

Scaffolding: A Close Examination of “Support” in the Inquiry Process

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"[W]e seek a situation in which the child is about to see what the adult already sees. The gap is small between what each one sees, the task of closing it appears feasible, and the child's skills and disposition create an expectation and readiness to make the jump. In such a situation, the adult can and must loan to the child his judgment and knowledge. But it is a loan with a condition, namely, that the child will repay. It is useless to assert that the readiness of children is too hard to observe. It can indeed be seen! We need to be prepared to see it, for we tend to notice only those things that we expect."

Malaguzzi (as cited in Edwards, Gandini, & Forman, 1998, p. 84)

Scaffolding is a term used in early childhood education to describe the process of support used by teachers in order to assist their learners in reaching higher levels of understanding (Essa, 2011). In the opening statement by Malaguzzi, founder of the Reggio Emilia approach to early childhood education, there is an implication about scaffolding and the expectations of each role within the teacher-child relationship. Malaguzzi states, *"the adult can and must loan to the child his judgment and knowledge"* which implies the adult has information they must use to scaffold or share with the child, and it is a debt *"that the child (must) repay"* which implies the child must make use of the information loaned to him/her by the teacher. How does the teacher know what is needed to scaffold the learner? One possibility is for the teacher to observe the learning environment.

Observation has always been a key element of early childhood teacher preparation (Helm, Beneke, & Steinheimer, 1998; Jablon, Dombro, & Dichtelmiller, 2007). Other teaching skills include being able to reflect upon what has been observed, to make meaning of a learning moment, to articulate the moment to others and to make curricular decisions based upon data collected (Hyson, 2003; Morrison, 2009). Malaguzzi refers to the role of observation or "seeing" in the process of scaffolding: *"It is useless to assert that the readiness of children is too hard to observe. It can indeed be seen! We need to be prepared to see it, for we tend to notice only those things that we expect."* In other words, the teacher must be ready to observe or be in the act of observing to understand what the child knows and what is unknown.

Educators in Reggio Emilia, Italy use a process called pedagogical documentation, which includes a reflective, collaborative inquiry process (Edwards et al., 1998; Goldhaber & Smith, 1997). Pedagogical

documentation involves visually representing, through photographs and words, what has been observed and interpreted by the teacher as a learning moment and can be verbally shared with others (Dahlberg, Moss, & Pence, 1999). The practice of documenting children's work and then publicly making it a point for exchange among children, staff, families, and the community is a valuable asset in coming to understand the child as a learner, the role of the teacher and the impact of collaboration on teaching and learning (Edwards et al., 1998; Goldhaber, Smith, & Sortino, 1997). The Reggio Emilia approach has become a recognized model used by some institutions of higher education as a framework or guide to develop curricula for early childhood pre-service teachers focused on pedagogical documentation and reflective practice (Fraser & Gestwicki, 2002; Fu, Stremmel, & Hill, 2002; Wurm, 2005).

In this article, I explore a method of pedagogical documentation used in the early childhood teacher preparation program at the University of Nebraska-Lincoln. I explain the planning tools, visual aids and theoretical models used with pre-service teachers for foundational knowledge. Later, I describe three projects that look at the planning tools in action: The Light Project, The Growth Project, and The Cherry Tree: A mini story. To conclude the article, reflections are included of pre-service teachers about their uses of documentation.

The Setting

The Ruth Staples Child Development Lab (CDL) at the University of Nebraska-Lincoln is home to 40 children between the ages of 1 ½ -5 years and to 30-40 pre-service teachers each semester. Children from over 17 countries create a diverse teaching and learning environment. Each classroom (one for 1½-3-year-olds; one for 3-5-year-olds) is full day (7:30-5:30) and has 20 children of mixed ages. The CDL has a three-prong mission of Teacher Preparation, Research and Outreach. Its philosophy focuses on an education based in the context of relationships using an inquiry-based curriculum along with documentation.

