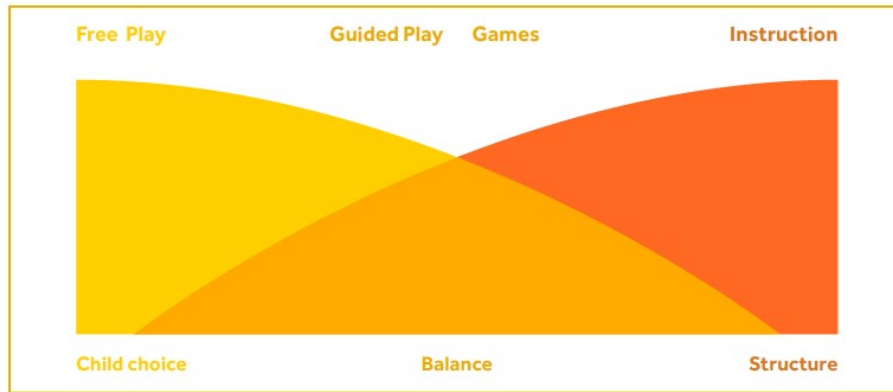
Definition of 'play' in play facilitation. The concept of 'play-based practices' is broadly defined as *educators supporting children's learning and development in play contexts*; this can include providing space, materials and time for children's self-directed play with minimal adult direction to guided 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; Pyle & Danniels, 2017; Toub et al., 2016; Walsh et al., 2019; Zosh et al., 2018). 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 depart from understanding play in a continuum.

Definition of 'facilitation' in play facilitation. Our definition mostly draws on responsive (Pianta et al., 2012; Pianta et al., 2016) and autonomy-supportive teaching (Reeve, 2009), with attention to diversity (Souto-Manning & Mitchell, 2010). That is, educators foster children's engagement by being responsive, having warm and positive relations with children, and making efforts to meet their needs and requests (Hamre, 2014; Wolf et al., 2018). Being responsive means that educators build on what children know and care about, support peer interaction, higher order thinking and language skills, and they connect lessons to children's lives in meaningful ways. It also includes pre-empting conflicts among peers, articulating clear expectations and using routines to engage children throughout the day. Autonomy-supportive relates to fostering their inner sense of competence, autonomy, and relatedness; in practice, teachers would adopt students' perspectives, welcome their thoughts, actions and feelings, and encourage their capacity for directing their own actions; build on students' interests and preferences; offer meaningful choices, and acknowledge students' feelings and perspectives (Reeve, 2009; Stefanou, Perencevich, DiCintio, & Turner, 2004; Stroet, Opdenakker, & Minnaert, 2015). 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, Burchinal, Pianta, & Sideris, 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.

Defining 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 Bautista et al., 2019; Zosh et al., 2018; Pyle & Danniels, 2017; Pyle, DeLuca, Gaviria-Loaiza et al., 2017; Tarman & Tarman, 2011): *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.

Figure 1. The play facilitation spectrum



Source: Jensen, et. al (2019).

Characterizing play. The project parted from the characteristics of play as defined by Zosh et al. (2017). Specifically, the five characteristics of playful learning experiences summarized in this work are: joyful, meaningful, actively engaging, iterative, and socially interactive. We used this as part of our deductive codes, but as additional characteristics emerged, we used inductive coding to capture these in our coding protocols.

Cultural and Contextual Factors. The P2P 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.

Cultural and Contextual Factors

Early Childhood Context in Colombia

In Colombia, a national early childhood strategy called “From Zero to Forever” (De Cero a Siempre, or DCAS) was launched in 2011 to guarantee the comprehensive development of children from gestation through 6 years of age. It was the basis for the current Law 1804 of 2016, by which the state policy for the development of early childhood is established. Public provision of ECE in Colombia aims to promote children’s development of identity, expression and representation of reality, and enjoyment of learning to comprehend and construct the world. ECE is not considered a conduit to school readiness and by law, there is no national

curriculum in Colombia. However, quality standards and technical guidelines were formulated to guarantee services and guide pedagogical processes (Ministerio de Educación Nacional, 2014c). These guidelines define play, art, literature, and exploration of the environment as central guiding activities in early childhood.

Play is considered a self-regulated and voluntary activity with the potential to generate ideas about the world, give new meanings to past experiences, and create new scenarios (MEN, 2014a). In addition, play is an ideal setting for interactions with adults and peers that promote learning and development. The leading role of children in play is emphasized so that they can make decisions, develop hypotheses, reach agreements, face challenges, solve problems and demonstrate their abilities. These opportunities allow children to build their identity and to express their desires, intentions, and emotions (Ministerio de Educación Nacional, 2014b).

The technical guidelines reject the idea that play should have a learning objective. It is explicitly stated that when play is aimed at learning, it is impoverished, children's possibilities are limited, and it "becomes a directed, oriented and simplistic device that leads to concrete learning within the framework of apparent participation and fun" (MEN, 2014a, p. 18). Therefore, the technical guidelines promote free and spontaneous play emphasizing that the purpose is the process of playing in and of itself and not for specific learning objectives.

The role of the teacher is conceived as a child resource in play opportunities: "The teacher participates in the experience by setting the space, observing and intervening at the right time" (Ministerio de Educación Nacional, 2017, p. 119). Teachers are expected to accompany and be present during play, and to be a security source so that children can play freely and face challenges. Teachers must be involved in play through empathy, listening and observation of children's interests, multiple languages and abilities. Observation allows teachers to identify the precise moments to interact, propose or maintain distance during children's spontaneous play. Teachers must also teach children how to play traditional games and some games with rules that children do not know but are culturally meaningful, so that they can reinterpret and master them (MEN, 2014a). Finally, the guidelines recognize the context and space as essential elements in play. Therefore, teachers should prepare the classroom with provocative materials and resources for children (structured such as toys and unstructured such as fabrics and boxes), avoiding the saturation of the classroom with materials (MEN, 2014a).

The public provision of early childhood education provided through the National Institute of Family Welfare (Instituto Colombiano de Bienestar Familiar -ICBF) is organized in four different modalities (institutional, family, community, and indigenous) (ICBF, 2022). The institutional modality, the focus of this study, provides ECE in centers with interdisciplinary teams across education, health, nutrition, and family support. In June 2022, 22% of 0 to 4 years old attend this modality (Sistema de Seguimiento al Desarrollo Integral de la Primera Infancia – SSDIPI). There is not a national level training system for educators. Instead, local organizations, training institutes and universities organize professional development programs for teachers, in coordination with ICBF but with a great deal of autonomy.

While publicly funded, the four modalities are provided by private organizations called Service Management Entities (Entidad Administradora de Servicio – EAS) which provide care and education to children. EAS are selected each year by ICBF. aeioTU is one of these entities and, at the time this study was conducted, operated 18 public centers funded by ICBF and two private centers (serving over 51,000 children and their families).

The aeioTU educational experience

aeioTU is a private organization that works to develop the full potential of children, so that they become competent, creative citizens and builders of society. Its pedagogical model is inspired by the Reggio Emilia philosophy, which aims to give children a central role in the classroom (<https://en.aeiotu.com/>). Learning is based on the dialogue between play, art, and pedagogy.

The following are some of the values and essential elements that guide the pedagogical work of aeioTU to support children's development (aeioTU, 2015):

- **The child as a partner.** The educational experience recognizes children as subjects of rights and protagonists of their learning. That is, children play an active role in constructing their knowledge. The proposed experiences allow children to be surprised and amazed, sensitive, and proactive, discover, investigate, ask questions, make decisions, interact, explore the world around them, be creative and curious, among others.
- **Interactions.** Knowledge is built by interacting with others. Therefore, their work is oriented towards developing meaningful experiences to promote skills such as negotiation, dialogue, and the construction of agreements. The later become incorporated into the learning process as classroom rules or as part of the routines. Everyone around the child becomes an educator, whether at the center, at home, or in the community.
- **Importance of the classroom environment and materials (“the third teacher”).** Since children have a great deal of autonomy and agency during educational experiences, the environment is an essential component because it provokes and invites them to create, reflect, generate hypotheses, play, explore, among other things. The role of the center and the team of educators is to create spaces according to the children's developmental levels that inspire, motivate, and provoke them to co-construct learning with their teachers and peers.
- **Learning strategies.** aeioTU recognizes three strategies that make children's learning possible: exploration, play, and research projects. There are two other types of strategies common to exploration, play and research projects: art and documentation (Table 1). These strategies are part of the ‘Curricular Cartography’ that guides processes and gives teachers the resources to reflect, analyze and carry out their practice.

Table 1. aeioTU learning strategies.

Strategy	Description	Expected behaviors and actions
Play	<ul style="list-style-type: none"> • aeioTU understands play as a spiral. This spiral starts with a process of exploration and then moves on to imagination, transformation, and collective play to initiate a new cycle. • It aims to experiment and articulate thought, language, and fantasy as children understand the world around them, recreate situations, and express feelings and emotions. • During play, greater importance is given to the process since children have the freedom to act, imagine, and represent, among other things, according to what motivates and interests them. • The environment is crucial because it makes play experiences possible when many materials and resources are available for the children. The space where play takes place must be provocative, provide delight, joy, movement and exchange. Play is significant when children are provided with adequate and provocative spaces in which they can develop quality activities and be the main protagonists without intervention from adults. 	<ul style="list-style-type: none"> - Explore. - Find answers. - Develop strategies. - Decide. - Build agreements. - Negotiate. - Solve problems. - Test hypotheses. - Assume pretend roles. - Imagine.
Exploration	<ul style="list-style-type: none"> • Exploration promotes the construction of knowledge by creating direct connections with the surrounding environment. • Exploration is present in all stages of development and awakens children's curiosity to the extent that they can manipulate and discover materials. • The role of the educator is to create provocations of new materials and objects based on observation and active listening. 	<ul style="list-style-type: none"> - Ask questions. - Search -Understand the environment. - Discover. - Investigate. - Experiment.
Research projects	<ul style="list-style-type: none"> • Research projects involve in-depth investigations that begin with a provocation, an idea, an interest, a question, or a concern that led children to formulate hypotheses. • The main objective of research projects is to understand, acquire and deepen new knowledge in a fun and enjoyable way. • This strategy implies that classrooms become a laboratory for learning and knowledge construction. 	<ul style="list-style-type: none"> - Reflect. - Dialogue. - Think. - Inquire. - Question. - Ask.

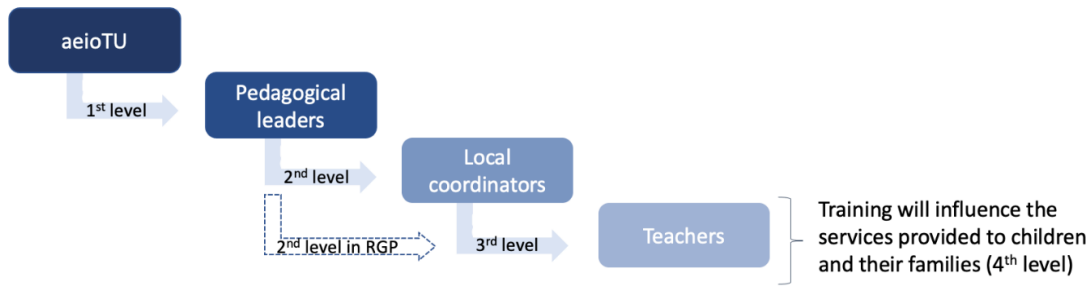
Art	<ul style="list-style-type: none"> • Art is understood as a strategy common to play, exploration and research projects that facilitates discovery. • It comprises an aesthetic experience and creative processes. • A diversity of materials available to children in the classroom make it possible. 	<ul style="list-style-type: none"> - Discover. - Create.
Documentation	<ul style="list-style-type: none"> • Documentation allows revisiting processes, experiences, and activities that have been developed in the past so that children can assess their actions and activities. 	<ul style="list-style-type: none"> - Observe. - Remember. - Analyze. - Record.

In the aeioTU educational experience, educators are expected to develop skills and abilities in relation to designing meaningful experiences for children. First, active listening helps educators recognize children's voices and understand their interests. Second, through observation educators can understand children's characteristics and needs. Finally, the teacher organizes the work in small groups so that children can interact with their peers and collaboratively construct understandings of the world around them. The educator becomes a facilitator by encouraging dialogue, negotiation, good communication, conflict resolution, and the development of agreements. On the other hand, the educator is expected to rigorously define objectives and plan the experiences to be carried out with the children based on their interests.

Professional development activities

The aeioTU training program '*Sumérgete 2.0*' (which translates to 'Immerse yourself 2.0') seeks to strengthen the leadership skills of local center coordinators to support the learning and development of children through interactions, play and exploration in the different spaces and pedagogical processes of the educational experience. The program is developed by a central team composed of the pedagogical, human resources and projects/consulting departments of aeioTU's central office. The program has a train the trainer model, in which the central team trains coordinators of centers defined as "references of good practices" (RGP) as pedagogical leaders. The RGP centers are those that have the greatest trajectory, quality, and willingness to improve. Subsequently, these pedagogical leaders train the coordinators of other centers who are expected to replicate the lessons with their team of teachers at their own center (Figure 1). This model has a slightly different structure as pedagogical leaders directly train teachers in their own centers. Therefore, in RGP centers the train the trainer model only has 2 levels.

Figure 1. aeioTU Training model (TTT)



Training activities vary according to the level of the train-the-trainer model. The aeioTU central team train pedagogical leaders in "accompaniment" meetings at the first level. Additionally, the central team organizes "assemblies." In these, the pedagogical leaders, center coordinators (and sometimes teachers) learn about a wide variety of topics related to the aeioTU educational experience. Assemblies occur three times a year and alternate with another training activity known as "discussion meetings". In discussion meetings, pedagogical leaders discuss specific topics with the coordinators of other centers.

Coordinators, in turn, organize activities to train the teachers in their centers (third level). These training sessions are shorter, take place weekly, and are divided into:

- Reading circles. These aim to connect theory and practice. They always start with a group reading and include time to discuss and share experiences.
- Educational workshops. These are seminars, workshops, or conferences in which pedagogical topics are directly addressed to strengthen the processes of the educational community.
- Gatherings (*Tertulias*). These are opportunities to discuss and reflect on experiences, learning strategies, and cross-cutting themes. These are used to work on experiences involving play, art, research projects, and documentation.

