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Learning in a Reggio-Inspired Reuse Center

Lauren Lantz-Helm & Will Parnell

Abstract

What would children's learning look like in the Child Development Center's Re-Use Center if teachers, parents, and children could collaborate around the learning? This action research collaboration between a professor and a graduate student/teacher, examines the process the graduate student/teacher goes through as she documents the re-use center narratives of a small group of young children. A re-use center is likened to Reggio Emilia, Italy's Remida Center as a repository for found, rescued and repurposed materials. This center finds new meanings for discarded items destined for landfills and incinerators. The findings reveal stories of language, literacy and social development as well as explore how intentional collaboration can enhance project planning. Conclusions reveal that big questions for teachers, rich dialogue in reuse contexts for learning, and flexibility with participants are essential to collaborative learning in the reuse center.

Introduction

Three quarters of the way through a Master's program in Curriculum and Instruction at Portland State University, the practice of emergent curriculum still felt mysterious to the authors of this article. In order to explore one way an emergent curriculum could be enacted, we, a director/professor of education and a master's student/lab teacher, made the decision to design an action research project. As we labored over the research design, we knew that we should let the young children's interests guide the teachers' actions, but Lauren, a teacher and graduate student, did not know how much or how little support to offer children in response to their apparent interests. She could not find the balance between freedom and structure that would carry the children's endeavors to the deep, rich place described by the educators of the municipal preschools and infant/toddler centers of Reggio Emilia (Reggio Children,

1992, Reggio Children, 1987). We wanted to decipher the role of teacher within this setting.

As we designed an action research project to conduct at the Center, Lauren wondered: What would children's learning look like in the CDC's Re-Use Center if teachers, parents, and children could collaborate around the learning? In order to address this question she focused first on the role of teacher, likened to Malaguzzi's suggestion that adults "must try to capture the right moments, and then find the right approaches, for bringing together, into a fruitful dialogue, their meanings and interpretations with those of the children" (Edwards, et al., 1998, p.81).

The purpose of the study was to facilitate collaboration among three- and four-year-old children, their teachers, and their parents, and to notice the effects of this collaboration on the children's learning in the CDC's Re-Use Center (see Figure 1 & 2). Lauren hypothesized that if she collaborated with the Lead Teachers to reveal big questions about children's responses



Figure 1: Reuse Center

to the reuse center, perhaps she might be able to facilitate a productive dialogue between adults and children. She thought that involving parents would provide a deeper understanding of each child and would offer a diversity of



Figure 2: View of Re-Use Center from Piazza

perspectives to connect the Re-use Center project to the children's lives. In addition, it would improve the accuracy of the resulting documentation. In order to collaborate with other adults and children, she planned to share and discuss her observations of children in the Re-Use Center.

The Re-Use Center, designed by the pedagogical director/professor of early education and the CDC lab teachers, is a space available to anyone at the school where various open-ended salvaged materials (i.e. milk caps, yarn, cardboard pieces, plastics, and more) are displayed on shelves and made available to children. There are two tables with chairs, one with glue, tape, scissors, pencils and markers. There is a sewing machine and some documentation of past work in the space. The Re-Use Center overlooks the Piazza, where sounds of socialization can be heard from above (Figures 1-2). The Re-Use Center was an environment worthy of study because of the challenges Lauren experienced there as a student teacher regarding what her role should be and because it was not used frequently as a workspace for children at the CDC. The reuse center was based on the work of the educators and community of Reggio Emilia and their central repository. The Remida Center collects manufacturer end-products otherwise destined for landfills and incinerators. The rescued end-products are repurposed back into society through early education classrooms and projects across the city with artists and educators put forward by Remida, as a gesture of optimism in the practice of creative recycling (Reggio Children, 2005).

Reggio Emilia as Inspired Practice

Loris Malaguzzi, founder of the municipal Reggio Emilia preschools and infant/toddler centers, expressed an understanding of the adults' role in children's learning, "The central act of adults, therefore is to activate, especially indirectly, the meaning-making competencies of children as a basis of all learning. They must try to capture the right moments, and then find the right approaches, for bringing together, into a fruitful dialogue, their meanings and interpretations with those of the children"

(Edwards, Gandini, & Forman, 1998, p.81). This quote captures the rich and multilayered aspects of the Reggio Emilia approach to teaching.