The University of Nebraska-Lincoln has three options for undergraduate students pursuing education including degrees in Early Childhood Education (Birth to age 8), Inclusive (combination teaching certification from Birth to age 8 encompassing Special Education, Primary Education and Early Childhood Education) and Early Childhood Education with Elementary Education (dual majors with a teaching certificate in Elementary Education). These students completed Family and Consumer Sciences (FACS) 497A Student Teaching to fulfill the Early Childhood Education student teaching portion of their program while at Ruth Staples Child Development Lab (CDL).

The focus of this article is the older (3-5 years) classroom. To uphold the mission of the lab school, three key concepts in FACS 497A incorporate the following: relationships, teachers as researchers with the use of reflective practice, and documentation. A description is included of the types of relationships and infrastructure developed to maintain and support relationship development at the lab followed by the tools used to support the reflective practice and documentation process. The article ends with examples of project work to demonstrate the use of the tools and pre-service teachers' reflections about their use with documentation.

An Education Based in the Context of Relationships

In the full-day program, there were several types of relationships given attention. These were Child-Child, Teacher-Child, Parent-Teacher-Child, and Teacher-Teacher. The pre-service teacher's planning process was also a focus. We sought to have connections made between learning experiences in a co-inquiry fashion. We referred to this type of planning as the "subject matter relationship."

An infrastructure existed to help develop, maintain and strengthen each type of relationship across the semester and program. A description of each type of relationship and the infrastructure for each is included; however, the focus of this paper is on co-inquiry process and the connections or relationship between learning experiences, or subject matter relationship.

Child-Child

At the beginning of each school year, we grouped children into “families” of 6-7 children based on age and/or ability. These children remained together throughout the year and possibly throughout their entire time at the lab school depending on enrollment. For a minimum of one hour in the morning and one hour in the afternoon, “families” spent time together in their smaller groupings, called “family block time.” During this time, they were with their “family teachers” and concentrated on their “family block planning” which was based upon the work they were doing for their “family project.” A discussion about the family project is examined further in this article. These groupings formed a dynamic exchange in which children come to know one another, trust one another and collaborate together on various projects.

Teacher-Teacher

At the beginning of each semester, we grouped pre-service teachers into “families” that corresponded with the child-child groupings. Throughout the semester, pre-service teachers (generally a group of 3-5 depending on enrollment) team-taught. Each week, the “family teaching team” spent 1½ hours with the Master level teacher in a reflection meeting. During this time, we reflected upon their documentation and experiences throughout the week. As the Master level teacher, I facilitated the weekly reflection meeting with each group and helped guide the planning process during this time.

Teacher-Child

Pre-service teachers were assigned two “target” children to observe, informally assess and document the learning throughout the semester. The target children were nested in the family grouping. Pre-service teachers brought documentation they collected over the course of the week to their reflection meeting to discuss and create future provocations. This documentation contributed to the “family block plan” and to the “family project work” to be done during “family block time.” A

portfolio readily available in the classroom at all times for children, parents and teachers included documentation of each individual child.

Teacher-Child-Parent

At the beginning of each semester, pre-service teachers conducted home visits with each of their target children. During this home visit, parents shared insights about their child and the program with the pre-service teachers. Together they developed semester goals for the child and the pre-service teacher to work on together. Every day parents and pre-service teacher corresponded in a “daily log” regarding the care and development of the child. Each week the pre-service teacher and the parents would correspond in a “two-way notebook.” Pre-service teachers wrote in a handmade notebook before Friday, parents took it home for the weekend, responded, and brought it back on Monday. Conversations between the parent and pre-service teacher focused on the progress of the child but might also include any other information each wished to share.

