



Fondazione
Reggio Children
Centro Loris Malaguzzi

edizioni junior

Supported by The LEGO Foundation



PLAY
EXPLORE
RESEARCH

Growing worlds together
through natural digital dialogues

Conference
proceedings

Denver, Colorado — USA



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Denver, Colorado — USA

Aesthetics of education

Directed by Annamaria Contini
and Lorenzo Manera

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Summary

Introduction	5
Institutional remarks	9
P.E.R. partners presentation <i>Lori Ryan and Alison Maher</i>	17
Questions on the future of education Questions, perspectives, and shared reflections from the P.E.R. project conference in Denver <i>Carla Rinaldi</i>	27
Shifting perspectives: exploring life through natural digital dialogues <i>Elena Sofia Paoli, Riccardo Ronzoni and Lisa Goddard</i>	33
P.E.R. workshops as living spaces for experimentation and dialogue	45
Intergenerational spaces for play, exploration and research	57
Conclusions	61

Introduction





The *Play, Explore, Research* conference-action held in Denver, Colorado (USA), was titled *Growing worlds together through natural digital dialogues* and represented a particularly significant moment within the project's trajectory, both in terms of its partnerships and its political and cultural positioning. The conference-action was co-designed and managed in close collaboration with two long-standing Participating Founders of Fondazione Reggio Children: the University of Colorado Denver – School of Education and Human Development and Boulder Journey School, whose commitment and shared history of dialogue with the Reggio Emilia experience provided a strong and meaningful foundation for the initiative.

Denver is one of those special places distinguished by its deep connection with the Reggio Emilia educational experience, and even more so by its relationship with Carla Rinaldi. She had been a visiting professor at the University of Colorado, and in Denver she lived, worked, formed important friendships, and returned many times over the years. It was a land, and “certain starry skies” that she deeply wished to see again.

A very strong and intense relationship that has continued over the years, involving Boulder Journey School, the University of Colorado Denver, and Fondazione

Reggio Children, in the field of educational innovation, with an attitude of mutual listening and shared interest. A dialogue that continues within the Assembly of the Founders of Fondazione Reggio Children.

Not only for these reasons was being in Denver important.

Holding a P.E.R. conference-action in the United States carried a specific strategic and political relevance. The event took place at a critical moment for the educational and cultural sectors, marked by increasing challenges, including significant cuts to public funding for education, research, and the arts. In this context, the conference-action affirmed the importance of sustaining spaces for collective reflection, critical inquiry, and international dialogue on education, positioning play, research, and relational learning as essential public goods.

The choice of Denver as a host city further strengthened this perspective. Through collaboration with local academic and educational institutions deeply engaged in teacher education and research, the conference-action created a space where global educational questions could be discussed through locally grounded experiences. This reinforced P.E.R.'s commitment to dialogue across contexts, acknowledging both the specificities of place and the shared challenges faced by educational communities worldwide.

Within this context, the title *Growing Worlds Together Through Natural Digital Dialogues* expresses a vision of the digital not as something opposed to nature, but as an integral part of a complex, living ecosystem of rela-



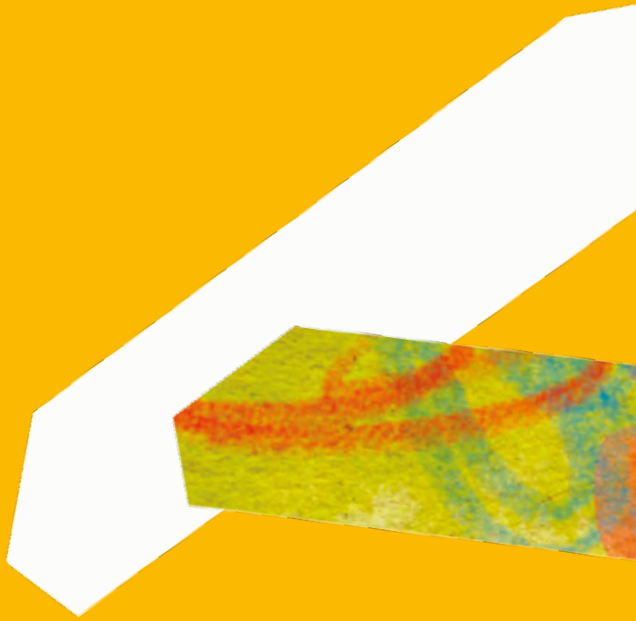


tionships, learning, and meaning-making. In this perspective, the digital dimension becomes a space where human and technological elements interact in ways that are embodied and culturally situated.

The conference brought together a diverse and intergenerational community of educators, including professionals working with young children as well as educators engaged with adolescents and secondary education contexts. This broad participation expanded the scope of the dialogue, highlighting continuities and tensions across different stages of education and reinforcing the idea that play and playfulness are vital dimensions of learning throughout the lifespan.

As with all P.E.R. conference-actions, the Denver event was conceived not as a traditional academic conference, but as a contextualized and participatory process. The proceedings collected in this volume reflect this approach, offering traces of encounters, conversations, and shared inquiries that emerged during the conference-action. Together, they testify to the political and educational significance of coming together, across institutions, ages, and roles, to imagine and sustain more just and resilient educational futures.

Institutional remarks





Dean Marvin Lynn

University of Colorado Denver School of Education and Human Development



My experience with play and learning began as a 3rd grade teacher where I designed playful learning through music, drama, and movement to make reading joyful and impactful. Years later as a parent of three sons, I've witnessed how experiences with play shape academic success and social development. Each child's journey was distinct.

Our eldest, homeschooled before kindergarten, entered school with strong academics but needed intentional socialization. He is finishing his first quarter at the University of Chicago Law School. Our second son thrived in a preschool where play fostered curiosity and engagement with the world, leading to academic and social excellence; today, he's a Notre Dame junior, a writer for the school newspaper, and a community-engaged leader. Our youngest child attended a university-based preschool emphasizing play, forming deep friendships, and excelling as a student-athlete and elected leader.

These experiences highlight play as a



privilege often afforded to middle-class families in the U.S. as noted by Dr. Mariana Souto-Manning in her essay on children's right to play. Many children from marginalized communities lack opportunities to play as a way to advance their learning. This raises serious questions about how we can ensure that all children have access to play that builds the foundations for life-long learning and leadership.

Currently in the U.S., programs like Head Start that have transformed millions of lives are under threat. A nation that undermines public education and eliminates early learning programs jeopardizes democracy itself. Without equitable access to playful learning environments, poor and working-class children will miss chances to collaborate, imagine, and thrive in diverse communities.

Today, partnerships like the School of Education & Human Development, Boulder Journey School, and the Fondazione Reggio Children exemplify a commitment to playful learning that I remain dedicated to advancing—a vision that every child, regardless of race or class, has the right and freedom to play.

Lisa R. Joy

*Executive Director for the
Colorado Department of
Early Childhood*



I'm Dr. Lisa Roy, executive director for the Colorado Department of Early Childhood. And for those of you who are around the state of Colorado, welcome. And for those of you who are outside of the state of Colorado, Governor Polis, myself, and the Colorado Department of Early Childhood welcome you. It's interesting. Who knows where Governor Polis is this morning? Can you guys say where he is? Boulder. He's at Boulder Journey School. You can't make this up. So typically, I would be where he is. I would be visiting a child care program or an early childhood exemplary opportunity with the governor. And I get to be here with you. And so I'm excited that we were able to split up and be in two very important places at the same time. So thank you.