All training activities have a similar structure: they begin with greetings and agreement building, then there are moments of conceptualization to address different concepts or topics (e.g., the role of the environment to promote learning). Finally, reflection questions are asked to guide the discussion and help teachers connect a concept or topic with their practice (e.g., How are materials introduced into the classroom? How is the environment used with pedagogical intent?). This structure allows the pedagogical leader or coordinator to replicate the training. All training activities were virtual during the COVID-19 pandemic when the country was on full lockdown. When the centers reopened, training activities had a hybrid model (some teachers attended in person and others joined through zoom).

Methodology

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 the following research questions:

1. How do train the trainer teams understand and interpret learning through play?
2. 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?
3. How are teachers' concepts of learning through play manifested in their work?
 - a. With caregivers in a remote learning context?
 - b. When they are back in classrooms and providing in person learning?
4. What are caregivers' understanding of learning through play?
5. To what extent are the materials and activities aligned with learning through play? And across various developmental domains? Are teachers intentionally modifying or using the activities and materials provided to enhance domain-specific learning through play?
6. In what ways are information and feedback emerging from this project reflected in the strategies or activities for engaging aeioTU teachers and/or parents?

Timeline

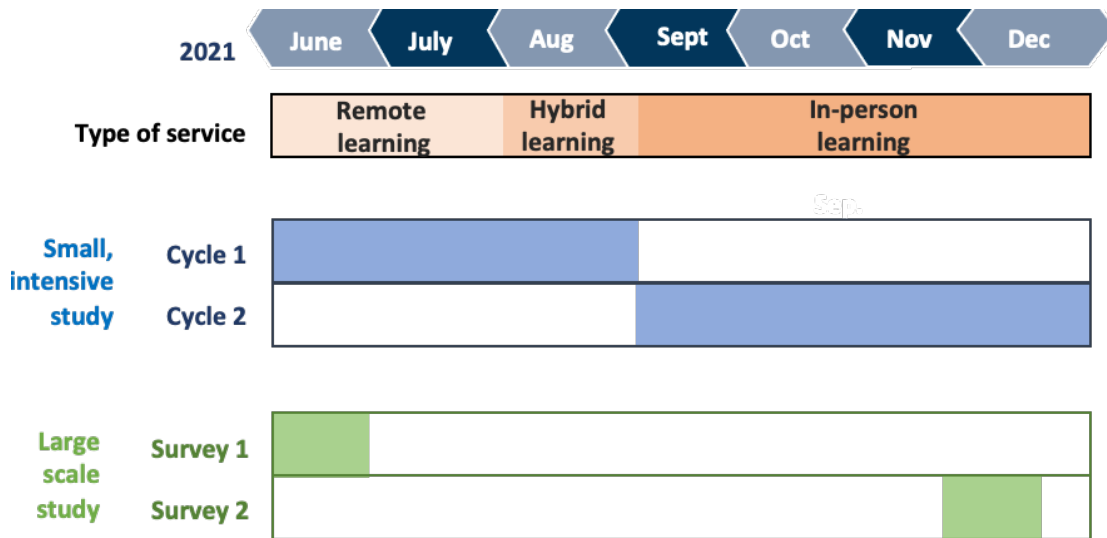
This study includes two components: a small intensive study. The first followed in-depth the trajectory of six teachers from two aeioTU centers participating in the professional development (PD) process. The data collection was carried out in 2 cycles (from June to August and from September to December) in which the training activities and pedagogical practices of the teachers were documented. At the end of each cycle, a feedback session was held for aeioTU to support program activities. The study was submitted for ethics approvals at Rutgers University (U.S.) and at Universidad de Los Andes (Colombia).¹

The large-scale study sought to understand the findings of the first component in relation to a larger sample of teachers. Teachers of all the aeioTU centers in Colombia, that are also part of the PD program, were invited to answer two surveys. The first survey (June - July) inquired about pedagogical practices pre-pandemic, and the second (November - December) focused on practices when the centers returned to in person learning.

Both study components were carried out between June and December 2021. All research protocols were remote, and the study design was modified to adapt the to the changes that the COVID-19 pandemic imposed on programs. The small intensive study started when the country was on full lockdown and children were in remote learning. Consequently, protocols were adapted to work with the teacher-parent-child triad. In August, centers reopened on a hybrid model, and we therefore decided to reintroduce the observation protocols, although with adapted procedures to do these remotely. In September, when centers returned to in-person learning instead of continuing to work with parents, we shifted efforts to observe classroom practices with remote procedures. Figure 2 provides a timeline for the project.

¹ Protocol No. Pro2020000086at Rutgers University and Protocol No. 1387 /2021 at Universidad de los Andes.

Figure 2. Timeline



Data collection

Small intensive study

Data for the small intensive study was collected through observation and interviews for coordinators, teachers, and parents. All data was collected remotely due to the restrictions imposed by the COVID-19 pandemic. The interviews were carried out through telephone calls or via zoom. The teachers recorded the classroom videos themselves and sent these to the research team for coding.

Semi-Structured Interviews with coordinators and teachers. The purposes of these were: 1) to learn about the participants' experiences in the professional development process. 2) To explore beliefs and ideas about LtP, opportunities, and challenges. 3) To understand the possibilities of materials to promote Learning through Play (LtP) and strategies to monitor development. 4) To identify approaches to support caregivers in becoming facilitators of children's learning. 5) To discover alternatives to face the challenges of learning in the context of remote learning. These last two aspects were introduced into the study given the program shutdowns that resulted from the COVID-19 pandemic.

Semi-Structured Interviews with parents. These interviews were aimed at understanding the experiences of caregivers and families while working with children at home (remote learning).

Observation of training activities. The research team attended the training activities to gain a deeper understanding of the topics and processes during the sessions. Those activities were recorded and transcribed with prior authorization from the participants, for later analysis.

Classroom observations. The purpose was to identify the pedagogical practices and strategies employed by the teachers to propose play opportunities to children. The teachers were asked to videotape a morning session by themselves (approximately 1 hour). From the video, we coded the activities' time and characteristics. Only four observations were made during the first cycle, as the teachers were returning to the center for hybrid programming, after

several months of remote learning. For the second cycle, all teachers participated in the observation exercise (11 observations).

Large scale study

Data on the larger group was collected using a survey. The components of the survey were: 1) to collect sociodemographic information about the participants (e.g., educational level, type of contract, support received in the classroom, among others). 2) To understand their ideas and beliefs about LtP and what makes it possible in the classrooms. 3) To inquire about the activities carried out in the classroom. 4) To explore the availability of materials in the classroom. 5) To collect a measure of stress and burnout. We conducted two surveys to collect information on pedagogical practices before and during the pandemic (back to the classroom).

The questions on LtP focus on self-reported practice. The combined P2P Denmark and Colombian teams reviewed various existing surveys focusing on child/adult-child viewpoints and the play facilitation and pedagogical practice, including the Teacher Beliefs and Practices Survey (Kim, 2005), the Modernity Scale (Schaefer & Edgerton, 1981), the Self-Evaluation for Science and Mathematics Education (SESAME; Frede, Stevenson-Garcia, & Brennehan, 2010), and the Supports for Early Literacy Assessment (SELA; Smith, Davidson & Weisenfeld, 2001). The final surveys included some items derived from these, with adaptations to play facilitation and the Colombia context (including translation to Spanish). A novel section was designed by the P2P researchers, that asked early educators to indicate their facilitation roles for different activity types and recall and self-reflect on activities carried out in the classroom pre-pandemic and when back in person (as per Pyle & DeLuca, 2017). Early educators were asked to provide concrete examples of playful situations to bridge the gap between self-reflection and actual practice. An initial survey version was piloted with a group of 8 early educators in June, 2019. The final survey incorporated feedback provided on how the questions were asked.

All interview and survey materials are available on the research website.²

Analyses

The research team used a mixed-methods approach (Kyale & Brinkman, 2015; Ryan, 2020) combining quantitative and qualitative data and analyses to address the research questions.

Quantitative data is shown including descriptive analyses on frequencies, carried out in Stata (StataCorp, 2021). Interviews, trainings, open ended questions in teacher surveys and video data were coded qualitatively. Thematic analyses were used as a start, with a codebook created by the research team including families of codes to direct analyses in a deductive coding strategy. The codebook was developed in relation to the research questions and the research framework guiding this research (Zosh, 2017).³

Researchers then engaged in a series of coding exercises across the various sources of data. Inductive coding was then employed to ensure that codes were shaped by teachers' and trainer's perspective in relation to LtP. This process was iterative and analytical memos

² https://rutgersconnect-my.sharepoint.com/personal/mnores_nieer_org/_layouts/15/onedrive.aspx?csf=1&web=1&e=TZ48Es&cid=bee978e3%2D958d%2D472f%2Dad97%2Da23ec01f16da&id=%2Fpersonal%2Fmnores%5Fnieer%5Forg%2FDocuments%2FPaths2Play%2FInstruments&FolderCTID=0x012000DF0303AE6BE6F6419226A0B5FCFD83F0.

³ The codebook is available in the study's website.

supported reflecting on the information emerging from the first wave of data collection. Researchers met and compared codes and identified illustrations for them. Through reviewing and comparing codes and themes, researchers refined themes and organized these further in relation to the sources and the research questions. Dedoose, a web-based platform that facilitates collaboration, was used to analyze qualitative data. Data was transcribed and imported to Dedoose. All analyses were carried out in Spanish. Final illustrations included in this report were translated. All names that accompany the respective citations of individual responses have been changed to protect confidentiality.

Sample

Small intensive study. Two aeioTU centers in Cartagena were invited to participate due to their willingness to share information about their practices. One center is in an urban area, and the other on the outskirts of the city. Cartagena is the second-largest city in the Caribbean coast of Colombia, and an important tourist destination in the country, but it has a high level of social inequality with almost half of the population living under the poverty line. The invitation to participate was extended to the center’s coordinator (director) and a group of early educators (teachers) in each center. The criteria for selecting the early educators were their willingness to participate in all activities (interviews, observations, and facilitating communication with parents) and having a classroom of children between the ages of 3 and 5. Six teachers were selected for the final sample (4 in the urban center and 2 in the peri-urban one). All of them had a professional degree (5 of them in early childhood education). They had on average about 9 years of teaching experience (4 years working with aeioTU).

Large scale study. Early educators of all aeioTU centers in Colombia were invited to participate (11 centers). The aeioTU team shared the survey with its 306 aeioTU teachers, of which 57 responded to the surveys in the large-scale study (17.97%), and these were followed up in the second survey with 55 responding in total. These were from 7 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%)⁴. Table 2 summarizes teacher characteristics, including education, ECE qualifications, whether currently studying, and the type of contract they have with aeioTU. The teachers are, on average, 33.77 years old. Their work experience includes 8.73 years as teachers, 7.62 years working in early childhood, and 4.48 years working with aeioTU. Most teachers completed both surveys (N=55).

Table 2. 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		

⁴ 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.

Fixed-term contracts	6	10.91
Indefinite-term contracts	2	3.64
Consultant	47	85.45

Note: *1 or 2 years after of study post high school.

Results

Results are discussed for each of the research questions, which are focused on understanding early educators' **play facilitation** as self-reported across a large sample of early educators, and in relation to their observed practice in a small sample of teachers. In addition, the research was carried out in a way to provide rapid cycle information to a program that went through remote schooling, hybrid and to in-person within the duration of the study.

RQ1. How do train the trainer teams in the cascade understand and interpret learning through play?

The Characteristics of LtP

From the aeioTU educational experience, play is a learning strategy that seeks to bring children closer to the world around them to understand it, and for which the process is more important than the outcome (aeioTU, 2015). AeioTU guidelines explain that play offers fun, joy, movement, and exchange, both with others and with materials. That is why their documentation suggests play should be across all moments of the day to help children generate connections.

Semi-structured interviews with the two center coordinators (from here on out identified as Carmen and Dorys) that make part of the small sample study gathered information on the characteristics and elements that allow an activity to be considered play. In the data collected in the first cycle, Carmen explained play does not necessarily have to be socially interactive to generate learning; play could be carried out solo or in groups. On the other hand, Dorys recognizes the importance of family participation in developing play experiences at home. These definitions recognized (as per Jensen et al., 2019), that whether play is interactive depends on the proposal and the pedagogical intention. In the interviews, center directors also situated LtP as significant in establishing connections between familiar elements and knowledge, defining new learning, when discussing the work of educators.

In that particular experience, there was an association that the teacher wanted to make, and that was to identify the sounds in the house and, after that, reproduce those sounds and identify [the origin of these]... Or, let's say, articulate what were the emotions that they associated with those sounds that they heard, which children began to draw. So, the sound of the pressure cooker caused fear in them, so how is that sound represented? How do you think it works inside the body? And that play experience was super valuable because we accompanied the child -through the experience- to manage emotions, but also to represent and accompany his/her entire representational development (Translation, interview 1, Carmen, Coordinator).

Some elements emerged recognized by the coordinators as essential to understanding a specific activity as LtP. Coordinators agree that play is an innate characteristic of childhood, which arises naturally and occurs all the time and everywhere. Carmen emphasized that it leads to learning regardless of the presence of the educator, and Dorys centers play as the central strategy that enables all else.

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 (Translation, Interview 1, Carmen, Coordinator).

[P]lay 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. Let's say, for example, sometimes we say "No, the center cafeteria is not for playing" but in the cafeteria you play when you, for example, propose to the child a food game, to guess what color each food has, and what shape each food has. They are getting involved in the process, they are playing, and at the same time, they are learning. So, play is a strategy through which children are spontaneous; they do something innate in them, and they love the fact of sharing with others and interacting with other children. 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 (Translation, Interview 1, Dorys, Coordinator).

In both, cycles 1 & 2, some differences emerged between the two focal centers. When assessing interviews and PD experiences we found no explicit evidence of describing play as joyful or fun in one of the centers, while in the other one joy is described as an indicator of success in the LtP experiences. Dorys even talked about a playful mindset.