Participating adults include teachers as well as family members (Edwards, Gandini, & Forman, 1998). The role of the family involves six, interconnected concepts of the Reggio approach (Wurm, 2005). The family is invited into the school to participate in the child's educational experience. Some examples of family involvement include material preparation, parent discussion evenings, plays, and the writing of books (Wurm, 2005). Other concepts include visions of the child, space and environment, time, *progettazione*, and observation and documentation (Wurm, 2005).

Edwards, Gandini and Forman's text (1998) implies that children are understood to be competent learners and active participants in their own learning. Educational spaces and environments should be designed to support this vision through the notion of environment as the third teacher. Ceppi and Zini (1998) explore this concept further. They describe environments using the following keywords: overall softness, relation, osmosis, multisensoriality, epigenesis, community, constructiveness, narration and rich normality. Their seven environmental tools include relational forms, light, color, materials, smell, sound, and microclimate. As they demonstrate, the children should have access to and be able to manipulate these tools (Ceppi & Zini, 1998).

The organization of time in the classrooms of the Municipal Preschools of Reggio Emilia, is in stark contrast to the organization of time in a typical classroom in the U.S. For instance, the children in Reggio might have an hour and a half for lunch each day, or the teachers might ask a provocative question at assembly (a class meeting) one day and leave the children to ponder this question for a week or more. This way of asking questions can very easily become *progettazione*, or a deeply complex projection of a plan for inquiry and study. *Progettazione* can take many forms and has no clear English corollary. It is similar to an architectural plan that develops with a lot of people and over

time; it projects forward the curriculum ideas at hand. In this way, the curriculum can emerge and be negotiated between children, parents and teachers. *Progettazione* can be environmental, daily life, or self-managed. These study-projects evolve out of an emerging curriculum, that which is based on the surfacing of children's interests (Cadwell, 1997).

The learning generated from *progettazione* is often made visible through documentation (Guidici, Rinaldi, & Krechevsky, 2001). It is the result of continued observation and may include photography, words of adults and children, and/or artifacts. The documentation process utilizes many people's perspectives in order to most accurately portray the experiences it communicates. Documentation then becomes part of the classroom and school environment (Cadwell, 2003).

The development of the Reggio Emilia approach as we know it today began immediately after World War II (Barazzoni, 2000), and in the late 1980's the Reggio Emilia philosophy finally made its debut in North America via the city's traveling exhibit, *The Hundred Languages of Children*. *Newsweek* magazine (1997) listed the schools of Reggio Emilia in their article, "The Ten Best Schools in the World, and What We Can Learn from Them." There are many widely-known theorists associated with the foundation of this approach, some of whom include Malaguzzi, Piaget, Vygotsky, Dewey, and Montessori (Reggio Children, 1996).

It is a common occurrence for North American preschools to identify as "Reggio-inspired," although a much smaller number have had the opportunity to work with Reggio Emilia education professionals within their own school context (Gandini, Etheredge, & Hill, 2008). One of these is the Helen Gordon Child Development Center (CDC) at the University, where we were working - Lauren as a teacher and Will as pedagogical director/professor in early education.

In *Progettazione*, children are chosen to work in small groups. Usually, considerations such as children's differing abilities and range in

development are taken into account (Edwards et al., 1998). Lauren took this into account when working with the Lead Teachers on group formulation. Realistically, the group composition could have been unintentionally biased because we could only work with children whose parents agreed to let them participate in the project. As a group, the children and Lauren went to the re-use center every Monday and/or Wednesday for about one hour over a ten-week period to conduct the project, collect data and find learning in the reuse center.

Methodology and Design

The research question and resulting work was informed by the Reggio Emilia approach and its philosophy, which makes the classroom and location in the university lab school an ideal place to conduct research. The lab school is especially appropriate for action research, and since the teacher researcher, Lauren, had been working with the children in the Caterpillar room since October, they were comfortable with her style and presence. In order to maintain confidentiality, we used pseudonyms when referring to the children in the following sections.

In order to design an action research study, we took the following areas into consideration and developed a plan around participation in the study, the data collection procedures we would use, and how we would analyze the data to report results and formulate conclusions.