I understand you're talking about play and the importance of it. In my experience, I'm a mother and a grandmother. My youngest children were in a Montessori public school. And I loved learning more about what we call ideal learning practices, the opportunity for children to be involved in

setting up their environment and understanding how to learn through play. So that was so important to me. And I see Priscilla Hopkins here from Denver Public Schools. She has kept that going. She has ensured that we have ideal learning practices at the district level.

So Reggio is one that she's promoting. And I know when we were there, we had set up a pilot Reggio program with Boulder Journey. We had Montessori, Tools of the Mind, and other incredible programs.

But I think that's important to discuss. Every chance we get is how do we ensure, especially in the United States, here in Colorado, how do we ensure that public funded programs have these opportunities? And when I got to go to Reggio in 2018 it was incredible. I was able to go to Pistoia and Reggio and see these incredible environments.

What was most intriguing to me was that children were incorporating their own community and family into learning and play. That family, those family lunches I got to participate in, family style lunches, and children helping to make their own food, all of that was incredible to witness.

Wouldn't that be great if it could happen throughout the city and county of Denver? And I know that you all are work-

ing on those kinds of opportunities, so I really appreciate that. The other thing that was really fascinating to me was just the professional development and training and how it's incorporated in.

But it was still unique enough. When I was, again, in Pistoia and Reggio, I believe we met the mayor, correct? And you could tell the mayor whatever community you were visiting. And he's like, oh, yeah, well, that one focuses on theater. And that one had. And so could you imagine in every city in the US, the mayor, because he knows the community or she knows the community or they know their community, being able to say, I know that I live in Mayfair.

Mayfair has Rose Community Hospital, and all the kids there are focused on health. So again, I really appreciate you being here.

Thank you for all you do. We have a department that was created. And it's hard. It's really hard to start a new department. And Dr. Rebecca Flesheen, who runs our workforce, and her team are back there. So please wave. If you're from the Colorado Department of Early Childhood, please

stand up for a second and take a bow. Thank you. A great team. But Colorado, in its wisdom, is one of the few states, one of 11 and is growing, that is trying to consolidate all of our prevention programs from children birth to five. And so we have home visitation, family resource centers, which support families statewide, early childhood mental health. We have early intervention. And then we do our licensing and quality and workforce support. And we've launched universal preschool. And I will say again, it is hard to create something, a brand new department, and start preschool and do all the things we're trying to do. But we can only do it because we have a great team.

We work with our local communities, our counties, our school districts, all of our early childhood professionals. And that's what's making a difference for us. I look forward to this.

And again, I hope that we can continue to spread Reggio high quality learning opportunities for children throughout the world, but especially here in Denver and in Colorado. Thank you so much.



Joe Savage***Head of Impact & Evidence
at The LEGO Foundation***

Hello Denver, welcome to the first Play Explore Research Conference of the year. I'm happy to join you virtually from Billund in Denmark. This is more than a conference, it's a powerful way for communities to come together and advance playful approaches to learning.

These are approaches which view children as competent human beings, full of potential, and put relationships and communities at the center. This event is a result of a partnership between the Reggio Children Foundation and the LEGO Foundation. Our partnership supports children to engage in unique environments.

It emphasizes peer relationships, iterative learning, passion, and motivation. It helps children develop essential life skills and knowledge for the future. This ensures children have a voice and the knowledge to experiment and develop while we, the adults, learn from their unique perspectives.



Of course, this is at the core of the educational experience of Reggio Emilia and has been since the 1960s. It's one of the reasons why the LEGO Foundation has worked closely with Reggio for more than 30 years. I'm so proud that our work together empowers children, values their perspectives, and promotes a deep understanding of play and learning. I'm also excited that all of you are on this journey with us.

After all, you are the most important people in children's lives, their parents and caregivers, their educators, and members of their communities. You're a force for positive change for children.

Last year, we made stops in Sao Paulo and Johannesburg, engaging over 500 participants in each. Today, we're delighted to be in Colorado. Thank you for joining us and for being part of this incredible journey with us.

Have a wonderful conference full of learning, sharing, and play.

Cristian Fabbi

CEO of Fondazione Reggio Children

Thank you for taking the time to be with us today. Your presence is deeply meaningful to me and to our Foundation.

In these opening remarks, I would also like to speak on behalf of our Honorary President, Carla Rinaldi, whose long and meaningful relationship with Colorado, in particular with the University of Colorado Denver and the Boulder Journey School, is rooted in friendship as much as in professional collaboration. It is a relationship built over time through dialogue, shared values, and mutual trust. Carla very much wished to be here with us in person; although she cannot be present today, she will join us online and offer reflections on how to continue our shared work in research and solidarity, as she often reminds us, solidarity through research.

Fondazione Reggio Children is guided by a shared hope: to contribute to quality education globally. We believe that every child in the world deserves the highest quality of education, not only children in Colorado or in Reggio Emilia, but every child, in each part of the world.

This is, for us, a matter of educational



justice. These two words, education and justice, are not often brought together, yet we believe they must be. As a community, we can and must imagine education and justice as inseparable, because children deserve nothing less.

Another point that Carla emphasized while we were preparing this event is the idea of solidarity through research. There are many ways to practice solidarity, to support different contexts and situations. Perhaps the most meaningful is enabling partners, colleagues, and communities to continue their work independently, without relying on our constant presence. This means working toward freedom. This is something we care deeply about.

This approach has guided our work in São Paulo, Johannesburg, and now in our next steps in Nairobi (Kenya), Hanoi (Vietnam), and Billund (Denmark). In each context, the intention is the same: to build capacity over time and create the conditions for further, independent development in respect of the local culture.

For this reason, this gathering is not a conventional conference. We prefer to call it “conference-action,” where moments of reflection and dialogue are followed by opportunities for practical engagement. We

hope that the experiences shared here will be continued, adapted, and even transformed in your own contexts.

Doing things together matters. So please play, explore and research. Exploration, in particular, means experimenting together, collectively, but also experimenting with children, and trusting them and their ability to construct their own learning processes in relationship with others.

This is also why we began this journey with the LEGO Foundation, whom we sincerely thank for their generous support. This journey is not one we wish to undertake alone; it exists between us, through partnership, dialogue, and shared responsibility.

Over the coming days, our hope is to strengthen relationships within the global education community in the United States, like we are doing in South Africa, Kenya, São Paulo, Mexico, and beyond. We are here to work together, to carry forward the spirit we are creating during these days, and to continue, collectively, a journey toward a world grounded in educational justice.

Thank you for being with us today.



P.E.R. partners presentation





Lori Ryan¹ and Alison Maher²

*¹ University of Colorado,
Denver*

*² Boulder Journey School,
Denver*

Boulder Journey School in Boulder, Colorado welcomes 200 children ages 6 weeks to 5 years, along with their families and teachers. Its 60 faculty members include resident and mentor teachers, directors, pedagogical coordinators, administrators, and teacher educators. The School of Education and Human Development at the University of Colorado Denver is committed to educational issues and socially just solutions across diverse communities. Through research and partnerships, faculty work as agents of change, inspiring students to learn from the past and shape the future.