If we look at the collective play, I can tell you that the children are enjoying their park with all the tools we have supplied. It has been quite a process, let's say, of analysis to distinguish things they like, and they have enjoyed, one by one the things we have arranged for them. Concerning play, perhaps at the classroom level, well I have not been in all the classrooms all the time, but I can tell you that they have been inviting moments and that the children also enjoy them. The child is all the time in a role of playing, and they like teachers being in play mindset all the time (Translation, interview 2 Dorys, Coordinator).

Repeatedly, there are references to play as an activity that arises naturally, initiated by children. One coordinator explicitly mentions that it is the means through which children are "spontaneous", and the other one uses words such as "natural" or "innate".

So play is a strategy through which children are spontaneous, they do something that is innate in them (Translation, interview 2 Dorys, Coordinator).

So, for me, play is that it is the sense or the natural way that the child has to know the world, to interact with the world, to make sense of the world, to discover it. That's what play is for me. (Translation, interview 2, Carmen, Coordinator).

Play and Children's Developmental Domains

Center coordinators state that play is a way to acquire socioemotional learning and executive functions (specifically, the development of self-regulation). Additionally, it enhances domain-specific learning (e.g., logical-mathematical thinking). For example, for Carmen, play has the function of preparing and bringing children closer to the world in which they live to generate understandings of it. While for Dorys, play is more oriented towards learning in a natural way, to the extent that when children play and manipulate materials, they learn content in specific areas (e.g., colors, fruits, geometric figures).

What enables [them] to learn? Everything, but let's say, broadly speaking, what we are looking for the child to learn, number one, to develop thinking skills that really allow the child to understand the world he lives in, adapt to it. So, number one: build thinking skills. Number two: develop life skills, those life skills that allow them in one way or another to relate, interact, self-care, and self-manage, such as decision making (Translation, Interview 1, Carmen, Coordinator).

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, social skills (...) So, for example, there are some little tubes where they are carrying colored hoops. They are playing that they are carrying the hoops, but at the same time they are counting, right? They are doing seriation, they are making movements with their arms (Translation, Interview 1, Dorys, Coordinator).

Also, in a training the concept of play as a strategy for recognizing and including cultural identity also emerged.

So, in each of the classrooms, we look at an aspect that we could recognize and highlight in our children and in our families, and in this [classroom], there is this type, this tool that talks about hair recognition, long, short, has... several types. There is also the afro, the one I just sent you, and, uh, the idea is that the children can make graphic development through the hair they have, if it is afro, if it is long if, it is short. (Reflection meeting 3, Dorys, Coordinator).

[Children cooked] empanadas because here in Community "A" let's say that in every corner there are empanadas for sale and it is like a food that is typical of them, to eat it for breakfast, so the children became interested in talking about it (Interview 2, Dorys, Coordinator).

Play is associated with learning language and literacy skills. The coordinators mention the development of communication skills, the acquisition of new vocabulary, the creation of characters, graphic development, and writing, among others.

The teacher had the opportunity to start telling a story with somewhat incomplete images, and the children had the opportunity to discover which were the letters that made up the name of the main character. Then, from there, the children had to discover or recognize those letters and try to put together the name... They moved onto the creative writing and art corner, where the children then had to discover through searching for the letters, through a collage, for

example, the letters that made up their name and try to describe or cut these out through cut-outs in a collage or through writing with playdoh (Interview 2 Carmen, Coordinator).

Trainers recognize teachers' initiative to frequently include the "languages of art" in the training sessions or in their planning. They refer to play as promoting the development of artistic skills and corporal expression, particularly through using materials to "invite" play.

[T]hese tools are ropes from the ceiling, ropes of various materials, such as ribbons, cords, nylon, and materials that are light, so to speak, and a mirror was placed. Through these pedagogical tools, the children play to hide and wiggle their bodies or move their bodies according to the movement made by the ribbons... and they began to play with the colors, with the textures of these ribbons that we managed to place there... (Interview 2, Dorys, Coordinator).

Similarly, music or "sound language" was also described by the coordinators as part of aeioTU play experiences. The coordinators described experiences exploring sound and its properties, as well as the inclusion of music and dances connected to the cultural identity of the centers' communities.

If we go to the sound learning center, the children have had an experience, for example, on what is silence, noise, the different types of sounds, because not all are the same, some sound stronger than others... They have also differentiated between "how the pot sounds when I play it with a plastic stick and how it sounds when I play it with a metal stick (Interview 2, Carmen, Coordinator)."

In the welcome activities, this month teachers are using the sound language, they are using the language of music, through dance, because it is connected with a moment that we are living here in Cartagena, which are the independence festivities (Interview 2, Dorys, Coordinator).

The Role of the Teacher

During the 2nd cycle, as the programs transitioned to in person learning, coordinators associated play with transitions into classrooms such as welcoming, greeting, generating agreements, transitions between activities, or in practicing health and safety protocols. Most of the examples that emerged on this were games with rules and traditional games, which limit the children's agency.

With the agreements, we can work the "Tingo, tingo, tango" [game] but let the children integrate the agreements we are going to consider when we are going to do the learning strategy (Interview 2, Dorys, Coordinator).

[I]n the learning centers, we can also make a small transition by playing, which can be "Well, those of us who are going to go to the construction corner" for example, "We are going to go, jumping", "those of us who are going to go to the art corner are going to go in a little chair" for example, "or singing a song"... then that is a way to play too (Interview 2, Dorys, Coordinator).

In Center A there is evidence of experiences with games with rules, with a set of established norms that define children's actions. These include traditional games (e.g., "rondas

infantiles", "El rey manda" "Simon dice," among others) as a tool to develop learning in mathematics, scientific thinking, language, or socioemotional skills. In addition, the coordinator also identifies the different forms of interaction that can be present in play (e.g., collective, individual).

So, there are collective games, there are individual games, there are round games, and there are games with pedagogical tools, as I said. What other kinds of games are there? There are games with exploration too because children also play; for example, we play with bubbles, and the bubbles rise or expand, and [children] look for them, they touch them. They ask, why does the bubble pop? (Interview 1 Dorys, coordinator, center A).

The coordinator of center A is reticent to use the term "guided play" when describing children's role-playing or their "exploration" in the learning centers. She clarifies that what children do in play is exploration. One explanation for this could be that this coordinator understands using the term "guided play" as implying directionality by the teacher and constraining child choice.

Here in the center, there is an area called "the learning center of life" with plants, watering cans, and compost so the children can get close to the plants. So what game could we play? "Let's play at being explorers"... In the construction corner if we are building a world, for example, the children will maybe be dressed as engineers... In that activity the game is not really guided, because children are exploring, but it can be a means to invite them to explore it... [T]he 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, which is what I was telling you, I was telling you that play makes it possible. (Interview 2 Dorys, Coordinator).

I think that children explore through play. For example, if you invite them to play 'pelegrina', the children are exploring... First, they explore with their body movements, positioning, and from there, they also work on all the other dimensions. For example, the socio-affective one. So, the child explores the relationship and interaction with other children. [The child] can also explore content, for example, if 'La Peregrina' has numbers, the child there explores quantities: "how many can I reach?" ... [The child] works on everything that is 'exploration of distance, on measurement, that is, this is why I say that through play, exploration is made possible as such (Interview 2 Dorys, Coordinator).

In contrast, in center B, the coordinator identifies various types of play to facilitate learning which include free play, games with rules, and guided or purposeful play. The latter is made possible through natural, music or sensory exploration. In addition, the coordinator includes "intentional play" among these.

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, Coordinator).

There is a learning process in the middle of this through play, but also sensory play, intentional play" (Interview 1 Carmen, Coordinator).

So when we have to stop and look, I would think that we are left with that reflection on play, that is, and how 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).

Carmen also identifies free play, primarily associated with exploring in the learning centers or areas. However, she describes free play as happening in all spaces, such as the park or the classroom. It is associated with the environment the child may be able to engage in. In contrast, the coordinator of center A, did not engage with the concept of free play.

At arrival, there is also free play... There is music playing, or there are puppets in the classroom. The child also has the opportunity to go around all the learning centers and play while his classmates arrive, and when the assembly is about to begin, everything returns to its place. So, see, it all depends on where the teacher welcomes the children because it can be in the park, it can be free play. Still, it can also be inside the classroom through music and puppets, but the child can also play freely with the resources there, without conditions". (Interview 2 Carmen, Coordinator).

So in in-person, we have the first time [of the day], which is greetings, where we receive the children, we welcome them, and there is a moment of free play, there is nothing conditioned, it is a space to interact and engage with each other. (Interview 2 Carmen, Coordinator).

[They] have their playground time, playing in the playground, free play or it can be directed play, game with rules, depending on the needs or interests of the teacher and the group of children (Interview 2 Carmen, Coordinator).

There seems to be an intention for all the pedagogical activities at the centers be of LtP. However, these experiences often include games with rules or directed play. It then is necessary to understand the role of children and adults in the experiences offered. To this end, we look at the opinions on this expressed by the coordinators of the two centers, and further below we discussed this in relation to teachers' self-reflection and observations.

In this sense, the coordinator of Center B 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, as well as [understanding] their role within the proposed play activities (Interview 1 Carmen, Coordinator).

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, Coordinator).

However, she also describes teachers as attuned to children's interests, using these in their planning of the learning experiences. Teachers allow children to choose the centers in which they want to participate and pay attention to the developmental needs of each child so that they can propose experiences or activities that strengthen specific dimensions.

[C]hildren are the ones proposing. That is, sometimes you have an idea and when you listen to the child, his/her questions, and his/her proposals, one says "Mmm no, this is the way. He/She is adjusting it here." They become like that guide. So, they are the protagonists of the educational experience (Interview 2 Carmen, Coordinator).

Recognizing children's need for space, the coordinator of center A expresses the importance of allowing children to express their emotions, particularly in relation to the transition back to the centers and adapting to new environments, and of supporting teachers in the process of generating in children enough confidence to participate in the activities proposed throughout the day.

Important aspects are the topic of the transitional object, the silence, and respecting the child's crying. Not to tell [him/her] "Shut up, shut up" but to accompany the child in that moment of sadness, of pain. And in that way, we are also welcoming their emotions, their moments, their process and respecting the transition they are making, which is to leave something to which I am attached, which is my family... to shift to a space that perhaps I do not know or in which I may have been but that I no longer remember (Center A, Reading Circle 1, Dorys).

Regarding the teacher's role in scaffolding children's learning, we found that most teachers use closed questions (correct, or yes or no answers), or descriptive questions that require little elaboration on the part of children. To understand if this was occurring across multiple levels, we asked the coordinators what types of questions they expected teachers to ask during the play opportunities. Coordinators similarly recalled mostly descriptive, closed questions and some open-ended ones.

What kind of questions? ... Well, they asked them "What was the difference between uncooked bread and cooked bread?", that is, how do they see themselves, how they perceive the difference between two states ... what happens if we add this ingredient or that ingredient? ... For example, there were also those questions there, in all their interactions, "What amount do you think we can add? Or how do we measure the amount to include?" More than anything those questions where they were analyzing the bread making process (Interview 2, Dorys, Coordinator).

It was [about] a little sheep that had stolen the letters of the girl's name. And the question was... For example, "a little bee came and brought him the letter C ¿what do you think is the next letter?"... "What do you think this letter sounds like?" He would say ¿What does C sound like? And he would ask the teacher the question. When he had already composed the word, the name was Cristal, he had the R, the I, and they were recognizing the sound of the letters... the teacher would say, "And how does it sound up to here? So, let's put them all together and see how the word sounds. So, what do you think the name is? How would you finish this name?"... Then they went to the writing center. Then the teacher said: "on this newsprint that is here, what shapes do you think your letter has,

the initial letter of your name? So Camila, what do you think? What shape does it have? So, No, it has, it has a little stick, it's standing up, but it's a pipona" Camila would say (Interview 2 Carmen, Coordinator)

Learning through Play in Context

Coordinators mentioned that the local context supports LtP because of the openness of families and because they are easily engaged in the process. Dorys states that this defines how children engage in the classrooms, and their ability to interact with others, talk and participate in their teachers' proposals and it therefore supports LtP.

I think that... throughout Cartagena there is something that makes it easier... for adults and children and that is that families are open... In relationships and interactions, they are very talkative and very interactive, and that is something that makes the children, to a certain extent, have that attitude towards what the teachers propose in the classrooms. At the city level, I think this influences a lot the way in which children approach everything, because they participate, they talk, they are fluid, and they interact with each other (Interview 2 Dorys, Coordinator).

For coordinators, teachers must develop the ability to reflect on their teaching. The coordinator in center B 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. The coordinator of center A 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. When I sit down to watch a learning center, when I sit down to watch a video of what I do, I reflect a lot: "Oh, I hadn't realized this, look." So, the teacher needs to stop to question what they do (Interview 2 Carmen, Coordinator).

Both center coordinators reported providing support to the teachers and children in diverse ways, such as thinking creatively to promote recursiveness, 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, Coordinator).

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, Coordinator).

From the perspective of the coordinators and in relation to what comes through in the training, play is manifested across all the experiences designed and developed by the teachers. The coordinators already 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 and recognize the types of LtP experiences that occur throughout the day, the intentionality within these and the role of teachers across these.

RQ2. What are teachers' concepts of LtP within the context of changes in delivery (remote to in person) due to the COVID-19 pandemic?