Participants

As a result of Lauren's placement as a student and teacher, the participating three-to-five year-old children came from the Caterpillar Room. The University's CDC is the Lab School for infants, toddlers, preschoolers and children up through the age of six. The 16 students in the classroom reflected a range of family backgrounds since the center offers education to a diverse population of children of faculty, staff, and students, and offers subsidized tuition.

While working with the Lead Teachers before the start of the project, Lauren revealed a list of

children she hoped to include in the research. All of them had been working consistently in the block area of the classroom. It turned out that half of the children on our list were not able to have their pictures taken for research, and the teachers thought that two others would distract each other in a small group setting. With these complications in mind, we began to formulate a list of children whose families might want to participate, with the intention of forming a group of children with a common interest. Both teachers were sure that the small group dynamic would benefit Michael socially, so he was one of the first on the list. The other child-participants include Anna, Maggie, George, Keeley, and Cecilia (children's names are all pseudonyms).

Data Collection

The Lead Teachers reviewed data with Lauren both formally and informally during check-in sessions and hallway conversations as the study progressed. Lead teachers and other Student teachers gave feedback that was recorded in Lauren's journal as the data was discussed.

Parent perceptions were included in the study through a Parent Survey (Appendix A) at the beginning of the project and later in a group meeting, or individual meetings for those who could not make it to the group meeting. These meetings were conducted about halfway through the research study to discuss parents' experiences and decide what was to be accomplished in the remaining weeks.

Throughout the study, Lauren captured the children's learning experiences through digital photography and video, recordings of their interactions, and written reflections on what they produced and the processes they used in the Re-Use Center. Additionally, as a concrete way to involve the children collaboratively, students were also asked to participate in the creation of a documentation panel toward the end of the study.

The attached Methods Chart (Appendix B) identifies four sub-questions that our research addressed, the methods we used to collect data and the specific actions that were required.

The methods were intended to produce qualitative analyses, that included classroom documentation, collaboration, parent involvement, and teacher/researcher reflection. Each method was chosen to address the research question adjacent to it on the chart.

Data Analysis

The data were analyzed by reviewing each key set of data as data streams became available. We looked for themes to emerge through the data streams by finding commonalities in responses, observations, discussions, and in the reflections recorded in the researcher's journal. We used a skimming method that involved a top-level view of the data to identify initial themes. Then, we sifted through the data to cluster ideas that seemed to recur or stand out as unique. Finally, we reviewed each data stream in full to extend our initial findings based on skimming and sifting.

Data were clustered into themes that coherently demonstrated the meanings Lauren and her professor identified. Photos were carefully chosen to represent aspects of the narrated themes and to add a visual dimension to the data reported and the recounted experiences.

Recounting Experiences from the Reuse Center Learning

The open-ended nature of the Re-Use Center project allowed for a variety of learning experiences for each child. We observed language and literacy experiences in addition to social development. The collaboration of the three protagonists - parents, teachers, and children - aided the project planning process and highlighted the children's learning. After recounting these aspects, we linked them in our conclusions.

One: Reading, Writing, and Re-using

The interest in spelling and writing that was apparent in the classroom extended smoothly into the Re-Use Center and translated easily to the materials available there. During week three Anna age four, discovered a container of blank cards with pictures of mountains and

beaches on them. She immediately decided to write a card to her mom. She is recorded as saying "Teacher, how do you spell love?" And in her journal that day Lauren wrote, "Maggie, Cecelia, and Anna used the cards and focused on writing. Maggie, age four, was able to help Cecelia, spell and write words." Anna continued writing on cards and Cecelia, age three, wrote on the cardboard tube that she had taken off the shelf. Maggie also used the cards and other paper-based materials to write on. By using a writing utensil for mark making, all three children were building the necessary fine motor abilities required for advanced letter forming. Anna's choice to use print inside a card for her mom illustrated her knowledge about the expressive function of print. Maggie's phonemic awareness was a strength within the group and an opportunity for her to develop confidence in her ability to identify letters to match their sounds.

The children's language and literacy skills had not been as visible to Lauren during the busy mornings in the classroom. The classroom space was made up of three connected rooms, but the room with the writing and drawing materials was often used for other types of small group work during choice time. While there might have been opportunities later in the day for small groups of children at the writing/drawing table, the opportunity in the Re-Use Center was uninterrupted time with a specific group of children versus a flowing group of children interrupted by staffing patterns, pick-ups, or afternoon snack.