Since 1999, Boulder Journey School and CU Denver have collaborated to create pathways for teachers to further their education. Together, we educate learners from 6 weeks to over 60 years through a shared pedagogical framework grounded in an image of children and adults as capable learners who seek to balance the rights of self and others. For almost 3 decades, our work has been inspired by a deep relationship with educators in the schools and

research community of Reggio Emilia, Italy. In 2019, we became participating founders of the Foundation Reggio Children and were honored to co-host the Play Explore Research conference action in Denver in April 2025.

Conference highlights included a Thursday welcome by Dr. Lori Ryan and Alison Maher, remarks from Consul General Mario Alberto Bartoli of the Italian Consulate, the Dean of the School of Education and Human Development Dr. Marvin Lynn, and a video message from Dr. Carla Rinaldi celebrating our years of relationship and shared learning.

On Friday, Boulder Journey School and CU Denver offered five workshops:

- *Mark-making with Elements from Na-*

tural and Digital Landscapes – Alison Maher & Andrea Sisbarro

- *Messing About with Nature and Technology* – Sam Hall & Alex Morgan

- *Make a Lei, Talk Story: Sharing Hanai Pedagogy Across Waters* – Robin Brandehoff

- *The Playful Teacher: Cultivating SEL Through Joyful Learning* – Dennis DeBay & Julia Mahfouz

- *Young Children as Citizens* – Dr. Lisa Roy & Alison Maher

The conference action was filled with joyful, playful learning and continues to shape our thinking about the future of education and the relationship between natural and digital worlds.



Matt Karlsen

Center for Playful Inquiry

The Center for Playful Inquiry works with educators around the world to explore how their commitment to children, families, and colleagues flourishes through deeper connection to their values as they imagine who they want to be together in the world they hope to grow.

The Center's founders, Susan Harris MacKay and Matt Karlsen, believe these relationships are made possible through open (and playful!) inquiry into world-creating possibilities, by deepening our attention to our unique communities, and by strengthening our courage to work through conflict and change.

The Center facilitates experiences through dialogue, reflection, and the arts to create meaning and inspire a vision of solidarity for and with our shared ecology during this time of civilizational collapse. Through online and in-person encounters, we nurture new understandings by heightening sensitivities to the aesthetic dimension through engagement with play, the arts, and story.



Our work grows from our inquiry into the Reggio Approach, our experiences in leadership at Opal School in Portland, Oregon, USA and other educational ecosystems, as well as from tangling with scholarship and thought leadership representing a wide range of disciplines that have (often under-explored) implications to working with young children. On a daily basis, we are provoked and enriched by the educator members of the online Studio for Playful Inquiry: it is a community we treasure.

We were honored to be invited to imagine and contribute to the P.E.R. conference-action in Denver.

Encouraged to prioritize participants' connections and interaction, Matt Karlsen invited attendees to discuss how understandings of joy developed by Ross Gay and the emergent strategies articulated by adrienne maree brown relate to the day's presentations, to the work each participant engages in beyond the meeting room, and to consider what might grow through ongoing mutual support.

Ricarose Roque

*University of Colorado –
Boulder, Creative Commu-
nities Research Group*

Hi, everyone. I'm Ricarose Roque. I'm a professor at University of Colorado – Boulder, and I direct the Creative Communities Research Group. The group focuses on enabling youth and families to become *computational creators*, using computing as a medium for self-expression, idea-sharing, and collaborative learning rather than as a purely technical skill. And when we talk about computing, we really see it as just another tool or material like clay, crayons, paint, to express yourself and to share your ideas.

Projects such as *Family Creative Learning* engage children and parents in co-creative computing experiences, while *Facilitating Computational Tinkering* promotes open-ended, project-driven exploration that foregrounds creativity, peer collaboration, and equity. These initiatives often take place in libraries, makerspaces, and community centers, including partnerships with the Denver Public Library IdeaLABs and the Clubhouse Network.



Positioning computing as one expressive language among many supports playful, inclusive, and culturally responsive learning, fostering community and transformative engagement across generations.

One of our key concepts is joy, and when we talk about joy, we don't see it as a fixed or constant feeling, but as something alive, woven together with effort, uncertainty, and other complex emotions. Joy, for us, is transformative.

Through play, it becomes a way for people to grow, to change, and to discover new possibilities.

Our work is grounded in an ecological view of learning, where learning is never an individual act, but something that happens in a relationship. That's why community is central to what we do. Families, peers, and community members are invited to be part of the learning journey, shaping it together. We design programs and experiences that embrace this whole ecology of learning, and later today we'll share a hands-on workshop to offer a glimpse into how this approach comes to life.



Brittany David

Gold Crown Computer Clubhouse, Denver

I want to take a moment to introduce Gold Crown as part of the Computer Clubhouse Network. Gold Crown Foundation has been supporting youth in the Denver area for over 40 years, originally founded in 1986 by former Denver Nuggets player Bill Hanzlik and community leader Ray Baker. It began with a simple question “What’s best for kids?” and has grown into one of Colorado’s key youth development organizations, serving over 18,000 young people every year through sports, enrichment, and educational programming.

Within Gold Crown, the Computer Clubhouse provides free, after-school learning environments where youth from under-served communities can explore ideas, build confidence, and develop new skills through technology. These spaces function simultaneously as an artist’s studio, inventor’s workshop, makerspace, music studio, and design lab equipped with tools



such as 3D printers, laser cutters, digital media equipment, VR, and more.

Young people work with staff and volunteer mentors to create projects that reflect their interests, engaging in peer learning and personal exploration.

A few of my colleagues and I also want to acknowledge our wonderful mentors from CU Denver and the team here who mentor at Gold Crown. Some of us are alumni of the program, so we know firsthand how transformative this work can be for kids. Testimonials from participants underscore that the Clubhouse isn’t just about technology, it’s a place where young people develop deep and meaningful relationships with adult mentors and staff, and discover confidence, purpose, and a sense of possibility for their future.

What we do at Gold Crown prepares young people for the game of life and that’s truly what is happening in Computer Clubhouses all around the world: empowering youth to imagine, create, and connect in ways that expand their sense of what is possible.

Sophia Taula-Lieras

SPIRIT Project – Johns Hopkins Center for Indigenous Health

Good morning. My name is Sophia Taula-Lieras. Myself and my colleague, Amanda Harris, are here as representatives from the Center for Indigenous Health at Johns Hopkins School of Public Health.

The SPIRIT project emerges from the Johns Hopkins Center for Indigenous Health, a research and practice hub based at the Bloomberg School of Public Health that has partnered with Indigenous communities across the United States for decades. The Center focuses on advancing community wellbeing through culturally responsive, evidence-based programs that are led by and with Indigenous people.

SPIRIT: Supporting Play and Intergenerational Relationships with Indigenous Traditions – From Practice to Global Collaboration builds on this legacy by centering play and intergenerational relationships within Indigenous worldviews as foundational components of holistic wellbeing. The project is part of a broader global engagement that includes the Center's work as a recipient of the LEGO Foundation's



Build a World of Play Challenge, a five-year initiative awarded to support *Reclaiming Indigenous Children's Futures through Home-Visiting and Intergenerational Playspaces*. This funding will support the creation of Indigenous-designed, nature-based intergenerational play spaces across communities in the United States, Canada, Australia, and New Zealand.

The project is rooted in experiential knowledge and reciprocal relationships, foregrounding Indigenous cultural practices, community priorities, and strengths. SPIRIT draws on decades of community partnership and reflects a commitment to listen to and work alongside Indigenous families and caregivers. It seeks to nurture healthy developmental pathways through culturally anchored home-visiting, play initiatives, and community-defined strategies for connecting generations.