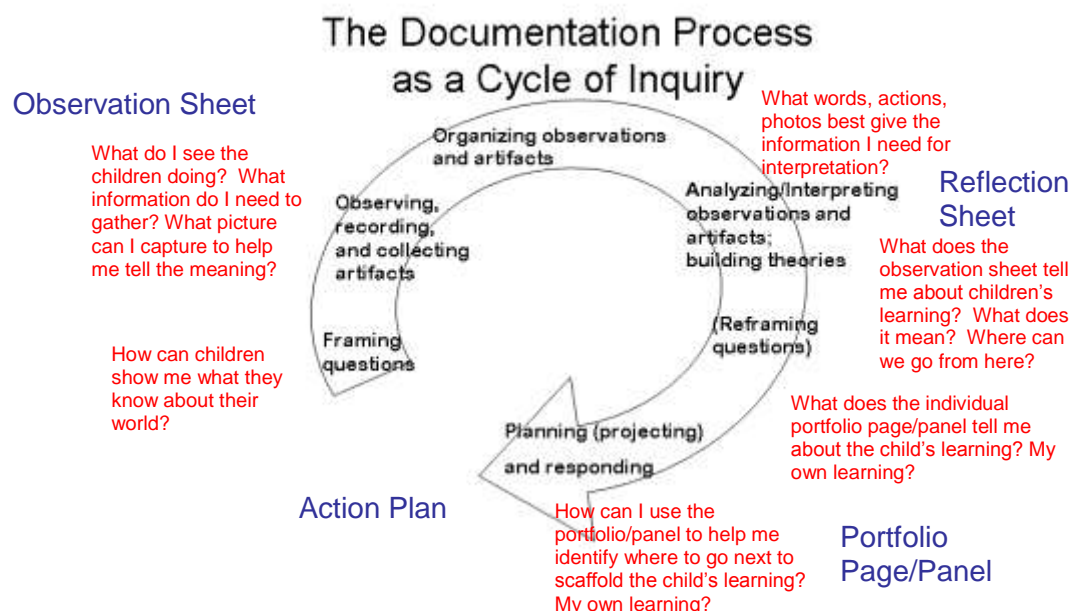
These relationships followed Bowlby’s attachment theory (1969) with primary caregivers in the family groupings and target children for pre-service teachers to focus on within the groupings. This was an attempt for the pre-service teachers, children and families to have an opportunity to develop a stronger attachment with one or two people within the program. These tend to be typical relationships within early childhood programs; however, the subject matter in the context of relationships is not. The remainder of this article will focus on the subject matter relationship and tools used to support it.

Relationship of Subject Matter

As with the other types of relationships, an infrastructure existed for the subject matter. This infrastructure relied heavily on the theorists Dewey, Vygotsky, Malaguzzi, and Piaget. In addition, Goldhaber’s Cycle of Inquiry helped guide the planning and reflection process with the pre-service teachers.

Goldhaber's Cycle of Inquiry (Gandini & Edwards, 2001) grounded the reflection process and helped to create a forum for shared understandings among the pre-service teachers and the Master level teacher (see Figure 1). The Cycle of Inquiry also provided a basis for teachers to begin to “see” as described in the opening thoughts of Malaguzzi.

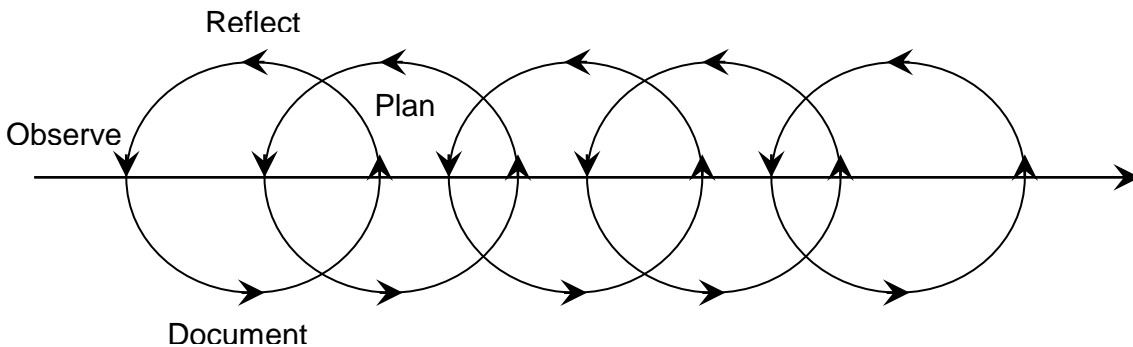
Figure 1.