The next week, Lauren wondered aloud if the children could transform themselves into someone or something else with the materials in the Re-Use Center (see Figures 3 & 4). Maggie, along with the other three girls, decided she wanted to be a princess, and a few minutes later she asked, "What comes after 'p' in princess?" She was using a black pen to write in one of the greeting cards. Anna was beside her at the round table and they were working in parallel. Lauren helped Maggie spell "princess" by isolating the sounds of each letter, and soon she asked, "What's after 'e' in love?" Next Anna was spelling "always" and asking for help with each letter, so Lauren

helped her to the “y” and then suggested she ask Maggie for help. Our intention had been to provide scaffolding and at the same time facilitate student comfort with taking literacy risks. Re-Use Center conversations around spelling were similar throughout. Maggie and Anna worked together intimately and frequently while creating cards throughout the entire project (Figure 3-4). Learning to see her peers as a resource was new for Anna, who had been relying on her teachers socially and academically throughout the school year.



Figure 3: Maggie, Cecilia, and Anna writing on re-use materials.

Threads of language and literacy development also emerged through playful words in made-up songs. These songs made sense, followed a pattern, told a story, and were connected to the children’s play and learning in the reuse center. During week four, Michael, age 4, spontaneously began to create and sing a song that had clear rhythm and a pattern. The verse went: “Fudge it in the potion, the potion, the potion. Fudge it in the potion, ‘cause that’s what we do.” Michael skipped around the Re-Use Center as he sang loudly. Maggie joined in singing. As an attempt to calm them, Lauren asked Michael if she could write down the

words to his song. George, age four, who was nearby, chimed in with the next verse: “Bang it in the potion, bang it in the potion, the potion because that’s what we do.” Maggie added the next verse: “We like to fudge and slam, we like to fudge and slam, we like to fudge and slam ‘cause that’s what we do.” She asked Keeley, age 3, if she wanted to add a verse and with a smile she quietly sang: “Pudgy, pudgy in the potion!” Michael’s made up song illustrated his knowledge about the structure of a traditional song; repeating the end of the first line twice is very common, as in “Mary had a Little Lamb”. And there are 12 syllables in the first line followed by 11 syllables in the second line. It is common for songs - like “Pop goes the weasel” - to have one less syllable in the second line.

Through this point and into the last weeks, Lauren was wondering if she should have done something more to learn about Keeley. As she noted in her journal, Keeley was a quiet worker, occasionally talking and laughing or negotiating with Cecilia. Her language was not so clear to us, but the children seemed to understand her. In one instance, Anna had corrected Lauren’s misinterpretation of Keeley’s words. We thought about how she often left the Re-Use Center early. We



Figure 4: Maggie and Anna in collaboration on spelling.

wondered about her thought processes. We wondered if in her quietness she was listening

and observing or if she was daydreaming and designing.

The answer came to us during week eight, when she spontaneously sang, “Fudge it in the potion, the potion, the potion. Fudge it in the potion, ‘cause that’s what we do.” This was an important experience for Lauren’s development as a teacher. It was a concrete way for her to understand that a teacher must expect a child’s participation to be as individual as the child’s learning style. Just because Keeley was quieter than the others did not mean she did not feel like part of the group or that she was unaware of her surroundings. She had been taking the role of an observer. She had listened, remembered, and brought us back to the song. The children created two more verses: “Fudge it in the anything, the anything, the anything. Fudge it in the anything, the anything we can find,” written by Michael. The second was: “Stars in the potion, the potion, the potion. Stars in the potion, stars, stars, stars,” written by Keeley. Lauren asked Anna and Cecelia if they wanted to write a verse. Anna said we should sing the first verse twice, and Cecelia said we should sing the last verse twice. Lauren was pleased to observe the children having fun and being playful with language, because one of her objectives as a teacher is to foster a love of learning.