A little different, it's mostly about the project, the workshop that we're gonna do this morning, but we hope you'll come and listen. We are a part of this amazing global collaborative that I couldn't even have dreamed of a decade ago when I started my career in home visiting and just really have been thinking very much about what

you shared about play is revolutionary, play is healing and active healing for our communities to combat a lot of the colonial disparities that we continue to experience.

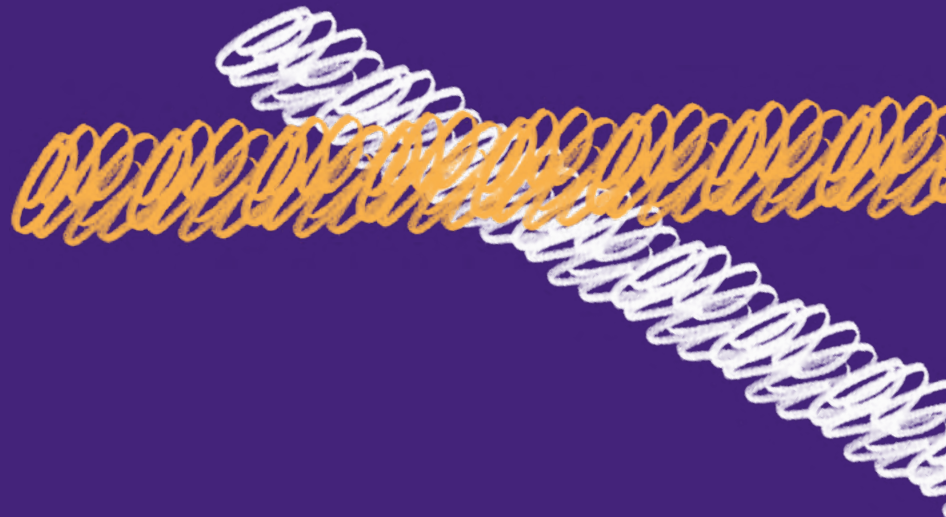
And we have just learned so much from our partners around the world. It is a dream job to have, honestly, to get to work with brilliant indigenous minds across the world and think about how we can learn and implement some of those things here in the USA.





Questions on the future of education

*Questions, perspectives,
and shared reflections from
the P.E.R. project
conference in Denver*



Carla Rinaldi

Honorary President of Fondazione Reggio Children



Within these pages live the questions Carla Rinaldi offered to us, questions about the future of education, spoken to the P.E.R. Project community in Denver and to educators everywhere. Her final public words, shared across distance, continue to ripple through educational communities around the world.

These are questions she gave us to carry forward, to nurture through conversation, to weave into our shared work, questions that ask us, still, to imagine together.

Hello!

I'm happy to be here with you now after many years filled with beautiful experiences and emotions that we have shared along the way. Over time, we had many possibilities and opportunities to be together.

We thank Boulder Journey School and the School of Education and Human Development at the University of Colorado Denver for being part of and co-founders of our Foundation, and for sharing this beautiful vision of childhood for so many years.

This vision is our mutual strength, as we both hold the belief that it can help humanity become even more human. We are also deeply grateful for the network built here

in Denver around the Play, Explore, Research Project, and to The LEGO Foundation, which supports this initiative along with many others they are promoting worldwide.

I am certain that you will have a playful experience, creating a dialogue on the importance of play in our daily lives, and helping us all to rediscover the joy and vitality that play brings to life.

Childhood does not exist

Childhood does not exist. The question is about social, political, and cultural roles, and whether the existence and citizenship rights of childhood are to be truly known and recognized. Each one of us and every society must have the courage to act with policies to scream the existence of these rights.

This is the famous “right to have rights”.

So let’s ask ourselves: in a reality as generous as yours, as ours, where for years you have been working and building high-quality experiences, can we say we have the rights of the child fully recognized as a central subject of our society? if not, what can we do so that this can happen?

Meeting nature through digital

Digital is becoming more and more part of our nature as human beings: our way of learning and thinking. This is the big research question that we have to explore.

Another big issue is how to learn





together, when the digitalization of knowledge seems to be leading us more and more toward individual and isolated learning. Childhood can help us also this time, children and nature, children are nature. My personal frequent question, in these times, is also about the meaning of “human”, “humanity”. Do boys and girls know, today, the meaning of “human”? Let’s hope it is not too late to rediscover the listening to nature that helps us to be more human.

I remember very well, you have an easy relationship with Nature, you caught the essence of *genius loci*.

Nature is listening to us

A nice contrast that is able to break the pattern that only the human being can make oneself more human. It is, on the contrary, listening and nature that make us living beings among other living beings with whom we share our destiny and with whom we have a mutual salvation. So, how can Childhood help us to find a true, natural digital dialogue? Artificial intelligence, natural intelligence and education.

About Artificial Intelligence, that is pervading but also and simplifying our lives. Schools and institutions around the world are proceeding without a shared orientation.

The great question is indeed: what is intelligence? We have thousands of pos-

sible definitions, including those offered by our friend Howard Gardner years ago, who stated that there is not just one intelligence, but rather multiple intelligences. As much as we are willing to change our ideas, I would not give up on this path.

In fact, artificial intelligence, which relates to a number of information that is impossible for us, must be oriented by natural intelligence, and above all, by the right questions.

And who is stronger than us in the questions, we who have learned from the children, playing and learning with them? So, don’t be afraid. We have the tools, the creativity, the imagination, the compassion, to be able to protect our freedom of thought.

I don’t think we’ll ever see Artificial Intelligence play. Let’s play with Artificial Intelligence, training critical thinking and the ability to ask our own questions..

What is your point of view? Which are the borders you see?

Growing new world, what do you see in the future of education?

What do you see in the future of education? This is a question for you.

First of all, we have a huge problem of falling birth rates.

And this theme brings us back to the initial one. The culture of childhood, the passion

for childhood. A necessary cultural change. Indispensable, to allow childhood to exist.

Let's think about the policies in our countries. Do there exist policies that are able to positively recognize and promote the presence of children?

Coming back to our question on "being human".

A child is the oldest being in the history of our humanity. The one that is always the same, in every culture. A child still is a child. A child who is born and in his first years of life, is basically the same as he was hundreds, perhaps thousands of years ago.

We absolutely must treasure the uniqueness that each of us is. A unique and unrepeatable piece of life.

As unrepeatable is the time we spend together.

The future of education will be there, if there is childhood. And so today our task is above all political.

And now, the floor is yours, my friends.
Thank you!



Watch the video of the speech



Shifting perspectives: exploring life through natural digital dialogues



*Elena Sofia Paoli, Riccardo Ronzoni¹
and Lisa Goddard²*

¹ Atelieristas of Fondazione Reggio Children

² PhD student in Reggio Childhood Studies



The concept of natural digital refers to a way of engaging with digital technologies through a playful, exploratory, and reflective approach, one that allows for trial and error, borrowing and exchanging knowledge, and values collaboration over competition. Within this framework, technology is not something to be endured or passively consumed, but something that is *acted upon*, interpreted, and transformed through human intention and collective inquiry. A natural digital culture is therefore one in which digital tools contribute to, rather than disrupt, our relationship with the natural world, supporting a systemic and interconnected vision of reality.