If we are attempting to “SEE” and be ready to “SEE,” then our first guiding question in the cycle seems appropriate, “How do the children show us what they know about the world around them?” This very broad question focused the pre-service teachers’ attention to the child. As a first step, this generally worked well; however, pre-service teachers would often stop with one observation and have difficulty making and seeing connections between experiences with children. Many of their prior planning experiences had been planning around domains with few connections between subject matter.

A visual representation provided a concrete, shared understanding to make connections between the subject matter (see Figure 2). In this visual representation, Goldhaber's Cycle of Inquiry is combined with Dewey's notion of connected and meaningful experience (Dewey, 1938).

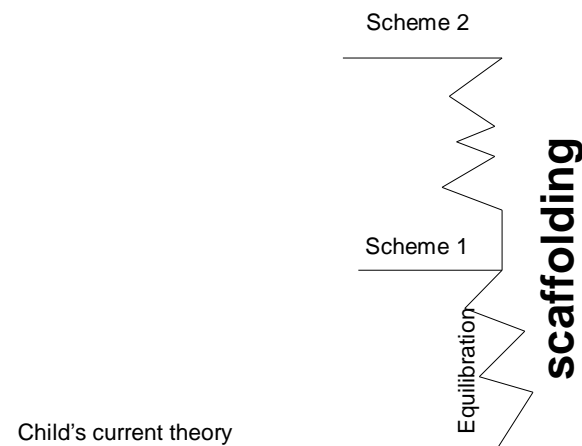
Figure 2.



The connected circles represent Goldhaber's Cycle intertwined with one another. The arrow running through the spiral represents the thread or continuity of an idea, each one building from prior experience. In order for an experience to be meaningful, it should take into account one's prior experience and attempt to build a bridge between the known and unknown. Dewey (1938) described these connections as meaningful experiences. What role does the pre-service teacher have in creating meaningful experiences? What role does Vygotsky's scaffolding (Vygotsky, 1978) have in this process? Figure 3 shows a typical representation of Vygotsky's zone of proximal development (Vygotsky, 1978).

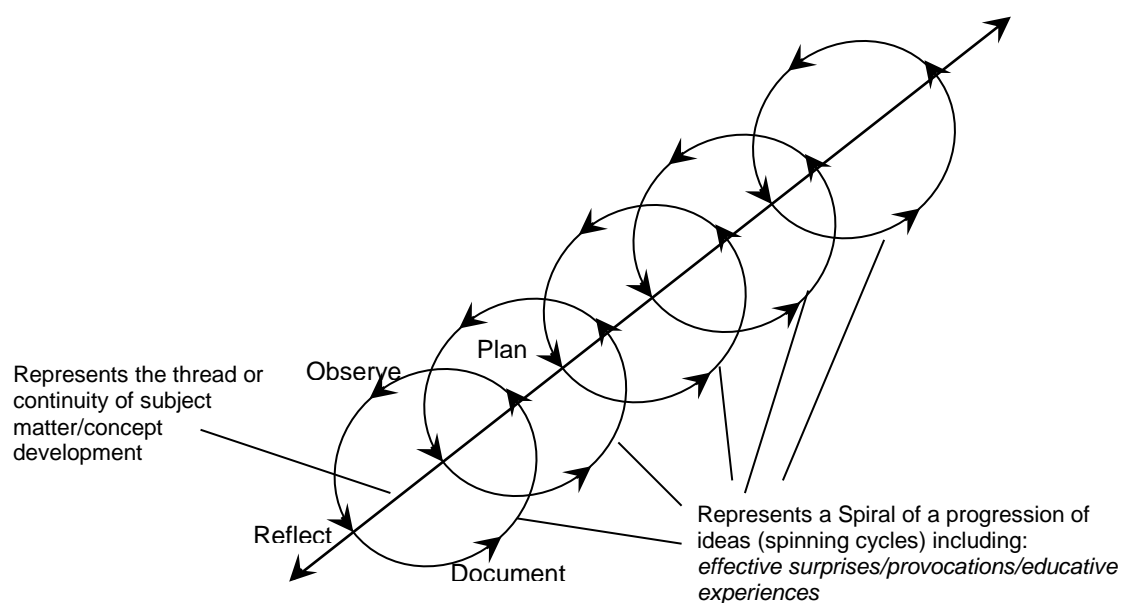
Figure 3.