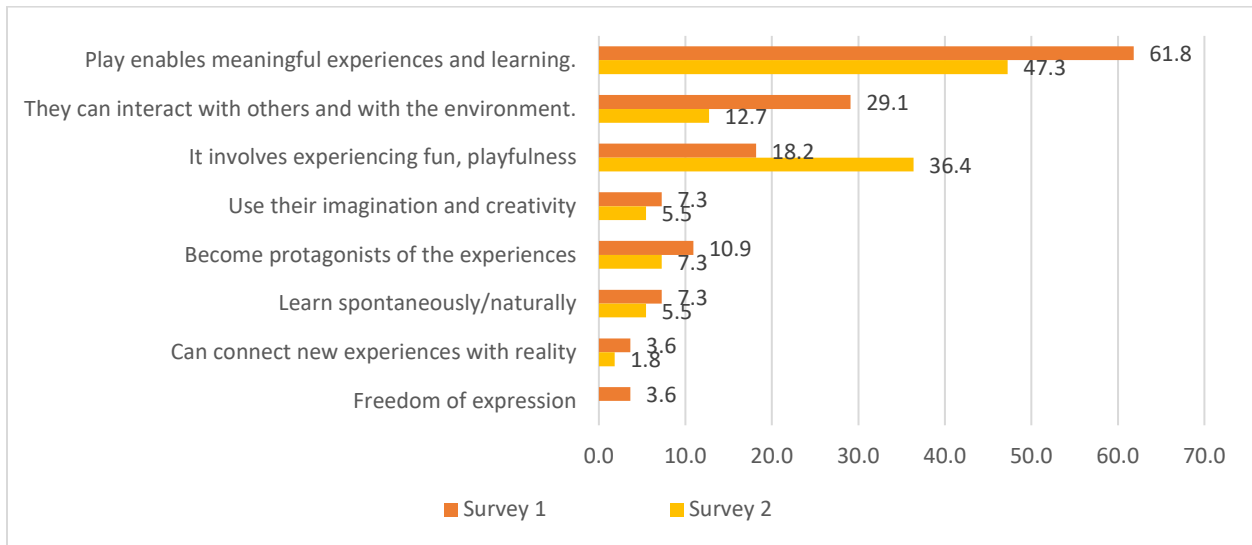
Large scale study

As discussed earlier, the large-scale survey probes into teachers' role during play experiences, how LtP is enacted in the classrooms, and what promotes or hinders play opportunities. Teachers were also asked to recall some play experiences and self-reflect on what makes those activities playful, the role teachers and children take/adopt, and the expected learning.

Defining LtP

Teachers were first asked to describe what it means for children to learn through play. The first survey asked teachers to recall their experiences with LtP pre-pandemic, since they have been engaged in remote learning for about a year. The second survey asked them to discuss this in relation to their current practices back in classrooms. The most frequent responses from teachers referred to play as means to enable meaningful learning experiences, to interact with others and to have fun, both in their practices before the pandemic started and when they returned to in-person activities (Figure 1). In the second survey, however, the drop in the frequency of these two is quite large. Two hypotheses emerge. A first possible explanation could be that their recollection of practices pre-pandemic was inflated given the amount of time teachers had been out of the classrooms, and in their return to the classroom, their self-reflection likely reflects practice more accurately. A second explanation refers to more restrictive experiences for children in coming back into classrooms with health and safety COVID-19 protocols procedures actively in place. The emphasis on joy, fun, playfulness, the interactive nature of play and the description of play as spontaneous and natural aligns with what was expressed by the P.D. team above.

Figure 1. How would you describe what it means for children to learn through play? (N=55)



The following teachers' open-ended responses in the survey exemplify this:

It means that the knowledge they build within their environment will be lodged in long-term memory, learning that is for life (Translation, Survey 1, María, Teacher).

Play is the primary learning tool throughout the life of the human being. It is easier to keep the learning of what we like, of what we enjoy. 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 (Translation, Survey 1, Catalina, Teacher).

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).

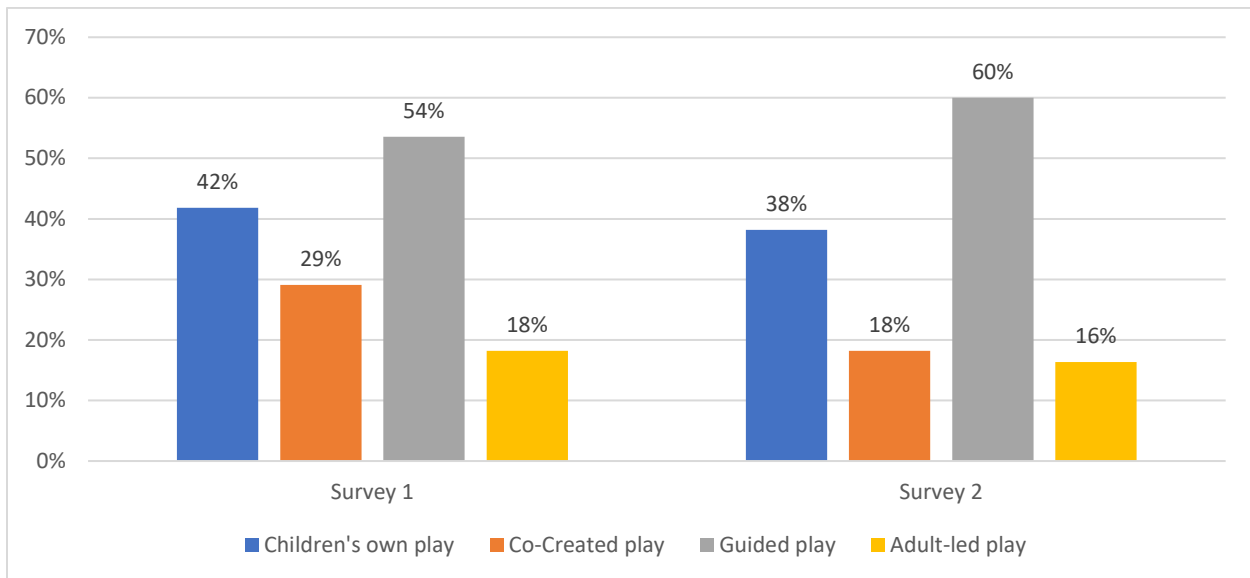
It is everything because thanks to play, children obtain meaningful learning, they really appropriate knowledge, and they learn through experiencing the world, and relationships, among others (Translation, Survey 2, Estefania, Teacher).

[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 (Translation, Survey 2, Violeta, Teacher).

The Role of the Teacher

Teachers were asked to self-reflect about their role as early educators in two moments. First, what types of play experiences they recalled in the survey (Figure 2).⁵ Second, how they thought of their role in learning through play (Figure 3). Most of the teachers described their role as aligned with the concept of guided play in both surveys. when they reflected on their pedagogical practices pre-pandemic, and after returning to in person learning. These categories reflect various types of activities reported by teachers. Children’s own play includes exploration and play processes initiated and directed by the children. While there was teacher participation, the children led what happened during play. Co-created play consisted of opportunities in which the teachers considered the children's play initiatives and incorporated those into the experiences they had planned. Guided play included experiences proposed by the teachers in which children participate; those consist in play opportunities with a pedagogical intention to guide and enrich the children's learning and development processes. Adult-led play includes experiences mainly directed by the teacher and games with rules.

Figure 2. What types of activities do you recall as learning through play?

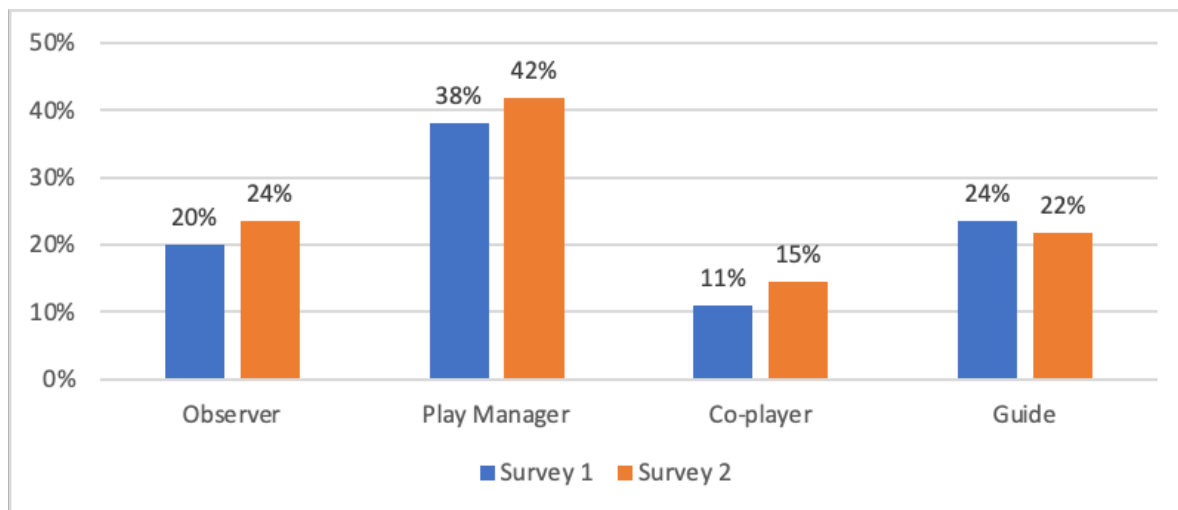


Note: N=55 respondents. Codes are not applied exclusively and therefore these add to more than 100%. More than one play experience was reported by each teacher for a total of 94 experiences reported in survey 1 and 80 experiences reported in survey 2.

Alternatively, Figure 3 shows how most teachers described their role within the activities recalled, with most describing their role as that of “play manager”, centered on the preparation and organization of the conditions for play, such as setting up the materials, the space, helping in the resolution of conflicts and creating scenarios to enable interactions among the children. A smaller number of teachers (less than 11%) refer to actively participating as a peer. They recognize their fundamental role in promoting learning and the development of skills, without specifying how this is achieved.

⁵ Teachers' responses were coded based on the roles of educators in play in the theoretical background section (see Figure 1, as per Jensen et al., 2019; Bautista et al., 2019; Zosh et al., 2018; Pyle, DeLuca, Gaviria-Loaiza et al., 2017 & Tarman & Tarman, 2011).

Figure 3. How would you define your role in terms of play?



Teachers' self-reflection on their role in guiding play are exemplified in the following teachers' answers 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 (Translation, Survey 1, Margarita, Teacher).

My central role was to facilitate the empowerment of the different learning processes woven into during play (Translation, 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 (Translation, Survey 2, Mercedes, Teacher).

A guide, which means I am in the moments of play, but as an active observer. If the children require my help, I intervene. (Translation, Survey 2, Ana, Teacher).

Accompanying the child in each of the pedagogical processes, allowing the child to be protagonist of their own learning through play so that they explore and strengthen their skills (Translation, Survey 1, Karen, Teacher).

Provoking children [by] making available all the necessary resources (Translation, Survey 1, Consuelo, Teacher). My role is to orient, establish agreements, encourage, help them get organized to start the game. Also, to provoke play with materials for children (Translation, Survey 2, Nancy, 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 (Translation, Survey 1, Juliana, Teacher).

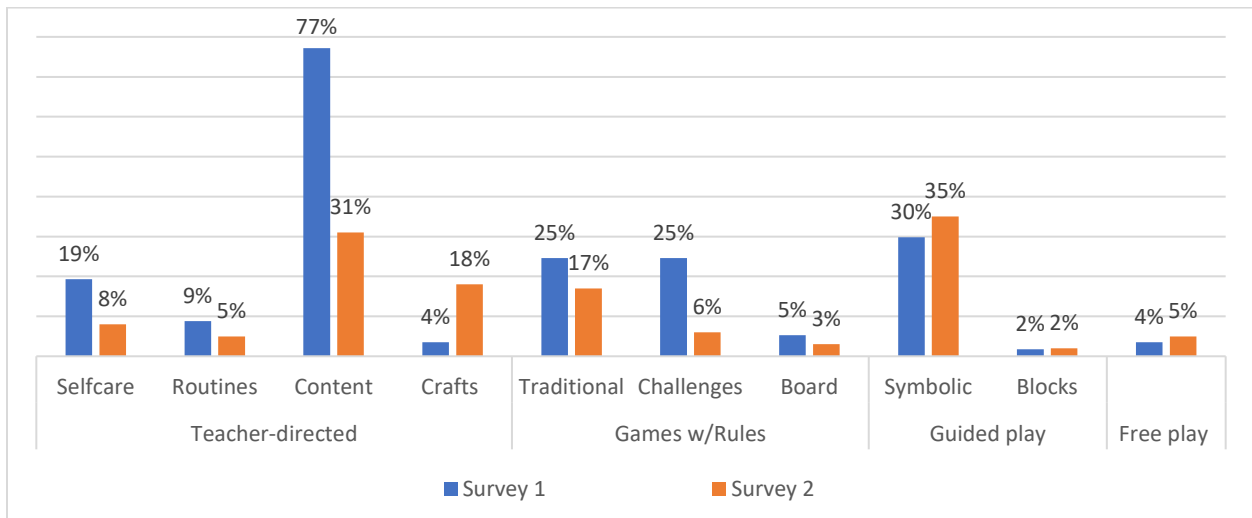
My role was to generate a provocation for them and then to become an observer to document the process they went through (Translation, Survey 1, Alma, Teacher).

[My role was] accompanying the children's play process from the observation and documentation processes of significant situations they are experiencing, sometimes getting involved in the play (Translation, Survey 2, Gloria, Teacher).

My role as a teacher is to accompany the children, observe, take notes, and record their learning (Translation, Survey 2, Karen, Teacher).

Teachers were asked to reflect on 2 or 3 experiences that they could recall before the pandemic, and a few months later we asked them to do this again thinking of experiences in the classroom after the reopening of centers in the pandemic (Figure 4). A finding that emerges is that teachers described mostly teacher-directed play activities related to content such as math, music, language, exploration and gross motor development activities (77%), traditional games with rules (25%), and symbolic play (30%) both before the pandemic and after they returned to in-person activities (Figure 3). Games with rules include traditional games in the Colombian context (*Tingo tango, El rey manda, La golosa, La gallina ciega* and *rondas infantiles*). Symbolic play includes role-play. The activities related to math, music, literacy activities, and/or exploration include activities with light and shade, colors, texture, reading, and recognizing shapes, among others. Comparisons of the two surveys (recalling pre pandemic practices to practices once back in the classroom) show similar patterns, but an overall decrease in teacher's self-reflection of teacher-directed content-based experiences, although these continue to predominate.

Figure 4. Description of play related experiences



Note: N=55 respondents. Codes are not applied exclusively and therefore these add to more than 100%. More than one play experience was reported by each teacher for a total of 94 experiences reported in survey 1 and 80 experiences reported in survey 2.