This vision of the natural digital is inherently empathetic and inclusive. It recognises the multisensory nature of learning and the importance of shaping digital experiences that are responsive to bodies, emotions, relationships, and differences. By acknowledging learning as a process that unfolds through multiple languages, visual, verbal, material, bodily, and digital, the natural digital opens possibilities for richer forms of participation and expression, especially for those whose ways of knowing may not align with dominant or linear models of thinking.

In this sense, the digital dimension becomes a cultural and political space: a place where differences can be constructed and

valued, where “one-way” or reductive ways of thinking can be challenged, and where knowledge is understood as a collective, evolving process. Grounded in a systemic and epistemological approach inspired by the idea of the *hundred languages*, natural digital dialogues support learning environments that respect and promote diversity, complexity, and interdependence, both among humans and in the evolving relationships between humans and machines.

This contribution shares a series of educational experiences developed within the *Scuola Futura* project, a PNRR platform for educational innovation and professional development promoted by the Ministry of Education and Merit.

Through the presentation of pedagogical documentation, it offers concrete examples of what children and adults can generate together when





engaged in shared processes of exploration and meaning-making.

The project enabled an inquiry into life and its many expressions alongside children and teachers from different primary school classes in Reggio Emilia, Italy. By intentionally shifting perspectives, the work invited participants to look at the world differently and to question their usual ways of interpreting reality. Central to the project was the exploration of relationships between human beings, nature, and technology, approached through a multidisciplinary lens attentive to the interdependencies connecting all living organisms.

Digital technologies accompanied the research as an additional language, extending observation and opening new ways of seeing beyond physical perception. Through this process, children and adults engaged in reflective dialogue, gradually moving beyond an anthropocentric viewpoint toward a more relational and systemic understanding of the living world.

Meeting nature through a digital lens for imagining the unknown

How does a bee see our garden?

Wondering how a bee sees the garden and having different materials and technologies that allow us to experience this different form of vision, becomes an opportu-

nity for a close, physical relationship with the point of view of another living being. Experiences that can help develop a sense of complexity and interdependence.

To construct new imaginaries, digital tools play a pivotal role in reshaping how we think about the world and our place within it; tools are powerful catalysts for creativity, enabling us to imagine and conceptualize what once was once outside our direct experience.

Thanks to the different representations of most hidden parts of reality, like a composition of the image that the eyes of a bee do, digital media allow us to be immersed in the complexity of the world, offering ways to reflect on the many realities and reinterpret familiar situations by comparing personal experience with the broader context around us.

But how do insects see us?

What colors do they see, and which ones do they not?

Do they experience emotions? What are their eyes like?

Why do they behave this way?

(Children's questions)

The visual system of a living being becomes the pretext to deepen and complicate our relationship with the natural world through interfaces, devices, and digital

applications that have been created from and inspired by it.

The drone shows us something, like we dive in and see something we wouldn't be able to see without the drone... like virtual reality! ...it's really beautiful because even though you're sitting down, it feels like you're flying like a bee!

To understand diversity, there is a need to compare oneself with the other, a continuous movement from within to beyond. Children's words and actions say this is a way, a possibility, to ponder the big question: How can we forge a truly ecological vision in a digital age? Not only digital, not only physical.

An experience that helps to take different perspectives, keeping technology, plant life, and animals closely connected. Technology integrated into everyday experience offers new possibilities for interacting with the world, not just in abstract terms, but in ways that are based on concrete, lived actions. The children are asking us for it...

We want to see from above to understand how bees see.





Hybrid environments

One of the experiences took place in a small rural school in the suburbs of Reggio Emilia with fifth-grade elementary school children. A project about the empathetic bond children spontaneously form with nature, to reflect on the interdependence between what humans create and the natural environment. It explores the relationship between the natural and the artificial through a sensitive and inclusive perspective, seeking a new vision of the present, aware of the intertwined and multisensory essence of life.

The school is located next to a nature reserve, which has become a place of exploration, discovery and research for the children. A complex ecosystem, conceived by humans to protect and preserve natural environments, where the boundaries between human beings and nature become more blurred and less defined.

We enter the reserve with an observant attitude, supported by tools such as notebooks, cameras and materials that allow our gaze and senses to connect more closely with the surrounding environment.

A photograph, taken by some of the children during a visit and later reviewed once back in the classroom, opens up a shared discussion with the entire class about the role of human beings in relation to nature.

We found a trunk leaning against a net. The stem is covered with climbing plants that go around it. The landscape behind it is full of tree branches...

However, the net for us is part of the ecosystem because animals might live there.

What is your opinion: is the net part of the ecosystem or not? Is it useful for the tree?

... who has an answer!

The question the children ask is whether the artificial and the natural can coexist within an ecosystem. What belongs to nature and what belongs to humans? What impact does human production have on the environment? From an ecological perspective, but also in relation to the physiology of a plant, from its life cycle to its interactions with the environment.

For me it is half natural and half artificial... the net can be used by squirrels or other animals

an artificial, man-made thing could always be part of the ecosystem,

it is not necessarily that the ecosystem is only made by nature

nature incorporates into its ecosystem decomposition means becoming another thing, something disappears because it is no longer that thing, but it does not disappear completely

it disappears in the eyes of humans but not in the eyes of nature

The children's ecosystemic vision is complex and multifaceted and sees humans in a sympoietic relationship with nature. A nature that incorporates, a nature with a potential for transformation, regeneration and healing. Children speak of a continuous process that never stops, a movement that evolves spontaneously, changes, adapts, grows, and regenerates itself.

We, as humans, are part of nature, but there are many different attitudes through which we can relate to and interact with the natural environment.

Ideas of listening, respect, sustainability and mutual support circulate in the children's words as concepts that must take shape through actions of fair, attentive, and respectful exchange between both sides.

we are natural, we are part of nature the artificial part that enters nature must

*be positive, it must be sustainable,
that means that it sustains nature in
a positive way
it is an exchange between us and na-
ture, but the exchange is not fair.*

One question remains open: Can we rely on nature, on its regenerative power? And can nature rely on us? The relationship is compromised. Can we reestablish a new (or perhaps ancient) bond and create new connections with nature?

Playing toward a more-than-human ecological vision

In this project, play with materials, digital tools, and elements of the natural world, and their capacity to play back, emerged as a crucial pedagogical and ethical stance. Play unfolded not as a human activity imposed on the world, but as a relational field in which materials, technologies, organisms, and environments actively shape what can be sensed, imagined, and thought. Seeing “like a bee” revealed that no single viewpoint is complete, and that understanding emerges through movement, comparison, and relation. iPads, cameras, drones,



and apps did not simply document nature; they invited children and adults to inhabit unfamiliar perspectives, becoming additional languages for encountering complexity beyond the limits of human perception.

Decentering the human through a posthuman perspective made it possible to step away from anthropocentric assumptions and approach a more ecological vision. Rather than positioning nature as something to be observed or acted upon, and technology as a neutral tool, this perspective foregrounded how a tablet, a drone, a spider, or an entire ecosystem actively shapes attention, imagination, and action.

Play became a mode of inquiry through which ecological questions were enacted rather than merely discussed. This was especially evident in encounters with human-made materials in natural spaces, such as the net leaning against a tree trunk. Children's debate over whether the net was part of the ecosystem unsettled simple distinctions between natural and artificial. As they observed, the net could be used by animals, transformed through time, or incorporated into living processes, revealing an ecosystemic vision of nature as dynamic, adaptive, and capable of transformation—while still raising ethical questions about sustainability and responsibility.