Vygotsky's Zone of Proximal Development---Traditional



The baseline, or bottom, represents where the child is at in the present or what the child can do alone. This would take into account the child's prior experience. The jagged lines represent the disequilibrium and equilibration that takes place through the process of children creating new schemas based on the experiences they are having with materials, teachers and/or other children. However, in this model, the learning process appears to be quite linear (as well as in the previous model) which does not capture the sometimes sporadic nature of learning. Therefore, a new model is proposed (see Figure 4).

Figure 4.



In the proposed model, the pre-service teacher continually observes, reflects, documents and makes curricular decisions based on observed information, and is therefore, continually scaffolding. The line is no longer horizontal, rather at a diagonal indicating that there is a progression of learning taking place. If better trained in the graphics, the model would actually be a 3D sphere (picture a GEO ball that opens and closes with many connections holding it together) rolling along in a wavy type of fashion. Such a visual model would show the interconnectedness between experiences but also incorporate times when a child may make a connection that happened much earlier to something happening much

later and vice versa. It is also important to note the cycles represented DO NOT represent one singular experience, or only one moment in time. Rather, the cycles may “spin” quickly at times when a teacher is observing, reflecting, documenting (raw) and making a planning decision about what to do the next several times in a given experience, OR the cycle may be very slow, continuing across several days.

In an attempt to understand what the child's thinking might be, Piaget's theory of assimilation and accommodation become useful (Piaget & Inhelder, 1969). In this way, the pre-service teachers are trying to match where the child is (known to the child) and where we might go (unknown to them and maybe even us). The pre-service teachers used planning, reflection and action plan forms that were later shared to help them begin to think in this way. These planning sheets were the tools used to do this type of work. The goal was to try to figure out what the child was thinking, what they might be assimilating (connecting to their prior experience), and what to use next to continue to provoke their thinking. It was not about giving the answer to the children, rather providing an opportunity for them to continue to explore their ideas and in the process come to new understandings.

Observation/Planning Sheet

The observation/planning sheet (see Figure 5) provided a structure for capturing information. With each area of development noted, the pre-service teachers began to “SEE” the children in a holistic way. This also articulated any area of development in any given moment, which then helped them more accurately meet the child's needs. The last column asked what the teacher did in the moment. Therefore, the pre-service teacher saw him/herself as an active participant in the observation versus a passive observer.

Pre-service teachers carried a clipboard, digital camera and something to write with at all times to be able to capture these moments. The pre-service teachers generally wrote as much dialogue and “what is happening” in the moment with the children, and they filled the rest out later.

Figure 5.

Observation/Planning Sheet

Jones-Branch, J. (2005), Ruth Staples Child Development Lab, Dept. of FACS, College of EHS, UNL

Child/Children _____

Observer/Teacher _____

Date and Time _____

What is happening? Give as much detail as possible	Children and Teacher Dialogue Include questions asked	Areas of Development/Stages Each area should be addressed	How as a teacher did you help this moment happen? What was your role in extending and supporting this moment?
		<u>Cognitive:</u> <u>Language/Literacy:</u> <u>Physical:</u> <u>Social/Emotional:</u>	

Reflection Sheet

The goal of the reflection sheet (see Figure 6) was to gather possibilities about what the child might be thinking and to gather questions surrounding the moment and next possibilities. The last column on this sheet became the Action Plan. There was space for the pre-service teacher to write in after the reflection meeting to be able to add other thoughts that may have developed because of the reflection meeting.

Figure 6.