Lauren started to reflect upon the original emergence of the song in the Re-Use Center. She might have responded to Michael’s contagious singing and dancing as a problem, but instead approached it as an opportunity to learn more about the children. There was something appealing about Michael’s behavior to the other children, and she wanted to figure out what it was in order to see if there was potential for further learning. Lauren felt like she was learning how to identify cues from the children’s behavior that could become the basis for an emergent curriculum. The language and literacy benefits were apparent to Lauren, and they were appealing to the children through lyrics. In addition, the natural overlapping of domains was appreciated. In this case, some of the children’s natural tendencies toward socialization made language and literacy activities more accessible while simultaneously

the language and literacy skills of others made socializing more accessible to other children.

Two: Social Development

We sent out a parent survey (Appendix A) at the beginning of the project. The third question on the survey was, “The Re-Use Center overlooks the Piazza and sounds of socialization there can be heard from above. In what ways do you think your child’s learning can benefit from using this space?” Michael’s mom used this question as a way to address Michael’s social challenges, which his teachers identified as a reason to include Michael in the project during the selection process. She wrote “It would be great if Michael could expand his social learning as well – and have some positive interaction with the other kids, by sharing materials and ideas and potentially working on projects together.” In the classroom, Michael was not able to enter play with other children successfully. He would physically crash into them or avoid them all together. He was teacher-focused, often asking Lauren early in the morning, “What do you think I should do until my mom comes to pick me up?” He played by himself, drawing intricate mazes, mixing “potions”, or dictating recipes for a “Triple Action Mouse Maker”. Anna’s mom also mentioned social development in her answer to question three. She said, “Working in small groups can help Anna develop social relationships.” Anna was also teacher-focused, preferring to listen to a story or happily play by herself. Others did not mention social development directly as Anna and Michael’s parents had, but these two responses were significant because often it feels like social development is overshadowed by external expectations for literacy, math, and the sciences. Because we were aware of parents’ goals for their children’s social development, we knew that our efforts to foster that type of development would be appreciated.

We hypothesized that the environment would lend itself to the social learning that we were all hoping to realize in the children; one of the tables in the Re-Use Center was arch-shaped and about two feet wide. This allowed for the sharing of materials and interactions across the

table. During our second meeting Lauren and the group worked only at that table, and that same day Lauren began to see interactions between Michael and George, who had previously only interacted randomly and infrequently. She had noticed that in the classroom, Michael played alone or with a teacher most of the time. He had difficulty entering play.



Figure 5: The beginning of Michael and George's relationship.

The first interaction began when Michael echoed George's choice of language. During the first couple of weeks of the project, there was a day that we brought water into the Re-Use Center at Kate's suggestion. The children were invited to test the transformability of various materials, like soy-based packing peanuts, yarn, and crepe paper. Michael, George, and Anna got started right away, working in parallel and self-talking. Working at the arched table with the soy-based packing peanuts and a coffee stirrer George narrated, "It dissolved off the stick... I'm seeing how I can make them all dissolve." Michael then said, "I'm gonna make 'em -I'm gonna' try to make 'em dissolve too." And then the two quietly continued to engage in work parallel to one another. Later that session, Michael made a comment about bad guys. George could not resist the topic of bad guys, and the conversation continued like this:

George: When I turn good guys into bad guys I . . . [indiscernible on recording] . . . that I blast."

Michael: I already turned you into a bad guy!

George: But I'm gonna turn you into a good guy! Chssh, I turned you into a bad guy. I mean I turned you into a good guy.

Michael's interest in wicked wizard potions and George's interest in robots began to overlap that same day. They had been working separately with two-ounce, glass bowls and both realized they needed more space, so Lauren suggested they combine the contents of their bowls into the larger tub of water between them. They both smiled and immediately dumped their bowls into the tub. They played in the water, which served as a potion to trap the small robot constructions that George had made.



Figure 6: Michael and George in conversation.

The stories that George and Michael told as their robots fell into potion traps served as contributors to language and literacy growth. This theme was revisited the following week as the children worked with tempera paint in order to transform color. The paint became the potion and the robot pieces became more complex. The two boys worked together on and off, and in a video we were able to observe Michael initiate a social interaction and support George socially. They were developing

a friendship. In a recording George said, “Look what I made, Michael.” And Michael said, “Look at this, George.” Both phrases communicated that each was interested in sharing their experience with the other. This interaction illustrates the developing relationship (Figures 5 and 6). This was a huge shift for Michael socially. He was not interacting positively with other children in the classroom and relied heavily on teachers, and now he was checking in with George instead of the teacher. George had played primarily with one particular child in the classroom, so here was an opportunity for him to expand his social group.