By experimenting with the perspective of another living being, children posed ecological questions that exceeded simple binaries and predetermined outcomes. Questions about how insects see, what they



perceive, and whether nature can rely on humans opened a space for speculative, ethical, and relational inquiry. In these moments, digital tools became collaborators in ecological play, supporting an education that learns *with* the world rather than *about* it.

The ecological vision that emerged was not only about environmental knowl-

edge, but about learning to see, sense, and imagine the world as relational, entangled, and more-than-human. Imagination proved central to this process, allowing children and their teachers to rehearse ecological responsibility and to experiment with what it might mean to live well together in the complex conditions of our shared world.





**P.E.R. workshops
as living spaces
for experimentation
and dialogue**





The workshops offered during the P.E.R. conference-action in Denver were conceived as living spaces of inquiry, where theory and experience could meet through play and exploration. The workshops represented a central dimension of the conference-action, embodying P.E.R.'s commitment to learning as a playful, relational and collective process.

Through movement, material exploration, storytelling, documentation, policy reflection, and playful pedagogy, participants were encouraged to question how knowledge is constructed, how relationships are formed, and how humans, children and adults alike, inhabit natural, social, and digital worlds.

Some workshops foregrounded the interdependence between humans and nature, exploring how ecological relationships can inform educational practices and ethical positions. Others focused on the digital dimension, approached as a space for dialogue, experimentation, and meaning-making, one that can amplify human sensibilities and challenge reductive or extractive uses of technology. Together, these experiences contributed to a vision of *natural digital dialogues* rooted in multi-sensory learning and systemic thinking.

At the same time, the workshops opened critical reflections on education as a public and political project. From dis-

cussions on quality education policies to explorations of social-emotional learning, intergenerational relationships, and Indigenous pedagogies, participants were invited to consider whose knowledge is valued, how educational systems are sustained, and how cultural traditions, community practices, and lived experiences shape pedagogy.

The diversity of voices and institutions reinforced the conference-action's commitment to intergenerational dialogue across contexts and cultures. Collectively, the workshops created a shared landscape of inquiry, offering participants opportunities not only to learn new tools or strategies, but to reimagine education as a joyful, ethical, participatory and transformative practice.

We could ask the tree

Fondazione Reggio Children

Read, interpret, discover the world... researching codes and mysterious modes of communication around us to invent new ones through a range of expressive languages.

What is a code and how does it show up? How many and how diverse codes can we identify in our daily spaces? How can we create new ones from our analysis and translation of those already existing?



Human we are, natural

Fondazione Reggio Children

There are shapes and patterns repeated in nature that can be found in the human body: signs that tell a deep connection between the natural world and the human form. The workshop aims to explore through the language of movement the relationship between inner landscape and natural landscape and seek resonances between internal and external images and sensations.

We will move between inner nature and outer nature to open a dialogue and create awareness about the interdependence and correspondence of humans with the natural world.

Can the language of movement express the interconnection between humans and nature?
Can consciously inhabiting the body establish a dialogue with the natural world?

Can technologies be a tool to meet our sensations, amplifying and making visible what often remains silent?
Can technology become sensitive by aligning with our feelings?



Building the pillars of a quality education policy

Fondazione Reggio Children

Together, we will explore the essential components for developing a quality education policy. In the course of the activity, the key factors that ensure the resilience and durability of educational policies will be analysed, and the frequency with which they should be updated to remain effective and relevant will be discussed.

What are the fundamental pillars for a quality education policy? Which elements are crucial to ensure the resilience of the educational policy? How often should an educational policy be updated to maintain its effectiveness over time?





**Make Lei, talk story:
sharing Hānai pedagogy
across waters**

*University of Colorado
Denver – School
of Education and Human
Development*

This workshop is a community exploration of our learning, both as students and teachers, through Hānai Pedagogy. Hānai stands for Hands-on activities, Aloha (love), Navigation, Authenticity, and Interrelations. Participants will share experiences and influences that have impacted their learning and profession while making a paper and bead lei (garland) to keep or gift to a mentor in their life.

How have people, places, and lived experiences influenced our pedagogy to be what it is today?

How can Hānai Pedagogy (Brandehoff, 2023) be applied in classrooms or teacher preparation programs outside of Hawai'i?

**The playful teacher:
cultivating SEL through joyful learning**

University of Colorado Denver

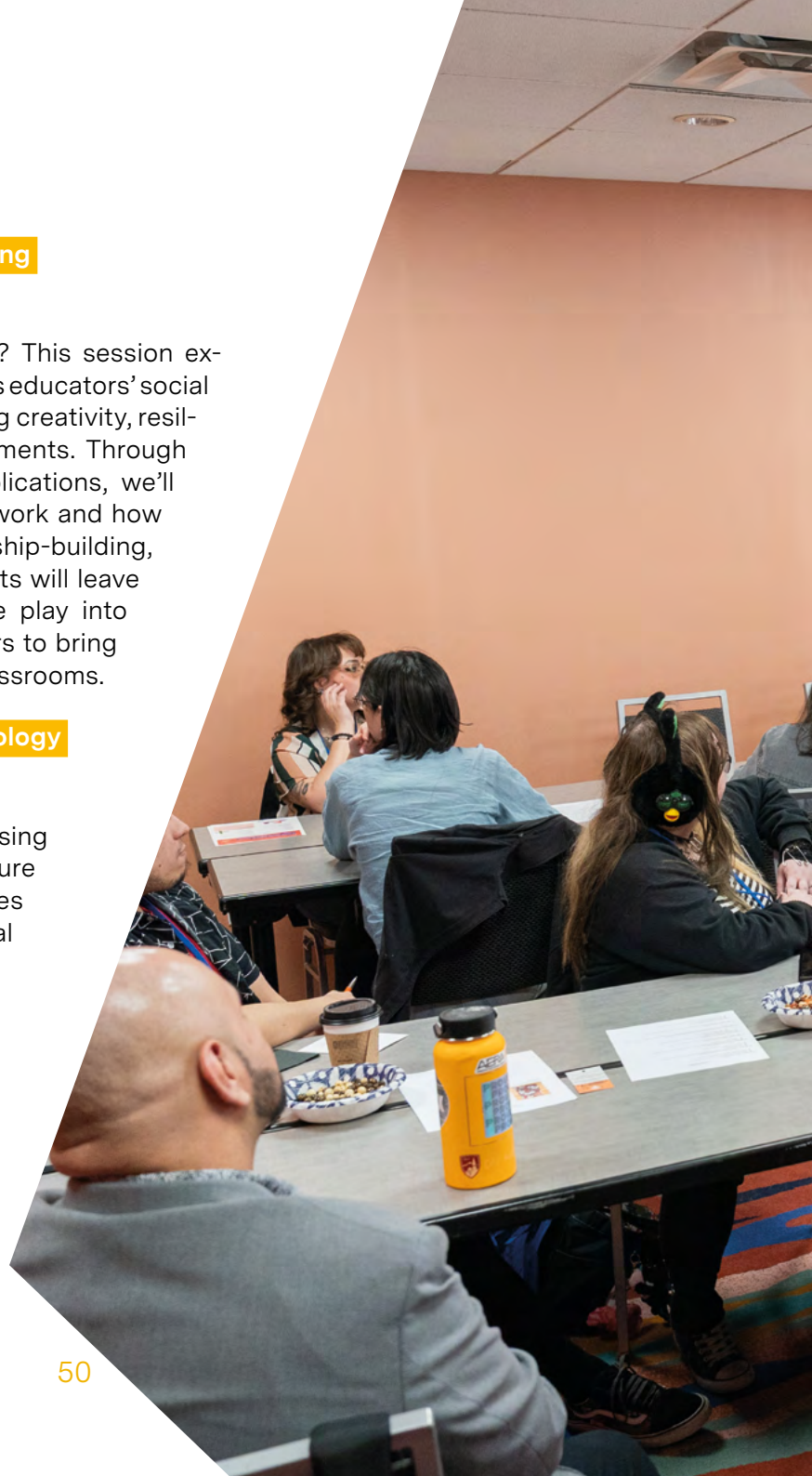
How can play transform teaching? This session explores how playful pedagogy enhances educators' social and emotional competencies, fostering creativity, resilience, and inclusive learning environments. Through playful activities and real-world applications, we'll examine the "Pyramid of Play" framework and how it supports self-awareness, relationship-building, and emotional intelligence. Participants will leave with practical strategies to integrate play into learning, empowering future educators to bring joy, connection, and SEL into their classrooms.