The Characteristics of LtP

We also inquired into why teachers considered these activities to be playful learning experiences (Table 3). Their responses align and expand on the five **characteristics of play** proposed by Lego and introduced earlier in this report, that is, joyful, meaningful, iterative, actively engaging and socially interactive.

Table 3. What makes these experiences playful? (N=55)

	Survey 1		Survey 2	
	F	%	F	%
It has an intentionality	22	40.00	3	5.45
It is a fun activity	21	38.18	21	38.18
It is socially interactive	10	18.18	5	9.09
Child-directed	10	18.18	13	23.64
Allows exploration	9	16.36	8	14.55
Involves manipulation of materials	5	9.09	9	16.36
Planned or designed as a play opportunity	5	9.09	2	3.64
It is voluntary	5	9.09	2	3.64
Allows for symbolic play	3	5.45	5	9.09
It is a provocative/dynamic/playful	3	5.45	3	5.45
Leads to spontaneous/natural learning	1	1.82	9	16.36

About 30% referred to aspects of joyfulness, for example,

Play experiences are all those moments in which the child has fun. Carrying out a moment proposed by the child is a moment of play, as this generates pleasure for him/her (Translation, Survey 1, Violeta, Teacher).

Teachers also described activities as playful when they offered the possibility to interact with others (18% & 9%).

Yes, since the child is recreating, sharing with others, establishing agreements with a goal: playing and learning (Translation, Survey 1, Margarita, Teacher).

[A]t the same time they were interacting with their peers and teachers and learning new things (Translation, Survey 1, Nancy, Teacher).

Teachers connected play with concepts of learning and exploration, another key teaching and learning strategy in aeioTU:

The moment I invite everyone to explore, it turns into play (Translation, Survey 1, Juana, Teacher).

[The] experiences mentioned before are considered play because [these] allow the interaction of kids with the environment, with the materials, freely [but] always with intentionality behind it. Those are experiences that are lived from the everyday and day to day, and behind it there is motivation to explore and provocations (elements, catchy objects) (Translation, Survey 1, Marta, Teacher).

Feed the joy, exploration, creativity and learning of kids (Translation, Survey 1, Carmen, Teacher).

The Role of Children in LtP

The survey also inquired about the **role of children** during the specific LtP experiences described by teachers. About 35% of the teachers mentioned that children were physically active, interacted with others, were happy and motivated, and carried out exploration (Table 4).

They played, sang, laughed, jumped, interacted with their peers, encouraged each other, clapped, and shouted enthusiastically. Most importantly, they played at being partners in everything (Translation, Survey 1, Mercedes, Teacher)

They actively engaged, played, had fun, learned, and explored (Translation, Survey 2, Elizabeth, Teacher).

A small percentage (less than 10%) of teachers described the children as participating by observing and listening:

They observed, explored, discovered, and strengthened different skills to be developed (Translation, Survey 1, Gloria, Teacher).

Asked questions, observed (Translation, Survey 2, Valeria, Teacher)

Having fun, learning, observing, listening, and creating (Translation, Survey 2, Mariana, Teacher).

Table 4. What did the children do during these play experiences? (N=55)

	Survey 1		Survey 2	
	F	%	F	%
Enjoyed, were motivated	20	36.36	22	40.00
Explored	18	32.73	10	18.18
Interacted with others	17	30.91	17	30.91
They moved (Being physically active)	15	27.27	8	14.55
Played	12	21.82	5	9.09
They acted, represented, imagined	10	18.18	11	20.00
Learned or put into practice knowledge and skills	9	16.36	8	14.55
Generated or reviewed agreements	6	10.91	11	20.00
Analyzed, generated questions and/or hypotheses	5	9.09	10	18.18
Created or constructed	5	9.09	2	3.64
Create or told stories	3	5.45	0	0.00
Observed and/or listened	3	5.45	2	3.64
Sang	2	3.64	0	0.00
Were autonomous	2	3.64	4	7.27
Became frustrated by performance	1	1.82	0	0.00
Drew	1	1.82	0	0.00

Play and Children's Development

The survey also inquired on **what children learn** during play experiences. Some teachers mentioned some developmental domains that were involved (physical, communicative, social, emotional, cognitive), while others referred to specific knowledge or skills. Many teachers mentioned that children develop social and emotional skills in LtP activities, although most responses included various domains (See Table 5). For example:

Children learned to build and keep agreements, recognize their culture, and strengthen their motor skills by coordinating their body movements when running, throwing, climbing, and jumping, among others (Translation, Survey 1, Nancy, Teacher).

[They] learned the importance of revisiting the agreements agreed upon for the moments of play. Secondly, they were able to strengthen basic memory devices such as attention and memory, and they were able to find strategies to resolve the conflicts during play (Translation, Survey 2, Gloria, Teacher).

When teachers mentioned specific knowledge that children learn while playing, a few of them brought up graphic representations, professions, and eating habits:

They learned to identify the different emotions that we can have depending on the situations we live in daily, as well as the gestures that are made with each one. They also learned to graphically represent expressions, feelings, and emotions (Translation, Survey 1, Petunia, Teacher).

The children learned social skills, recognition of actions of some professions, the discovery of things, questioning, and discovery (Translation, Survey 1, Salome, Teacher).

The children learned the importance of hygiene and eating habits, which they practice at different times in their lives. In addition, they strengthened their fine motor skills by drawing and their creative skills by representing situations or objects with various materials (Translation, Survey 1, Angelica, Teacher).

Table 5. During these play experiences, what do you think children learned or what skills do you think they developed? (N=55)

	Survey 1		Survey 2	
	F	%	F	%
Social and/or emotional development	38	69.09	25	45.45
Cognitive development	33	60.00	20	36.36
Physical development	24	43.64	25	45.45
Social and emotional skills	24	43.64	29	52.73
Creativity and imagination	18	32.73	22	40.00
Communication	15	27.27	27	49.09
Mathematical concepts	12	21.82	8	14.55
Language and literacy	7	12.73	0	0.00
Motor skills	5	9.09	0	0.00
Natural and scientific world	4	7.27	0	0.00
Graphic representations	1	1.82	0	0.00
Professions	1	1.82	0	0.00
Eating habits	1	1.82	0	0.00

LtP in Context

The survey also asked for the **personal and contextual characteristics** that support or limit the development of learning experiences through play. Although a high percentage of teachers did not respond to this question (some responses which discussed the child's, rather than their own characteristics indicate this question was not always understood), many mentioned aspects such

as imagination, innovation, creativity, gestures and communication skills and their ability to provide materials to stimulate children among their personal characteristics that support their role in LtP (Table 6):

Being creative or resourceful when planning the experiences to be proposed to the children, so they are meaningful (Translation, Survey 1, Nancy, Teacher).

The way I convey information to children, the tone, and the gestures are fundamental (Translation, Survey 1, Mariela, Teacher).

I consider myself a creative person who invites children to imagine and fantasize about the different processes (Translation, Survey 2, Angelica, Teacher).

I am a teacher who listens to what the children want and involves them in the exploration process to respond to their needs and interests (Translation, Survey 2, Ana, Teacher).

Table 6 What personal characteristics or skills enhance your ability to develop play-related experiences? (N=55)

	Survey 1		Survey 2	
	F	%	F	%
Gesturing and ways of communicating	24	43.64	24	43.64
Provide materials and/or generate provocations	14	25.45	3	5.45
Willingness to play	6	10.91	3	5.45
Knowledge and preparation	4	7.27	7	12.73
Emotional self-control	4	7.27	0	0,00
Feeling capable	4	7.27	0	0,00
Imagination, innovation, and creativity	2	3.64	21	38.18
Autonomy, analytical and/or leadership skills	2	3.64	2	3.64
Resourcefulness	2	3.64	0	0.00
Mastery of art languages	2	3.64	1	1.82
No answer	48	87.27	10	10.91

When teachers were asked about their personal characteristics that limit their ability (Table 7) to develop LtP experiences, most said that none or stated they did not understand the question. A few teachers referred to their lack of confidence, creativity, or resources, for example:

I do not consider that my characteristics limit these developmental processes in children because I always try to do my best, and I always listen to my children (Translation, Survey 2, Liliana, Teacher).

Sometimes the lack of imagination in the processes of symbolic play in which children involve me, and my lack of creativity to develop pedagogical tools (Translation, Survey 2, Gloria, Teacher).

Table 7. What personal characteristics or abilities limit your ability to develop play-related experiences? (N=55)

	Survey 1	Survey 2
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	F	%	F	%
None	28	50.91	30	54.55
Lack of self-confidence	3	5.45	3	5.45
Proposing unattractive activities	2	3.64	1	1.82
Lack of creativity and resourcefulness	2	3.64	5	9.09
Passivity, permissiveness	1	1.82	3	5.45
Lack of time for training	1	1.82	5	9.09

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 (Table 8). Some examples are:

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

The spaces and green areas of the center because children can relive the experiences, and their homes because most of them have open spaces (Translation, survey 2, Vivian, Teacher a).

The climate of the classrooms and shared spaces. Also, the Reggio Emilia pedagogy (Translation, Survey 1, Carmen, Teacher).

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

Table 8. What are the characteristics of the context or your center that enhance your ability to develop play-related experiences? (N=55)

	Survey 1		Survey 2	
	F	%	F	%
Available spaces and materials	40	72.73	44	80.00
Pedagogical tools developed by teachers	5	9.09	4	7.27
Educational model (aeioTU educational experience)	5	9.09	4	7.27
Center and community culture	5	9.09	5	9.09
Partnership with other people, organizations (actors)	2	3.64	0	0.00
Qualification and training	1	1.82	0	0.00

Finally, half of the teachers stated there are no context or center aspects that limit their ability to develop LtP experiences, but a few of them mentioned the lack of materials or resources (Table 9).

Until now, no limitations have been found, as children offer us valuable tools and strategies to develop these experiences (Translation, Survey 1, Angelica, Teacher).

None. The resources, materials, and spaces allow the development of a great diversity of games and play experiences (Translation, Survey 2, Liliana, Teacher).

At this moment, the lack of resources, since the tools have deteriorated and we are beginning to fix them and adapt them for this new cycle which must

include practices to secure non-contagion (Translation, Survey 1, Mirabel, Teacher).

Lack of material. Sometimes, as a teacher, I have had to buy material so that the experiences are significant and respond to what the children want (Translation, Survey 2, Ana, Teacher).

Table 9. What characteristics of the context or your center limit your ability to develop play-related experiences? (N=55)

	Survey 1		Survey 2	
	F	%	F	%
None	27	49.09	25	13.75
Absence of materials or educational spaces	8	14.55	13	7.15
Time	2	3.64	1	0.55
Weather conditions	2	3.64	2	1.1
Ratio child-adult	1	1.82	0	0
Social and cultural conditions of the region	1	1.82	7	3.85
Social distancing	1	1.82	4	2.2

Small intensive study

The small intensive study included interviews inquiring in-depth into what teachers define as LtP. The interview protocols had 22 questions about experiences in professional development activities, beliefs about LtP, materials for play, children’s developmental follow-up, and challenges faced.

Defining LtP

The teacher’s descriptions include conceptualizing play as a learning strategy. For this group of teachers, play is a central component of children’s daily lives. They recognize its importance in terms of the skills and abilities it promotes in children, as well to make meaning to past experiences.

I believe that play is one of the learning strategies where children acquire much more learning (Translation, Interview 1, Consuelo, Teacher).

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 (Translation, Interview 1, Nancy, Teacher).

In addition, one of the teachers defined learning through play as a shift from traditional ways of learning towards more developmentally appropriate strategies that are dynamic and playful and generate meaningful learning.

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 (Translation, Interview 1, Cristina, Teacher).

Teachers not only recognized play as a learning strategy related to children's development, but also described it as a strategy that allows children to experience joy or fun.

[When] playing has closeness with others, enjoys it... so it generates on the child through play, all learning (Translation, Interview 1, Claudia, Teacher).

[Play] is like a facilitator and the joy it generates in the child to learn through play, because it's fun, because they like it, because it's more thrilling (Translation, Interview 3, Cristina, Teacher).

I think of play, within learning strategies, as the fundamental axis for all construction of learning to occur in children. Yes? Because play allows children to construct their learning in a joyful way (Translation, Interview 3, Consuelo, Teacher).

[Through] play we can incentivize children to develop and experiment with different abilities, whether these be motor, communicative, socio-emotional (Translation, Interview 4, Alida, 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 (Translation, Interview 4, Elizabeth, Teacher).

The characteristics of LtP

We found an alignment between the play characteristics proposed by Jensen et al. (2019) and the teachers' report. We focus on those that emerged from teachers' reports. However, teachers' understanding and definition of LtP included other aspects that are described further below.

Joyful

First, teachers often allude to LtP being joyful. A variety of activities and experiences are described as such. For teachers, children's enjoyment and the pleasure that play generates in them allows LtP to be fun, thrilling, and enjoyable. Moreover, one teacher situated making learning fun as part of a teacher's role.

[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 (Translation, Interview 1, Nancy, Teacher).

[Play] is an action that generates enjoyment, generates pleasure... (Translation, Interview 4, Elizabeth, Teacher).

[Play] is the learning strategy that allows children learning in a natural, fun [way], enjoying their learning (Translation, Interview 3, Nancy, Teacher).

Because play allows children in a joyful way to construct their learning (Translation, Interview 3, Consuelo, Teacher)

[Play] is like a facilitator for the joy that it generates the child to learn through play. Because it is fun, because he/she likes it, because it is more thrilling... Therefore, it stays with me as learnt, that it is us who impart that possibility that it be more fun (learning) (Translation, Interview 3, Cristina, Teacher).

Socially Interactive

Teachers also referred to social interactions in relation to LtP, using terms such as cooperation, collaborative constructions, group participation, strengthening relationships between children. They also regularly mention interactions between children and the teacher.

It is play ... it allows [children] to construct relationships, it is established between more than one child (Translation, Interview 4, Nancy, Teacher).

[Play] invites them to investigate, play, have fun, and share with their peers and teachers (Translation, Interview 3, Claudia, Teacher).