Maggie and Anna also began to develop a friendship, supporting one another. At the beginning of the project the two children worked independently unless Lauren facilitated an interaction, but now they were seeking out one another. One day Anna was cutting string and asked, “Maggie, do you want some of this?” Later, after making a painting, Maggie said, “Anna, look at my flower.” Anna replied supportively, “Ooo that’s pretty.” Then Anna began to paint on a similar surface, spelling “DAD” with her paintbrush.

Towards the end of the project both Anna and Michael, whose parents had shown an interest in their social growth, were able to transfer what they had learned in the small group environment to the larger classroom. It began with a continuation of the respective relationships with Maggie and George and then transferred to interactions and entrance into play with other children. Michael was no longer crashing into other children in hopes of entering play. He was using the common strategy of asking questions about what others were playing and then observing before acting similarly. While Anna continued to enjoy conversations with her teachers and listening to stories, she also started to initiate interactions with her peers in the classroom, by making supportive comments about their work, like she had for Maggie. It appears that a small group, meeting regularly in the same place offered these children a safe space to take social risks, consequently strengthening their social skills. This was more evidence for

Lauren about children’s own learning styles. She could see that some children learn best in a more intimate, socially predictable setting, and she was inspired by this observation. These results were collaboratively discussed among teachers, parents, and children.

Three: Collaborative Contributions between Teachers, Parents and Children.

In the data, we found that collaboration existed on three levels - with and among teachers, parents and children. Collaboration with other teachers began right away. The lead teachers, Leah and Kate (all teachers are pseudonym), helped us choose families to invite to participate. We talked about and settled on a potential Re-use Center project plan.

The first challenge to the Re-Use Center project plan surfaced even before the children began. We had been thinking Robots would be perceived as a worthy project endeavor by all six children until we were recording the children’s participation consent. Michael wanted to know what we would be doing in the Re-Use Center before he agreed to participate. Lauren answered by describing her idea about Robots, to which he replied, “I’m not really interested in Robots. I’m interested in other wicked things, like wicked wizards.” Prepared to be flexible, Lauren assured him that we would inevitably make sure the project was interesting to everyone in the group. He and the other five children agreed to do the project.

Later that day Lauren walked across campus, preoccupied with the problem of robots versus wicked wizards, when she ran into Greg, another student teacher in her classroom. She told him about the challenge and they started to search for a link between the two concepts. Lauren reflected later in her journal: [Greg] “started talking about Michael’s wizard interest and brainstorming aloud the question, ‘how does it feel to be transformed?’ As soon as Greg said, ‘transformed’ my brain connected this *transformation* of one thing to another as Chaillé (2007) discusses in her book on big ideas, to the transforming robots that George makes and *transforms*. Amazing!”

We proceeded with confidence with the new and improved concept of transformation, but on that first day Michael decided to leave quite early. Later, on the playground, Lauren told him that she noticed he had left the Re-Use Center early and wondered what might have been more interesting. He told her, “It would be interesting if we cut up pieces of paper to make potions.”

Lauren brought this information to Kate, one of the lead teachers, and she suggested we bring water into the Re-Use Center in order to transform the materials there, since Michael had been regularly creating potions out of water and other materials in the classroom. It had not occurred to us to bring additional materials into the space, like water in this case. Kate’s insight proved to be valuable the next day when Michael, George, and Anna stayed for an hour working at the arched table with water, and materials from the shelves. And so it became a studio of sorts, an extension of the classroom and a chance to deepen the explorations that were already taking place.

Lauren’s collaborations with other teachers proved to be deeply satisfying for her as she developed her teaching abilities. She was engaged in a creative process, able to process her ideas through productive dialogue. As a learner herself, Lauren was able to experience the benefits of collaboration, which dissolves feelings of isolation through challenges, maintains teaching as a live and stimulating process, and supports metacognition.