Messing about with nature & technology

Boulder Journey School

Discover David Hawkins' "Messing About" through exploration of nature and technology. This workshop uses pedagogical documentation, natural materials, and digital tools to explore inquiry-based learning, curiosity, and critical thinking through open-ended play, guided discovery, and reflection.

What is the role of joyful play in learning for children and adults? Where are the intersections between nature and technology?





Hands-on Activities
Aloha
Navigation
Authenticity
Interrelations

Human Pedagogy (Brandshoff) 2021

Mark-making with elements from both natural and digital landscapes

Boulder Journey School

Participants will play with various mark-making tools and technologies, including charcoals, oil & chalk pastels, graphite & colored pencils, inks, watercolor pencils and paints, as well as a variety of mark-making supports such as cardboard, sulphite paper, acetate, and tissue paper, natural materials, tablets, smartphones, and projectors. They will work in small groups to discover the potential for playful learning within each material and combination of materials, while also reflecting on the following research questions:

How can playful learning experiences in natural environments embody an approach that views human beings as a part of the natural world? Does this viewpoint prevent us from mis-using or consuming the world around us?

How can virtual reality extend and enhance playful learning experiences? How does virtual reality impact our reality?

What opportunities exist for the use of artificial intelligence within playful learning experiences?

Supporting play and intergenerational relationships through indigenous traditions

Johns Hopkins Center for Indigenous Health

The SPIRIT Project brings together a joyful Indigenous collective from across Aotearoa New Zealand, Australia, B.C., Canada, and the United States to support Indigenous child and family wellbeing through home visiting and the promotion of play. Workshop participants will learn about this project while practicing some of our play components.

How can we support Indigenous wellbeing through play?

How can play be rooted in culture to heal intergenerational trauma?

What is the definition of home within home visiting, and how is this different among different communities?





Bring a book to life with OctoStudio

Creative Communities

Join us for an exploration in storytelling, crafting, and coding. In this workshop, we will engage with multiple literacies by tinkering with books, crafts, and a new creative tool, the OctoStudio coding app, to create interactive animated stories based on beloved children's books.

How can we use storytelling, everyday materials, and digital creation to bring books to life?

Meeting youth where they are

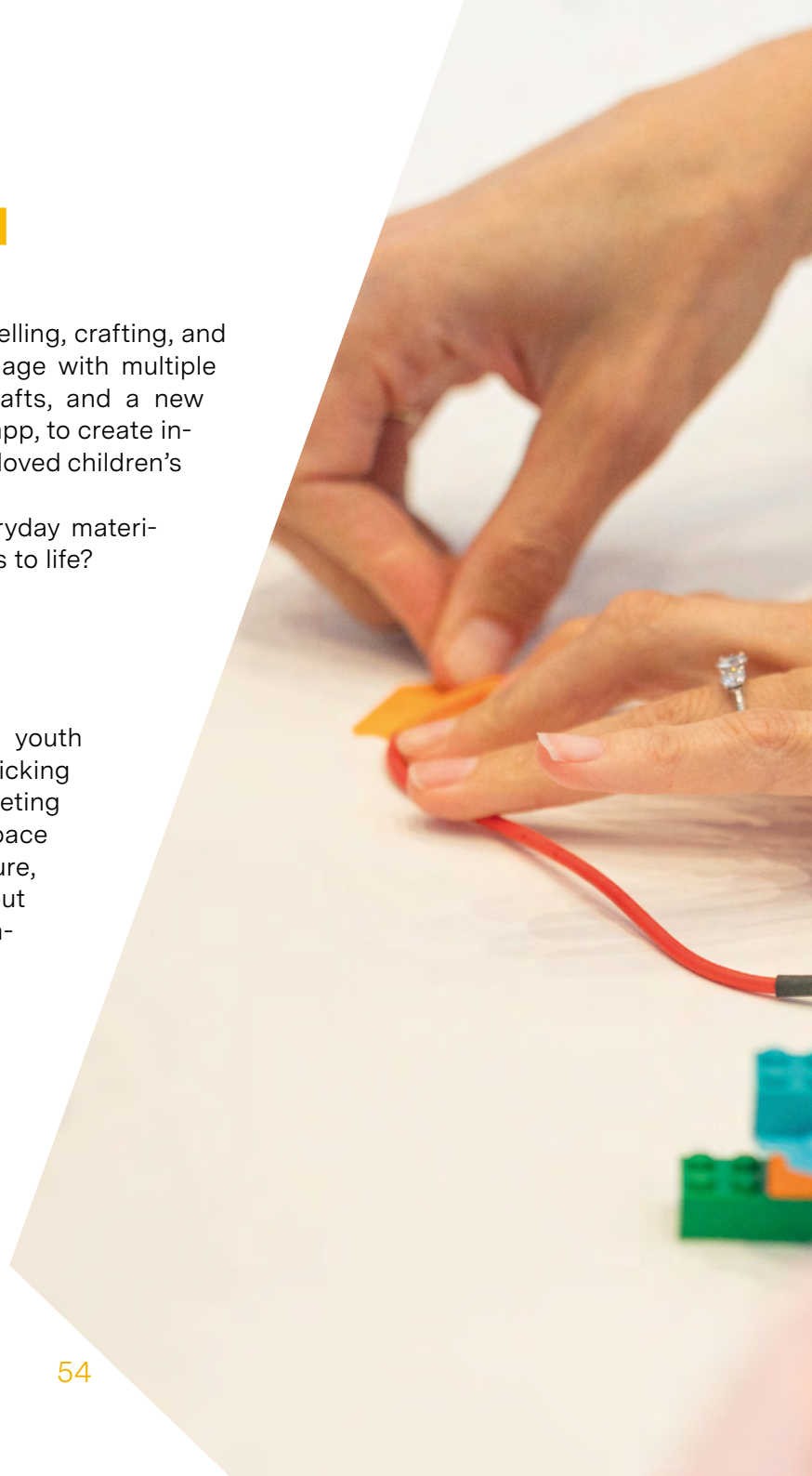
Computer Clubhouses

Let's be honest, connecting with youth isn't about having all the answers or sticking to a script. It's about showing up, meeting them in their world, and creating a space where they can just be, no pressure, no judgment. This session is all about keeping it authentic, building real relationships, and creating a space where they feel safe to be themselves.