[Play] is shared, that is, cooperative, because it's several [of us] that are interacting in play, collective play as it is called (Translation, Interview 3, Alida, Teacher).

[Children] intervene in the productions made by their peers and provide help when they require it in the moment of making those productions, they are building more complex. Therefore, that is when you see that group play with children (Translation, Interview 3, Consuelo, Teacher).

Actively engaging and "minds on"

Teachers also described LtP experiences as generating active engagement in children. This is reflected in children's interest, their sustained participation in the experiences, their manipulation of materials, and their dialogue. They argued that this is the case even in the context of games with rules.

In the moment they read the agreement reflected in the image, when they wait anxiously for them to be the ones throwing the dice, in the moment in which they propose who will be next, in the moment in which they discuss how to establish agreements. Then, I think it is a play that allows them to engage actively (Translation, Interview 3, Nancy, Teacher).

In coming back to the space, to the classroom, we do the assembly and well... We discuss what did they like about the game, if they wanted to repeat it, what did they like most, what did they like about the game, and they start then to discuss and to say all they liked about the game (Translation, Interview 3, Alida, Teacher).

It engages them a lot because they have already generated interest on the plant. Then, what is the first thing we do in the Assembly? "Oh, teacher, look, it flowered!" Because they are constantly living this process, and they are seeing it inside their classrooms. So, they take care of it, they are participating, and checking if it fell, or it is dry. So, every day there is a child

that waters it. Therefore, they are taking care of plants and not only in the classroom, but they can replicate it in their community, their homes, here in the [center] which is large (Translation, Interview 3, Cristina)

Some teachers make references to identify a deeper level of engagement, an active and minds on learning. In these activities children can participate in more complex elaborations, like developing and representing ideas, considering hypotheses, and realizing 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 (Translation, Interview 3, Nancy, Teacher).

[We] had a cube in that cube, we have images of plants from the [early childhood center] and from the insects that currently are here with us, that is grasshoppers, lizards, well, those more common within the [center]. In addition, it consisted of identifying which was a living being and which were the... why are they alive? It was to ask how to ask those kinds of questions (Translation, Interview 3, Cristina, Teacher).

That [children] can maintain active listening and in this way establish dialogue with them that allow us to go back to the agreements. And it's also a space in which children can propose things, establish new agreements, and maybe reflect on how they can do it better (Translation, Interview 3, Nancy, Teacher).

In addition to the characteristics proposed by Jensen et al. (2019), the teachers highlighted these additional essential elements to define play:

Natural

When inquiring about what characterizes an experience as LtP, some teachers described it as allowing children to learn naturally. That is, that LtP is embedded into children's everyday experiences and in the way they engage with the world around them.

It is the natural way children create learning (Translation, Interview 3, Nancy, Teacher).

It is a core learning strategy that allows children, in a natural way, to be builders of their learning (Translation, Interview 3, Consuelo, Teacher).

It is immersed, and it should be so, in all experiences [of children] (Translation, Interview 3, Elizabeth, Teacher).

Play encompasses a lot of things of what we do here daily (Translation, Interview 3, Alida, Teacher).

Spontaneous

Similarly, teachers also frequently 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. This aligns with the concepts in Bonawitz et al. (2011).

What play does is that children learn without the need ... That is, the intention is to play... but as they are playing, they can acquire skills and abilities in each dimension (Translation, Interview 2, Consuelo, Teacher).

[Play] is a learning strategy that allows children to learn in a natural, joyful way, enjoying learning, acquiring knowledge in the moment and in the way children need to. Right? In a spontaneous way, without effort, without questioning it. Right? - (Translation, Interview 3, Nancy, Teacher).

Voluntary

Other characteristics emerged from teacher interviews that were not part of the LtP Lego framework. Some teachers highlighted agency, but also the voluntary nature of how children engage in LtP. They recognized that during play children can decide based on their interests, they can choose in what and how to participate. This seems to be broader than the concept of agency in Zosh, et. al (2017) since choice is present in choosing “not” to engage in play.

[In] the playground time, each chooses where [he/she] will play what they want to be. Then, those playing decided themselves what they were going to play in that moment, [and] those that did not, were in the swing or the seesaw (Translation, Interview 4, Alida, Teacher).

[When] one mentions it to them, we are going to play, then they right away say “Ah, it’s a game!” and they right away activate, they get motivated to engage in the experience (Translation, Interview 3, Claudia, Teacher).

If [he/she] doesn’t want to participate in this one, well, maybe [he/she] goes to the area that calls their attention... because we can’t force [him/her]. The other option is through strategies ... expressions, actions, maybe even images that those them or with different types of play so the child maybe feels that they want to participate. (Translation, Interview 3 Elizabeth, Teacher).

Play as interconnected with exploration & experimentation

In addition to highlighting the natural and spontaneous nature of play, teachers in the small group study describe play in a way that is closely connected with other learning strategies, including exploration, which as mentioned earlier, is a critical component in aeioTU’s model.

Since play allows for exploration, then when we are with the children, and we give them the possibility of experimenting through play and materials, right? What we are doing is that play is carrying the child to explore each of those materials, so we can play and through a song [or] using pedagogical strategies. And what do we do? So, the child arrives at exploration, yes? And after exploration [they] could possibly [engage] in research projects. (Translation, Interview 3, Consuelo, Teacher).

Play as engaging children’s imagination and creativity

Lastly, one teacher mentioned the role of play in engaging children’s imagination and creativity.

[I]t’s done a playful way, right? Where children use their imagination and creativity when doing it (Translation, Interview 4 Claudia, Teacher).

Overall, the various characteristics brought up by teachers in the in-depth studies are aligned with what emerged from the large-scale studies. Teachers in

the larger study described play mostly as fun, socially interactive, child-directed, and intentional. However, a few teachers also included aspects related to spontaneous, natural, voluntary and thought provoking, somewhat expanding on the characteristics in Zosh, et. al (2017).

RQ3. What are caregivers' understanding of learning through play?

Given the shift to remote learning during the COVID-19 pandemic, which translated into children being at home and supported remotely by teachers, we also explored caregivers' 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).

Defining LtP

We found that when defining learning through play, parents focused on the role of play in children's learning and development, highlighting for example gross motor skills and specific math and language content. In addition, caregivers' notions of learning occurring without children noticing resonate with teachers' perspectives on LtP as natural. This alignment in caregiver-teacher conceptualizations of LtP emerged throughout.

[When playing] they also learn to distract themselves from what is happening to go to another level, to do other things. They also learn to count, the colors. Through play you can learn to wait, to wait your turn, to be patient. Many things are learned. Although it doesn't look like, you do learn, because they learn all that. So, if we put that to them, they also learn to have opinions and to take them into account. (Translation, Interview 1, Claudia, Caregiver). Then they learn the numbers there, without noticing that they are learning (Translation, Interview 1, Patricia, Caregiver).

Play teaches them because children learn many things through play. At least Juanita is a girl who has learned the colors through play, many expressions. Even the daily words that now are taught through play. She has learned to exercise, to jump, to dance. She has learned many things and it has been through play (Translation, Interview 1, Mercedes, Caregiver).

Geometric figures. Every time she takes a toy, she says the color or if it is a triangle or a square (Translation, Interview 1, Jaime, Caregiver).

In their learning, many things in their learning. Because there are children who don't know the numbers, so as they are jumping "one", "let's go, let's go to do the two", "Two, let's do the three". In this way they are learning the numbers, without noticing they are learning (Translation, Interview 1, Patricia, Caregiver).

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. However, there was one mother who mentioned that children can also learn negative things when playing, like bad words and behaviors.

Yes, in most games yes, they allow them to learn to take turns, to help their classmates (Translation, Interview 1, Martha, Caregiver).

What can they learn? For example, to trust themselves, to trust, to have some skills. Well, things like these (Translation, Interview 1, Patricia, Caregiver).

During play they learn, and they talk to other children, and they are teaching things that they had in their mind to talk better, the dialect when they relate to several children, they learn good things (Translation, Interview 1, Melisa, Caregiver).

They also learn some manners from other children, some of them not as good as others. But at home we try to tell him/her, to teach him/her, this is bad, you cannot say this word. In this way, when he/she sees another child trying to do the same, he/she says that it is wrong. In this way the other child also learns that this is not good (Translation, Interview 1, Pilar, Caregiver).

The characteristics of Learning through Play

Iterative

In relation to learning through play, some caregivers recognized the value of repetition and iteration. They highlighted the need for children to go at their own pace, practicing activities to consolidate learning in a way that allows them to offer an alternative to what was proposed by the teacher.

In this way he 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 as such (Translation, Interview 1, Martha, Caregiver).

Joyful

Another characteristic of LtP also brought up by caregivers was “joy.” Positive emotions were frequently associated with play experiences and recognized as important to help children to engage and have fun.

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, that he feels that it's fun to learn things (Translation, Interview 1, Carlos, Caregiver)

Minds on and Voluntary

Parents also brought up active engagement as a characteristic of LtP. Caregivers described an intention and commitment to engage their child in play in an effective way. They also highlight that play does not get perceived by children as an obligation, which allows for children to want to engage in an experience or activity. They explained that although the proposals are perceived as homework as they come from teachers, children still find them engaging when LtP predominates. They also recognized that children may not want to engage in play in remote

learning as proposed by teachers every day. This speaks also to the voluntary aspect of play mentioned earlier.

Christina likes a lot of things. Then, when one tells her, "let's go play!" She says, "Let's go do homework!" And once she finishes it, "Mami [that was] fun." So, with her it is easy to do things (Translation, Interview 1, Melisa, Caregiver).

You must be patient because there are days in which they do not want to play. So, you must dedicate [some time] and talk to them, and find space for them to have some time, and look for an ideal moment for them to [engage] in the experience (Translation, Interview 1 Melisa, Caregiver).

Types of Play

Parents identified both games with rules and guided play. Most recounted play activities that fall into the first of these, such as "Simon Says", and "The King Rules", among others.

[A] puzzle with parts of the body. The teacher said to grab a picture of an image from a magazine or of oneself and make a puzzle. What goal? To learn the parts of the body. So, we grabbed a picture and cut it into pieces. (Translation, Interview 1, Mayra, Caregiver).

[O]ne time we played with, that is that we should play with the child "Simon says", because that is we should do it with the family and share time with him... it was easy because the child saw us doing it, one would do a thing and he would also do it (Translation interview 1, Aur, Caregiver a).

[N]ow since we are with the issue of the pandemic, we are doing a game that is called The King Rules. So, in one activity we would talk with the child first and then we started with "The king rules that we should wash our hands often." So, we washed our hands, right? "The king rules that we put our face mask on" so we were doing this with what we are at now (Translation, Interview 1, Liliana, Caregiver).

Role of adults and children

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" (Translation, Interview 1, Alida). Therefore, the activities described by parents appear to be mostly adult controlled with limited input and engagement from children.

I cut, first I set everything we were going to do up. I cut the parts of the body and she helped me glue these. Since some parts were very delicate, I glue them on a cardboard. She would help me glue these, and after we were done, we put it together between both of us. I showed her how it should end up looking. (Translation, Interview 1, Mayra, Caregiver).

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. In these situations, the parent seems to

understand a role more aligned with guided play, where they would go along with what was suggested by the child.

[One] always modifies the game, because in rare instances does one do exactly what a teacher says. Because often she may propose... and (the child) said she was not going to do that... in most of the experiences she had her point of view... “no, mom, we will do it this way, it’s better” (Translation, Interview 1, Claudia, Caregiver).

RQ4. How are teachers’ concepts of learning through play manifested in their work?

Work with Caregivers

In this section we address the concepts described by teachers in relation to helping caregivers understand the value of LtP and supporting them in their transition to becoming play facilitators. Key pieces that emerged from the study were being attuned to parents and children, offering support, promoting reflection and resourcefulness.

Due to remote services still predominating in early care and education at the commencement of this study, teachers reported working with fathers and mothers through phone or chat-based platforms. In this context, being attuned to parents and children emerged, and this included listening to families’ experiences and needs, using strategies to engage both children and caregivers in the activities they were proposing, and as needed, adjusting what is proposed in relation to families’ needs and the access to materials reported by parents. The hope was that this would also trickle down to the parent-child dyad with parents then understanding and responding to the interests and needs of children.

Many teachers evidenced being attuned to the needs and specific situations of their children’s families, adapting experiences and materials as needed, and reinforcing a need to remain flexible and attentive to the needs of children, so that learning would progress in relation to each child’s individual needs.

[W]hen we do 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 (Translation, Interview 1, Elizabeth, Caregivers).

[B]ecause we would let [the girl] know what we were going to do and she would understand... one would also help her, to take her opinion into account so she would participate in the experience, and she would say what she wanted to do, what she did not like, and one then takes that into account. (Translation, Interview 1, Pilar, Caregivers).

[H]ow we can adapt that game they [already] know to that need we want to work with the child, to those goals we want to aim for the child with the game proposed, so in that way it is easier... (Translation, Interview 1, Consuelo, Caregivers).

Play facilitation also includes supporting children by scaffolding their play, encouraging it, and helping them feel creative and competent in the processes (Jensen et al., 2019). When

working with caregivers in remote learning, these then translates into a similar process for caregivers, where teachers provide examples, share their planning process with parents, and discuss with them the learning domains and goals that are supported. This may include shared agreements, providing resources (online or other), images and other aspects that help orient caregivers on the experience they are to engage their children with. In addition, from teachers' and parents' interviews it emerges that teachers may support caregivers in real time as they engage in the activity, generally through a call or voice texts, to help them develop the activity with the child.

[B]efore giving them a call, I send them an overview of the experience that we propose in the aeioTU planning format, and I send it to the group. Then I give them a call and explain it to them. I asked them if they have any questions... After the call is done, I send them a voice message explaining again the proposed activity. (Translation, Interview 1, Cristina, Caregivers).

A parent explained how the idea of supporting children was present before COVID started:

Well, what happens is that since my first child was in the [center] this is not difficult for me since I already handled this methodology. And when it comes to the girls, we helped them in everything they need, homework, playing, we are always tuned to their needs, both their father and me, to help them with activities (Translation, Interview 1, Melisa, Caregivers).