Collaboration with parents was more structured than collaboration with teachers (See Figure 7). The parent survey was the first way that we asked parents to participate. We used the survey to obtain a well-rounded perspective on the Re-Use Center environment and to learn about their specific hopes for their children during the project. Parents were also invited to participate during a meeting where the threads of learning were presented to them. It was during this meeting that the only challenge to the thinking of our project arose. Parents wanted to see the group come together over one concrete product. This had been what Lauren set out to do originally, and she had

finally let go of her concept of a “project” as something tangible that everyone participates in. But here it was, the concept of a concrete group project resurfacing. We compromised and agreed to invite the children to come together over an invitation to make a home for a family of potions.



Figure 7: Parent Working from Children's Instructions

Anticipating their parents’ arrivals on the parent meeting afternoons, the children had dictated instructions for their parents to follow while in the Re-Use Center. After the meetings, as the parents worked on their mini-projects, we brought the children in from the classroom so they could help them finish up. They were delighted to see their parents working in the space and eagerly joined them (Figure 7). Collaborating with families provided Lauren insight into family cultures. By reading about parents’ hopes for their children during the project, hearing their thoughts about how they wanted to see the project continue, and observing their interactions with their children while working together on the mini-project, Lauren was able to more thoroughly understand the children as learners, as individuals, and within the context of their families. For instance, she noted that Michael had three adults come (his mom, dad, and grandmother). This gave her some insight about his initial preference for adults, over peers, in the classroom. Keeley’s parents were quiet and reserved among the parents, just as she had been among her peers.

The meeting of children and parents in the Re-Use Center was a planned form of collaboration for children and parents. Documentation was also a form of planned collaboration between the children and us. Lauren covered the table with photos she had taken thus far and asked the children to look at them and then bring her two. Next, they dictated a caption for the photos they chose, and then pasted the photos and the words side by side on the panel. As a group, Lauren and the children brought the piece to a morning meeting (as a result of Leah's suggestion mentioned above) and asked for questions and comments from the other children. Then Lauren displayed the documentation in the reuse center for the remainder of the project (Figure 8) for others to see, such as parents and others who passed by the space.



Figure 8: Documentation Made by Children

Collaboration among children occurred throughout the project. During the first exploration of transformation with water the children mentioned paint twice, desiring manipulatable color. For instance Michael said, "I would like everything to dissolve into yellow," and also suggested that we provide flour on our next Re-Use Center day. Anna suggested that we bring water again. We took the children's words seriously and brought liquid watercolors

the next time we met, which proved to be successful for the three children who were attracted to the transformative powers of color.

In addition to working with the children on the selection of materials, we also took cues from their behavior and language to develop our conceptual understandings of the project as it unfolded. The investigation of transformation did not need to be as abstract and imaginative as we had expected it to be. Instead the children were able to experience transformation in a literal way.

This literal investigation of transformation is described by Chaillé and Britain (2003) as the way children explore chemistry concepts, through transformation by reconstruction or combination. Keeley and Cecelia spent most of their time in the Re-Use Center rearranging materials from the shelves. Keeley created a series of collages. Each time she chose the materials first, then arranged them on paper or cardboard, and glued them in place. Cecelia took a similar approach and in one particular project, gradually transformed a blank sheet of plastic into a collaged painting. Using water and color in the forms of paint, glue, and the materials on the shelf the children experimented with substances and consistency. Michael and George spent most of their time in the Re-Use Center engaged in this type of activity. As mentioned above, they often mixed potions in order to trap their small robots. We heard words like "float" and "dissolve" as the children transformed water into bubbles, one color into another, and trash into treasures as Topal and Gandini (1999) suggested.

Collaboration with children was challenging and engaging, but the experience was invaluable. Lauren was able to resolve her original questions about the role of the teacher. She was learning to find a balance between freedom and structure and to productively decipher the aspects and elements of children's interests that she could explore further. She was learning how to make flexible plans, which is at the heart of progettazione.

Conclusions

The purpose of the study was to facilitate collaboration among three-to-four-year-old children, their teachers, and their parents, and to notice the effects of this collaboration on the children's learning in the CDC's Re-Use Center. Lauren hypothesized that if she collaborated with the Lead Teachers to reveal big questions about children's response to an environmental provocation such as learning in the reuse center, perhaps she would be able to facilitate a dialogue between adults and children. She thought that involving parents would provide her with a deeper understanding of each child and offer a diversity of perspectives to enhance the relativity of the project in the Re-use Center to the children's lives, as well as improve the accuracy of the resulting documentation.