What are some signs that you've met a youth where they are?

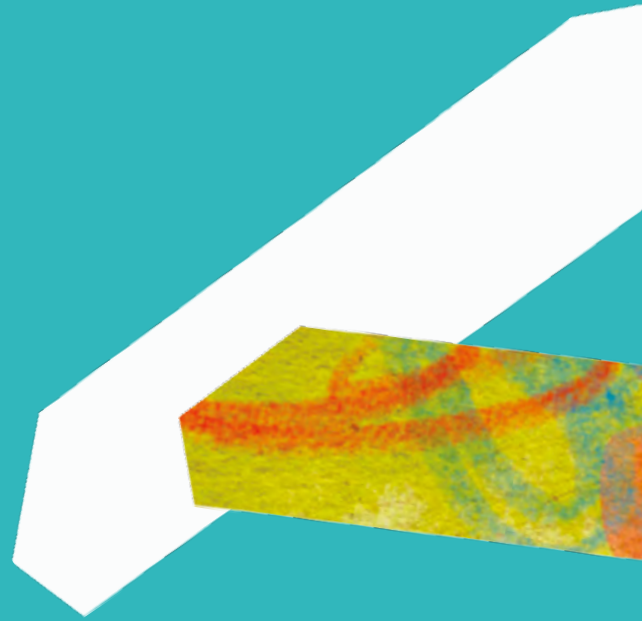
What ways can we use these strategies via different cultures and backgrounds?

How do you currently meet youth where they are and what does that mean to you?





**Intergenerational spaces
for play, exploration
and research**





Across all P.E.R. conference-actions, a dedicated time and space has been intentionally reserved for families and children to play and learn together.

These moments were conceived as intergenerational encounters, where children could engage alongside parents, grandparents, siblings, and extended family members, affirming learning as a shared, relational experience rooted in everyday life.

In Denver, this family-centered dimension took place at The Lola & Rob Salazar Student Wellness Center in a particularly rich and vibrant form. Longstanding partners who had participated throughout the conference days were joined by new organizations that came together for this special occasion, expanding the network of relationships and perspectives. The Clyfford Still Museum, CrewConcept Drone Lab, and the Computer Clubhouse contributed to creating an open, playful environment, where artistic research, technological experimentation, and creative expression could coexist. The Computer Clubhouse DJ station, with music as a living language, became a gathering point that invited movement, listening, and connection across ages.

Fondazione Reggio Children offered two workshops designed specifically for families. *Because Grass Isn't All the Same, It's Also Different* invited participants to slow down and observe the biodiversity

hidden within a simple patch of lawn. Through drawings, material compositions, and shared images of nature, carried in memories, phones, and attentive gazes, children and adults explored the richness of plant life beneath their feet, discovering diversity, form, texture, and interdependence.

Spring Your Body opened a space for bodily expression and movement inspired by the rhythms of the natural world. As buds and flowers emerge and unfold, so too did gestures, movements, and energies arise from the body, sometimes delicate, sometimes dynamic, celebrating vitality, renewal, and the deep connection between human movement and plant life.

Together, these experiences reaffirmed a shared belief: learning happens in relationship, across generations, and through multiple languages, bodily, material, artistic, digital, and emotional. The family sessions in Denver embodied the PER vision of education as a collective, joyful process, where playing and learning together becomes a way to grow worlds, rooted in care, curiosity, and connection.





Conclusions





The P.E.R. conference-action held in Denver generated questions that continued to resonate across workshops, conversations, exchanges and reflections. From the outset, the conference invited participants to ask how a playful approach to learning and the digital dimension might be held together without simplification, and what it means to do so in a time of profound cultural, political, and technological transformation.

Across embodied workshops, material and digital explorations, policy-oriented dialogues, Indigenous pedagogies, and playful approaches to learning and wellbeing, a recurring insight emerged: learning is fundamentally relational. It takes shape in the relationships between bodies and environments, between humans and more-than-human worlds, between generations, and between natural and digital landscapes. These experiences challenged any separation between the digital and the cultural contexts in which it operates, revealing instead a dense web of interdependencies.

Within this landscape, *Growing Worlds Together Through Natural Digital Dialogues* articulated the vision of P.E.R. as a way of engaging with complexity: play, exploration, and research appeared as intertwined movements through which children and adults co-construct meaning and responsibility. This orientation made visible the contours of a *natural digital culture*: one

in which digital technologies are inhabited critically and creatively, shaped through action, interpretation, and dialogue.

Throughout the conference, the digital emerged neither as an external force nor as a neutral tool. It appeared as a cultural and political space, formed by values, intentions, questions, and empowering relations. When approached through play and inquiry, digital tools supported imagination. They entered into dialogue with bodies, materials, natural elements, memories, and stories, becoming part of a broader system of relationships. In this sense, technology was explored not as something that replaces nature, but as something that can enhance an ecological vision of the world.

Carla Rilandi's words offered a powerful thread that wove together the reflections emerging throughout the conference. The idea that childhood does not exist unless it is consciously recognized reframed the entire dialogue. The right of children to have rights, she reminded us, cannot be sustained by rhetoric alone; it demands cultural courage and political commitment. Recognizing children as citizens, as bearers of culture and rights, and as active protagonists in the construction of meaning is an ongoing responsibility that education systems and societies must be willing to take on.

These questions extended further into the meaning of being human in a time shaped by digitalization and artificial intelligence. If the increasing mediation of learning risks isolation and fragmentation, childhood offers another possibility: learning together, through listening, curiosity, and shared inquiry. Children remind us that we are living beings among other living beings, connected by interdependence rather than domination. From this perspective, natural digital dialogue becomes a way of rethinking relationships, not only between humans and machines, but among humans themselves.

The question of intelligence, what it is, who defines it, and how it is cultivated, remained deliberately open. Artificial intelligence, with its immense capacity to process information, demands orientation and ethical grounding. It requires questions, not submission. Education, inspired by children's ways of knowing, has a crucial role in sustaining the capacity to question, to doubt. Playing with artificial intelligence, experimenting with it, critically and collectively, emerged as both a pedagogical and political act.

Declining birth rates, shrinking public investment, and growing inequalities cannot be separated from how societies value childhood. The future of education, the conference suggested, cannot exist with-

out the existence of childhood itself, recognized and allowed to flourish. This perspective calls for a profound cultural shift: one that places trust in childhood, affirms its social and political value, and understands education as a participatory and democratic process.

The Denver conference-action ultimately reaffirmed that growing worlds together through natural digital dialogues is not a metaphor, but a commitment. It means taking responsibility for the world we are shaping, the technologies we are designing and inhabiting, the questions we choose to ask, and the relationships we decide to cultivate.

Today, more than ever, this responsibility is unmistakably political.



**Watch the final video of the
P.E.R. Play Explore Research conference
in Denver**







The *P.E.R. – Play, Explore, Research* project by Fondazione Reggio Children-Centro Loris Malaguzzi, made possible by the collaboration with The LEGO Foundation, is a global platform for exchange and research for teachers, educators, researchers, families and administrators to promote playful approaches to learning for children, young people and adults.

This series of publications brings together the contributions that characterised each individual conference-action in the seven countries involved in the project, starting with the launch of the P.E.R. project in Italy, in Reggio Emilia, in November 2023.