Teachers also promoted reflection about children's learning, care and development by inviting parents to take the perspective of what is important for children and by being a positive role model for children. Some teachers mentioned that they helped parents to reflect by remembering their own childhood to know what matters to children and what is important for them.

Therefore, I would find a way for them to understand so I would say "Let's talk about this in our call... yes, let's put this in context. Let's go back to that time in our childhood in which we played with our cousins, our friends. Then, it's the same. (Translation, Interview 1, Alida, Caregiver).

Well, what I like about the teacher is that she has a lot of patience with children and when I asked her an opinion with respect to my son, she knows how to explain things, and she knew how to let me know the best way to talk to [him]. (Translation, Interview 1, Bibiana, Caregiver).

Promoting resourcefulness and flexibility were central to developing LTP experiences during remote learning. This is aligned with the aeioTU model, which focuses on the use of natural, recycled and easily available materials to work with children in the classroom. Working remotely with parents, teachers provided ideas and encouraged parents and children to find different uses for resources and materials they have available at home and their context.

We would use what there was... for colors for example, their clothes, their toys, associating these with colors and quantities... Boxes, cardboard boxes. That is, materials at home ... looking for strategies where they could use those materials... (Translation, Interview 1, Claudia, Caregiver).

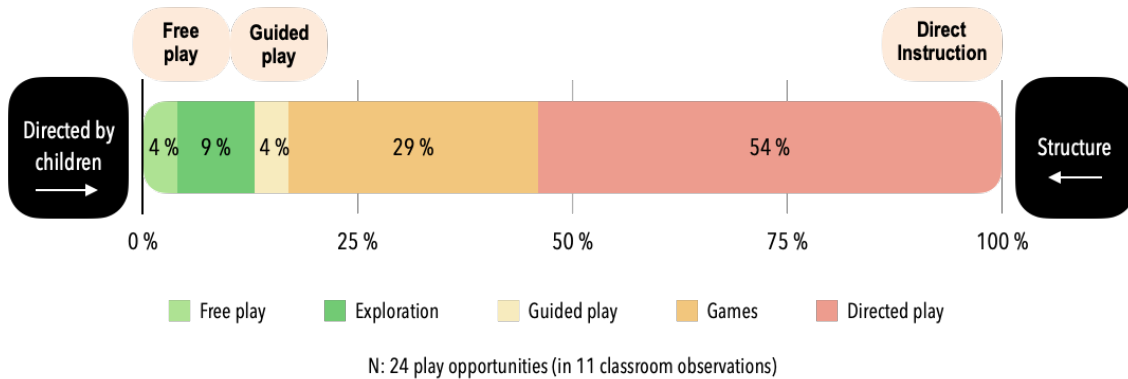
[The teacher] would tell me, "If you don't find a box or something like it, with whatever you have in your home, with paper pages, or the covers of old

notebooks, you can put together things” ... and in fact the cube we put together we did it with cloth. (Interview 1, Carolina, Caregiver).

Work back in the classrooms

When the teachers returned to in-person activities, they were asked to record videos of their classrooms during the rapid cycles in the small intensive study. We coded the activities that the teachers described as learning through play into five categories. Free play and exploration were highly unstructured and opportunities in which children became play protagonists. These were initiated by children, and although teachers sometimes participated through brief interventions, children primarily directed this play and made decisions. During guided play, the teachers shared a directive role with the children and the pedagogical intention was clear with materials and spaces arranged according to specific goals. The teacher supported play through comments or interventions related to the theme or goal. Games and directed play were structured experiences in which the rules (imposed by the play itself or the teacher) limited the children's decision-making. We found that most of the time, teachers choose games or directed play opportunities in their classrooms. In turn, they had greater ‘control’ over their group of children (Figure 5).

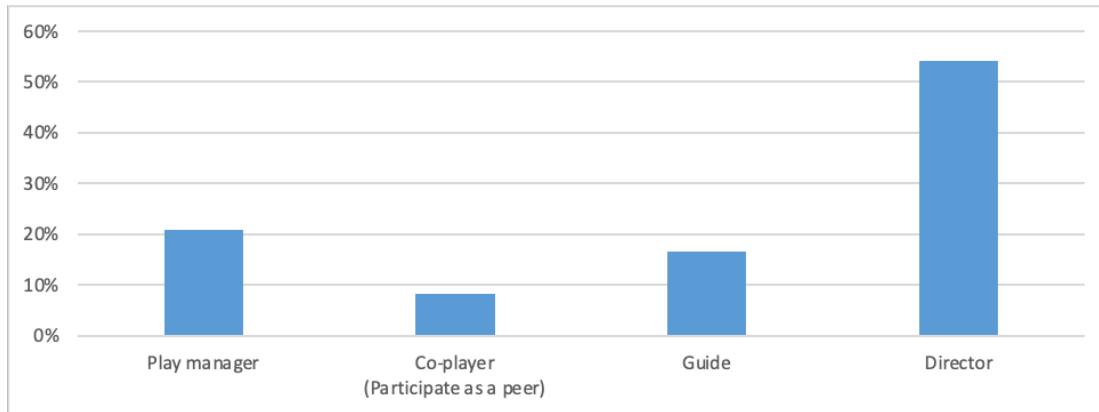
Figure 5. Play opportunities identified during the small intensive study



Note: We categorized 24 play opportunities reviewed and reflected upon with the participating teachers.

The observed roles of the teacher were mainly directive and of play manager (arranging the resources and space). These results show the gap between the role they assumed during play opportunities and what they reported in the survey as the ‘ideal’ role in play. Other roles observed in the videos were that of orienting or guiding and participating as a peer (see figure below).

Figure 6. Teacher’s role in play opportunities back in the classrooms



Note: This figure depicts the role assumed by the teachers in the 24 play opportunities (11 classroom observations) observed in the self-recorded videos.

Teachers often asked closed-ended questions, which did not provide an opportunity for children to deepen their answers. Comments and open-ended questions from teachers that invite reflection and understanding of a learning goal were less frequent. Children rarely were asked questions about their interests and experiences organized around these. In this regard, observations aligned with what was described above for teachers and coordinators.

RQ5. To what extent are the materials aligned with LtP? And across various developmental domains? Are teachers intentionally modifying or using materials provided to enhance domain specific LtP?

Large scale study

In assessing whether materials and their use is supporting LtP, teachers were asked to rate the degree to which materials were available for children. Table 10 reports the presence and availability of various types of materials with scores close to 4 meaning that materials are available for children to use in their activities and play experiences. This was generally the case for most materials both when teachers recalled their practices before the pandemic (survey 1) and again as reported by teachers once they were back in the classrooms (survey 2). The materials that were less frequently found in classrooms were items such as maps, or displays with numbers, letters or scientific concepts (i.e., the cycle of life for butterflies) which are not common in Colombian early childhood classrooms as they are not part of the official provision of materials in public centers. As expected, large playground equipment (such as slides, swings, etc.) which is typically situated outside of the classrooms were the least common. In contrasts, teachers reported availability and accessibility of role play materials, blocks, dramatic play materials, games, puzzles and other table games, toys, painting/drawing materials, modeling materials, books, sensory tables, recycled materials, nature elements, small gross motor toys, displays of family or community, among others (See Table 10).

Table 10. Presence and availability of classroom resources* (N=55)

	Survey 1		Survey 2	
	M	SD	M	SD
Musical instruments (e.g., drums, flutes, maracas, tambourines, among others).	4.00	0.00	3.95	0.40
Cardboard and colored paper.	4.00	0.00	4.00	0.00
Pencils, colors, markers, crayons and/or chalk.	4.00	0.00	4.00	0.00
Paints, sponges, and/or paintbrushes.	4.00	0.00	4.00	0.00
Plasticine, clay and/or modeling tools.	4.00	0.00	3.98	0.13
Children's books.	4.00	0.00	4.00	0.00
Learning centers	4.00	0.00	3.98	0.13
Recycled and reused material (e.g., plastic bottles, caps, cardboard tubes, among others).	4.00	0.00	4.00	0.00
Children's productions.	4.00	0.00	3.98	0.13
Blocks or similar objects for construction.	3.96	0.27	3.98	0.13
Board games (e.g., jigsaw puzzles, lotteries, stringing games, picture copying cards, etc.).	3.96	0.27	3.80	0.73
Materials for exploring quantities, numbering, sorting, classifying and counting (e.g., rulers, abacuses, colored caps, among others).	3.96	0.27	3.96	0.27
Elements of nature (e.g., stones, plants, logs, feathers, shells, seeds, pinecones, among others).	3.95	0.40	3.96	0.27
Markers (e.g., name cards, signs to identify objects or materials, etc.).	3.95	0.40	3.89	0.57
Costumes, hats, costume accessories, puppets and/or a puppeteer.	3.89	0.57	3.85	0.52
Toys (e.g., animals, cars, dolls, stuffed animals, among others).	3.85	0.62	3.560	1.01
Posters or photographs of the community and/or families.	3.85	0.52	3.82	0.58
Items or printed material for dramatic play (e.g., menus, price tags, recipes, newspapers, etc.).	3.82	0.67	3.55	1.02
Materials for scientific exploration (e.g., binoculars, magnifying glasses, gears, pulleys, among others).	3.80	0.65	3.87	0.66
Calm learning center.	3.78	0.71	3.73	0.73
Measuring instruments (e.g., meters, rulers, scales, etc.).	3.73	0.80	3.76	0.72
Light tables, sensory boards, mirrors and/or flashlights.	3.71	0.79	3.67	0.82
Balls, hoops, mats, jumping balls, ropes, candy, tricycles, among others.	3.27	1.08	3.33	0.98
Vegetable Garden	3.09	1.04	2.73	1.13
Posters with letters.	3.04	1.36	3.07	1.36
Posters with numbers.	2.71	1.45	2.67	1.44
Posters with scientific concepts.	2.44	1.46	2.45	1.49
Maps.	2.24	1.39	2.16	1.42
Playground equipment (e.g., swings, slides).	1.96	0.19	1.93	0.26

*Scale instructions: 1=Not available, 2=It was available, but outside the classroom, 3=It was available in the classroom, but was not within reach of the children, 4=It was available in the classroom, and was within reach of the children.

Small, intensive study

Interviews with pedagogical leaders delivering professional development, center directors and teachers provided evidence on the use of several types of materials across different activities

including LtP activities and more teacher-directed ones. However, less of the evidence relates to the use of materials to LtP. Some of the materials described in these interviews are natural (rocks, tree branches, sand), recyclables (bottles, cardboard boxes, lids) and materials available in homes (kitchen supplies, sheets, flashlights). According to teachers, these materials allow children to engage in transforming, adapting and exploring. In this sense, teachers proposed activities that could be done in the classrooms or within homes under remote learning, with the goal of contributing to various child development domains through manipulation of materials.

Below we present some extracts collected during the interviews that provide evidence on the use of materials in remote learning. The types of experiences described also show alignment across centers in activities proposed despite the pandemic.

[I] remember an experience we had...Two experiences, one about a set-up we did in the home, and we had play experiences with shade using the natural light of the sun, with bed sheets at home... [I] remember an installation with chairs, with dining room chairs for children ... and they would do circuits with games and all that to strengthen their gross motor, sliding and all that (Translation, Interview 1 Carmen, Coordinator).

[We] propose the shade theater a lot. And shade theater is simply using hands and a flashlight or using the sunlight during the day, and if they wanted to create characters, well they created puppets with the materials I was proposing (Translation, Interview 1 Dorys, Coordinator).

Relatedly, teachers also mentioned the use of natural, recycled, or available materials at home to engage children in studying natural phenomena through LtP, and for more directed learning related to bio security due to the pandemic.

[T]he part with the natural materials was very functional to each of the experiences, and what was recycled materials as well; the bottles of same soda they would drink, the caps of the soda bottles, the packaging was also very functional when engaging in an experience (Translation, Interview 1 Alida, Teacher).

[We] would use water and well, natural elements, to propose experiences. With the water and light, we did an activity with reflections and a CD. Then, children would put the CD in water with a flashlight, because a PLP kit we gave children last year included various flashlights. So, they would use these flashlights, and the child would reflect the light and on paper with paint and brush they would depict the colors they observed in the light. (Translation, Interview 1 Claudia, Teacher).

[This] year we have proposed mostly repurposed material that can be used for the development of play. We have used tires, we have used rope, we have used the spaces in the homes, we have used clothes, we have used what resources were in homes to create games with families. (Translation, Interview 1 Nancy, Teacher)

We also inquired about the kit 'Aprendamos Jugando' (Learning by Playing) developed by a national initiative and funded by The Lego Foundation to support families during remote learning. The purpose of the kit was to promote LtP by inviting families to imagine, create and play as they build characters, narratives, and stories. The kit included two components. The first, *La jungla de mi casa* (My home's jungle) invites children and their families to interact with the

materials included in the kit. The second, includes activities for families. The materials included are scissors, hole punch, cardboard, acetates, and labels. Most of the teachers reported no knowledge of the kit. Therefore, the activities proposed by teachers throughout the year did not provide evidence of its use, nor adaptations of activities.

The use of materials was included in the professional development activities observed by the research team. During the sessions, the pedagogical leaders, center directors and teachers often referred to materials to “provoke” (stimulate) children’s engagement and LtP, and as a strategy to intentionally set up the classroom environment for children to engage in the activities and experiences, both in regular classrooms and the sensory classrooms which are part of the aeioTU model.

[Considering] that classrooms and areas include similar processes, in some respects it is the same materials ... but it depends on our intentionality we may have what we do with these or what we invite the child to do. (Translation, Tertulia 1 Alida, Teacher)

Resourcefulness was mentioned by teachers throughout the interviews, as they referred to the transformation of material to align with each of the proposed activities/experiences and the intention behind these. Therefore, they highlighted materials as a learning medium in and of itself in that they allow children to recognize differing uses of the same materials. Such activities were particularly evident when recalling what teachers proposed during remote learning, where activities had to be adapted according to the materials available within each specific home. This aligned with one of the characteristics of LtP discussed earlier, flexibility, which emerged in relation to both modifications of the activities proposed, and of the materials considered.