We discovered that the result of collaboration on the project was a rich dialogue indeed. We initiated the conversation with parents about the potential of the environment, and their responses about social development and creativity informed our focus of documentation and facilitation with the children. Working with parents also provided insight into the identity of children within the context of their families. We invited other teachers to participate in the brainstorming processes and problem solving, which broadened the possibilities for provocation and kept provocation relevant to the children's classroom experience. Taking cues from the children about materials and themes for exploration was a metaphorical dialogue, which also enhanced the relevance of the project to their natural learning paths, allowing us to more closely examine reading, writing, reusing, and social development. Overall, dialogue existed as an organic, multilayered tool for Lauren to choose materials, ask questions, and make sense of the project as it evolved.

We learned that in order to participate in a dialogue, one must actively listen. On many levels listening enabled us to reveal our big questions. By listening to parents the thread of social development surfaced. By observing the children at work children's learning became visible enabling Lauren to support children.

Lauren's questions about what transformation meant to the children were addressed in many ways by their responses to our subtle provocations of transformative substances and more concrete provocations of conversational questions. Documentation (photos, video and digital voice recordings) was a tool for communication as well as a record of our experience.

We asked the children to participate by choosing images, which helped us to understand what aspects of the project were important to them. Lauren used them herself to identify and clarify themes of learning (social development, transformation, language and literacy), which she then shared with parents. The documentation served as a springboard for a conversation between Lauren and parents during the parent meetings, which in turn affected the project.

A self-reflective and flexible spirit is something that we continue to develop as we reflect upon this study and future collaborative teaching endeavors. We found that collaboration between parents, teachers, and children can deepen existing learning themes as well as focus in on potentials for growth and development, as in the cases of social development and creativity. From our perspective, a learning community emerged around us as a result of collaboration between teachers, parents and children. We came to see ourselves, along with each participant, as one part of a dynamic, challenging, and rich project.

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Appendix A: Parent Survey

Child's Name _____

1. Tell me about at least three things that capture your child's enduring interests (lasting months)? These might be favorite toys, places to go, favorite books, favorite activities, common play themes, etc.
2. Tell me about your child's current interests, if different from question one (this week or in the last couple of weeks)?
3. The Re-Use Center (at HGCDC) is a space available to anyone at the school where various open-ended salvaged materials (i.e. milk caps, yarn, cardboard pieces, etc.) are displayed on shelves for use. There two tables with chairs, one with glue, tape, scissors, pencils and markers. There is a sewing machine, and some documentation of past work in the space. The Re-Use Center overlooks the Piazza and sounds of socialization there can be heard from above. In what ways do you think your child's learning can benefit from using this space?
4. Other comments:

Appendix B: Methods Chart

Methods Chart

Research Questions	Method	Action Required (Time Commitment)
1. How will I record and analyze the events and children's learning in the Re-Use Center with the children over the course of 10 weeks?	Documentation	<ul style="list-style-type: none"> - 7 audio recordings - Digital photos - Artifacts - Panels (one w/ children, one individually) - 3 power point presentations - 6 digital videos - 1 iMovie presentation - Personal journal
2. How will I invite parents to collaborate? 3. How will I record parent involvement?	Parent Involvement	<ul style="list-style-type: none"> -Intro survey (sent home 2/20 via parents' classroom mailbox and via email so they can choose method of communication) -Mid project meetings for observations, reflections, questions, work with children (5/12-5/15 4-5:30pm in the Re-Use Center) - Email communication from 5/15-6/2 -Final Documentation: PowerPoint and discussion July 11, 3-4pm HG CDC
4. How will I collaborate with the Lead Teachers? 5. How will I record Teacher collaboration?	Collaboration w/ other teachers (Kate, Leah, Greg)	<ul style="list-style-type: none"> - Two-way journal - Two half hour meetings: 2/15, 5/16, w/ written notes - Verbal communication
6. How will I make sense of my experience?	Analysis and reflection	<ul style="list-style-type: none"> - Personal journal keeping throughout - Studio Painting course, painting as metaphor of my experience

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