Additionally, teachers described the individualization of activities to meet the needs and characteristics of children, providing information to parents to help them engage with the children:

Recyclable materials which can adapt to the needs of the moment is the case for my group [of families]. They can be bigger, they can be transformed, can be adapted, one material can be used for many things. (Translation, Interview 1, Consuelo, Teacher)

It is a very traditional game, “Patos al agua’ [ducks in the water] ... We brought back the experience but transformed it in a way that they had to look for recyclable materials to mark the floor. Therefore, what I like is that [the child] likes to engage in these experiences with the father... and we realize how through play the whole family got engaged in the activities. (Translation, Tertulia 4, Consuelo, Teacher)

Well, the natural ones... recyclable ones because [children] would transform those materials as a learning medium... when converting them into pedagogical tools... [C]hildren transform these elements into learning tools. (Translation, Interview 1, Elizabeth, Teacher)

In relation to children’s development, teachers brought up how the different activities and experiences involving the use of materials supported children’s communicational, social emotional, cognitive, motor and executive function development. However, the teacher’s examples were not necessarily always associated with LtP experiences. Parents echoed teachers’ statements.

I believe they learned many abilities and skills. For the cognitive domain I think they learned problem solving, also to recognize notions of space, notions of time, notions of quantity, and ... in the language domain, children were able to describe those moments they are experiencing... Maybe in homes we did not have that space dedicated to play with our children. Thanks to these proposals of play, it helped solidify connections... and for the child to start to learn to wait their turn, about agreements, and everything about their body... equilibrium, skills, and to do different movements, postures. (Translation, Interview 1, Consuelo, Teacher).

[W]ith materials, such as dry leaves, rocks, when they are very little, it is sensory ... paint as well... sensory with their hands, feeling what they are doing, what they are creating. (Translation, Interview 1, Carlos, Caregiver)

Through play children can also learn the numbers, colors, letters, learn to write, to color, to paint. The teacher asked [us] to color a landscape... [the child] would say she wanted the sun green because that is her creativity... (Translation, Interview 1, Patricia, Caregiver).

In sum, the statements from the PD team, teachers and parents discuss a diversity of materials to build the learning experiences generally, as well as LTP experiences. Materials are discussed as central to play experiences and supporting children's learning. In addition, and particularly as related to home learning when centers remained unopened, aeioTU staff discuss the centrality of materials that can be transformed before, during or after the experiences, and that can be adapted to children's needs or preferences, to support learning in an individualized way.

RQ6. In what ways are information and feedback emerging from this project reflected in the strategies or activities for engaging aeioTU teachers and/or parents?

The Paths 2 Play Colombia research team engaged in two cycles of feedback with the aeioTU team. This included meetings with the aeioTU leadership, as well as center coordinators in the two focal centers in the study, as well as meetings with the teachers in these same centers, for a total of four meetings (2 per cycle).

Cycle 1 Reflections (November 2021)

The first cycle feedback meeting was carried out virtually on November 5, 2021, with the aeioTU pedagogical and leadership teams, and the study team. The P2P research team emphasized the presence of elements of LTP in both caregivers and teachers. The team also discussed the language around the characteristics of play discussed by caregivers and by teachers in their reflections on play and play-based practices. The research team also discussed, as the centers transitioned to hybrid learning and in person learning, the predominance of games with rules and teacher-led activities, and the absence of work in projects which is a core component of the aeioTU educational experience.

The following summarizes the main reflection points that emerged from this effort.

- Culture. There was a recognition of an intention to include elements of children’s culture and context to engage and “embrace all children’ in the return to in person.
- Family. Changes in the “mindset” of families were discussed as families learned how to engage with children in play during daily life. This may permeate long-term work with families. This finding was described by the aeioTU team as: “I love what is captured in families”, “this is music to my ears” “very comforting.”
- Play. In relation to the definitions of play that emerged from analyses, the leadership reflected that the definitions and characteristics of play seemed broad and disconnected from the *Cartografia* and what is expressed in the curricular documents on the role of the adult. They commented that “Not much [seems to emerge] on play as is promoted by the aeioTU educational experience,” “No variety in the types of play described.”
- Transitions. Members of the pedagogical team and center coordinators reflected that this data collection was aligned with the process of back-to-school transition, which was met with teacher resistance, insecurity, and many layers of regulation around biosecurity, including which materials to bring into classrooms. Therefore, they expressed not being surprised that the return to in person started quite controlling and with a preponderance of teacher-led activities. One center coordinator mentioned change may be noticeable as time goes by, with some relaxation on processes, and more focus on the child’s educational experience. There was also a recognition that even the more experienced centers and teachers went backwards in the implementation of exploration and play-based learning experiences and reflected on a need to “revisit” processes. Relatedly, there were reflections on a more teacher-centric and controlling approach being ‘activated’ by the pandemic backdrop.
- Learning strategies. Projects that involve in-depth investigations that begin with ideas or a question that lead children to formulate hypotheses, is one of the central learning strategies in the aeioTU model, and they were not explicitly evident during data collection. A coordinator reflected that this may start to emerge going forward and that this may have been impacted by an extended transitional ‘back to school process with children coming back in different waves and weeks, with some hybrid iterations first. In addition, reflections emerged on the evidence showing a need to reconsider how play is put forward as a learning strategy. “How does a teacher interpret it?” “What is the role of adults?” “How are exploratory processes enriched by invitations” “and “what are the characteristics of play in the aeioTU educational experience?” are questions that emerged for self-reflective practices.
- Professional development. Leadership mentioned that the findings are important for future PD plans and for considerations around the role of family.

Cycle 2 reflections (March 2022)

The second cycle feedback meeting was carried out in March of 2022, with the aeioTU pedagogical and leadership teams, and the research team. Findings from the second round of data collection mirrored much of those of the first round, with an emphasis on games with rules for example, despite notions of LtP that included various child domains, and a wide array of descriptions around children’s agency in play. Reflections on this occasion considered whether practices as influenced by the pandemic were sustained further in time than expected, but also reflected on practices at large, and the disconnect between the curriculum and understandings

of LtP and teaching and learning practices. The emphasis then shifted to thinking about how to shift LtP and teaching and learning experiences going forward.

[T]he process of returning [in person] in the pandemic and be back and having a mask and controlling movements and so on created in the teacher a need to focus on some way of directing many things because of the biosecurity [protocols]. Surely in a different moment this may look different. (Translation, aeioTU staff, March 2022)

Last year [learning] experiences were largely marked by the pandemic... [T]his situation makes us go back to basics. What are we proposing to children? What have we lost? What do we need to revisit?... We need to go back to the literature: what are we doing? What are children learning? ... We know how to do it, but we have some fears to overcome [because of the pandemic]. [We] should redo this study in 2 or 3 years to see changes. (Translation, aeioTU staff, March 2022)

Main themes that emerged were:

- Disconnect between teachers' beliefs and practices. Reflections emerged on "disarticulation between theory and practice, and what teachers understand of the [aeioTU] experience." The need to strengthen the teaching process was emphasized.
- Connection between results and previous studies. One of the coordinators connected the findings to what was internally observed pre-pandemic and the aligned efforts to strengthen teacher practices in relation to transforming processes in classrooms in relation to play. This was the same coordinator that in the study showed deeper understanding of the concept of guided play and the role of the teacher. This coordinator reflected on the findings of the study allowing for the possibility of revisiting guided play in the classroom and what it looks like in practice.

This is an opportunity to come back to conversations.... The intention is to go deeper this year and assess where experiences need to flow [better]. (Translation, aeioTU leadership, March 2022).

Final project reflections (July 2022)

In July 2022, the Paths 2 Play Colombia team met in person with aeioTU leadership and teachers from the small intensive study in the focal centers for a final conversation about the key points of the study. These sessions allowed reflections on how LtP and the role of the teacher are centered in curriculum materials and supports, and whether intentionality in teacher's practices need to be highlighted further. LtP is one of the three main components of the aeioTU educational experience. Center coordinators reflected on the need to revisit the connections between play, exploration and research projects. Leadership reflected as well that similar feedback was provided by Reggio in their last set of visits, and they welcomed the opportunity to use the information and data from this study to "learn a lot" and "evolve" in a process of "continuous improvement." In addition, they recognized the importance of not putting all the blame on the pandemic but rather acknowledge the areas that have been needing support even pre-pandemic. The leadership team discussed bringing together the various types of evidence from this study with other previous studies to inform the processes going forward with intentionality. The strong and positive reactions to the study are in line with previous evidence on aeioTU's culture of learning and change (see Mesa, Nores & Vega, 2021 & Nores, et. al, 2018). This is summed up by aeioTU's CEO in her conclusion on using the data, the information

in the feedback processes and PD processes with centers, as well as the openness to consider whether the curricular guidelines (*la cartografia*) is deeply intentional in centering playful learning experiences. The sessions with teachers mirrored these processes of reflection, understanding the need to understand LtP not necessary as the exploration or project-based experiences of aeioTU, but going beyond these.

Conclusions

This project inquired into existing training processes in aeioTU, a large-scale Reggio Emilia inspired early childhood program in Colombia, South America. We aimed to understand how learning through play is understood in the training processes, how it is conceptualized by trainers and teachers, how it is manifested in practice, and the degree to which materials are integrated and support LtP teaching and learning practices. Critically, this exploratory study hoped to explore the influence of context on practice, which in this case, also included a COVID-19 pandemic backdrop. This had implications for what the research team was able to observe and capture. 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 means that the findings represent perspectives and experiences within these changing conditions.

Both trainers and teachers in the system, and to some degree parents, have encompassing definitions of learning through play. Beyond the conceptualization of LtP as joyful, socially interactive and engaging, individuals in the study recognized a natural component to it, identified the agency of the child as critical, highlighting a “voluntary” characteristic of LtP. In addition, a description of play as spontaneous and its interconnection with exploration (a central component of the aeioTU strategy) were brought forward. These definitions are also aligned with the definition of play in the Colombian early childhood policy as a self-regulated and voluntary activity in which children interact with adults and peers to understand the world, and to build their identity. Beyond these aspects, the role of the teacher came through with less clarity. Child-centered perspectives were emphasized by coordinators and teachers, but some respondents tended to focus on the structured role of the teacher in facilitating play (e.g., games with rules) while others emphasized the teachers' role in child-driven play. The various discussions of games introduced across the learning experience and, in contrast, the description of teachers as ‘providing the environment or materials’, ‘accompanying’ children and ‘observing’ children situate their role closer to the extremes in the play facilitation continuum, with limited ‘facilitation’ as defined in this project. In addition, there seems to be a disconnect between the depth of the conceptualization of play in the curriculum put forth by aeioTU 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, but we did not find an intentional engagement with children in facilitating their interaction with such intentional space.

Partly, the disconnect may be the consequence of the rigid protocols that the pandemic imposed on teachers, spaces, and individuals as they re-entered classroom spaces. As the study moved away from the transition back into classrooms, the predominance of either structured and 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.

However, the disconnect can also be related with how the Colombian early childhood policy defines play and the role of the teacher. The technical guidelines reject the idea that play should have a learning objective and explicitly state that play is impoverished when it is aimed at learning. The guidelines also emphasize that teachers must teach children to play traditional games and some games with rules that children may not know but are culturally meaningful. These ideas, which may be part of the pre-service and other in-service training programs for teachers may lead them to situate their role closer to the extremes of the spectrum on play practices. Therefore, the lack of a clear definition or explicit orientation for teachers to situate in the middle of the spectrum and understand their role as play guides to intentionally scaffold the development of skills and understandings may also be explaining some of the findings of this study.

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 recalled in LtP experiences with children.

Discussion of Findings

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. The program exhibits a solid foundation in terms of providing the materials and space for, and understanding of the importance, of learning through play.

However, in the professional development programs both trainers and teachers need to clearly understand the interrelation and differences between the three learning strategies. Also, for teachers to move more comfortably within the spectrum of roles, and to understand how to build learning content and knowledge from the play experience, teachers need support to see and understand the spectrum of play practices as well as get comfortable with a guided role that brings those experiences to full circle. In a cascade model for professional development, it is important to ensure that the trainers that make up the first level of the process have a solidified and shared common understanding of the fundamental concepts and how to put them into practice, before they can help teachers understand these same concepts and transform their practice.

When teachers curate the environment, they invite the child to have a set of experiences around specific learning domains and/or goals. And observation of that process does provide information on the degree to which the children are evolving toward the learning goals set forward. This is a strong foundation that programs such as aeioTU already provide. However, when the teacher is then able to facilitate the learning component in the LtP experience, and further provoke the child through questions, collaboration, co-creation and scaffolding on the process the child is experiencing and experimenting with, this experience can and should allow for the child to connect the experience to the constructs and or goals at hand. This requires that teachers be not only the observers they currently are, and curators of the space, but also able to connect the experience with knowledge and learning and to keep track of

how children are progressing in achieving the proposed goals and objectives. Setting up the environment invites play but does not guarantee playful learning. Observation and documentation must also occur in relation to the objectives of learning through play experiences.

Similarly, while the study captured evidence of active teaching and learning practices, this was less the case for evidence on the teacher harvesting the learning from the playful experiences in which children engaged. The question then remains on what learning then sticks in children.

Limitations

The study's generalizability to the region, or the country, is limited since it focused on survey and observational data within a specific educational program, aeioTU that serves children in Colombia. In addition, the study was planned as exploratory and did not attempt to establish causal relationships and therefore findings should be interpreted with this in mind. The study's original intent was to document practitioner changes as they experienced the professional learning activities taking place within the aeioTU early childhood program in Colombia. However, due to the impact of the pandemic in educational programs in Colombia, the study went through various changes in methodology in an attempt to adapt to the continuously changing circumstances. For example, the first cycle of data collection had to focus on the work with parents, as the programs were still remote. The second cycle of data collection focused instead on observed classroom activities (within the small study) as learning had moved back into classrooms. However, given COVID-19 protocols in schools, videos were self-recorded by teachers. In addition, the samples were reduced to focus more in-depth with a smaller group of teachers, as the study was extended to incorporate parents. Regardless of these challenges, the study collected a lot of rich data which allowed insight into teachers' beliefs and practices.

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