Reflection Sheet**Jones-Branch, J. (2005), Ruth Staples Child Development Lab, Dept. of FACS, College of EHS, UNL**

What do you think it means? What is the child trying to figure out? What strategy is the child using? What misconceptions does the child have?	<div style="text-align: center;">Questions</div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Child/Children What do they want to know about this moment? About what might happen next? </div> <div style="width: 45%;"> Teacher What do you want to know about this moment? About what might happen next? </div> </div>		Where can we go from here? What experiences will help the child correct their misconception? What can you do as a teacher to help the child? What experiment might you try to answer the child/teacher questions?
After your reflection meeting:	After your reflection meeting:		After your reflection meeting:

Action Plan

The action plan (see Figure 7) became the next provocation offered to the children. The pre-service teacher filled out the action plan stating what the connected thinking was (what happened before), what the provocation would be and what to focus on in the next observation. This action plan combined with others focusing on the work of the family grouping.

Figure 7.

Action Plan Sheet

Jones-Branch, J. & Leeper, J. (2005), Ruth Staples Child Development Lab, Dept. of FACS, College of EHS, UNL
To be used with the Observation/Reflection Sheets.

Connected Thinking What happened before that led you to this provocation? What connections have you seen children making that this will help support?		
Provocation What would you add? (props, materials) How would you display the materials that would make them intriguing to children?		Materials Needed
Questions of Inquiry What is the question/are the questions of inquiry that you are following in this provocation? Teacher and Children		
Focus What should someone observing the implementation of the provocation be focusing on for the next observation? Concept? Strategy?		

Portfolio and Panel Pages

The pre-service teachers synthesized information from the observation, reflection sheet and action plan combined with photos to develop portfolio pages focused on their target child (see Figure 8). The portfolio page should begin with a question then ground the reader in the moment through the teacher's text and children's dialogue. It should include the teacher's interpretation along with what might happen next, and end with a question for future inquiry. The child's portfolio should read like a book page with the ending question being present at the top of the next portfolio page.

Figure 8.

How does Palmer represent different properties of objects?

Alexis Schreiber

October 2, 2006

After a visit to the Tractor Museum and exploring all the different tractors, we asked the children to represent the tractors they saw. We were interested in seeing what properties/details they were choosing to represent.



P: "This is the wheel and this is the other wheel."
"Circle. Circle."
 A: "Your wheels are in the shape of a circle."
 P: (As he is drawing in a circular motion) "Yea. **Wheel, wheel, big wheel.**"

Palmer began by choosing a purple marker and started drawing four circles. He told me they were the wheels of the tractor. He then began coloring all over his paper in a **circular motion** while saying, "**Wheel, wheel, big wheel**" as he swirled around the paper.



I'm wondering if Palmer will notice the different details in objects such as the circle in the wheel, if it will allow him to see new properties/details in familiar objects around campus.

How does the child apply properties/details of one experience to another?

Pre-service teachers also documented the work of the group and developed "panels" (2-3 connected experiences) to represent the group learning versus the individual learning present in the portfolio page. These portfolio pages and panels contributed to the on-going connected experiences within the project work of the family groupings. To illustrate an in-depth look at the process within project work, examples from various projects will follow.

Light and Shadow Project

The Light and Shadow project began as children were discovering their shadows while playing outdoors. Children wondered what the strange images were. Pre-service teachers began wondering about what the children were thinking in regards to their shadows. In Figure 9 Lucas is playing with his shadow.

Figure 9.

**"I'm catching my shadow." Lucas**

The pre-service teachers brought the photo from Figure 9 along with their notes to a reflection meeting to share with one another. As proposed on the reflection sheet, the group explored the following questions: What is Lucas thinking? To what concepts might he be assimilating his perceptions? What, as teachers, should we do next? No right or wrong answers exist. Documentation captures moments; therefore, the pictures and words of the child allow for sharing with others to gain multiple perspectives about the possibilities. Assumptions about this moment, along with determinations about what evidence is present, support whether or not previous and current provocations are worthwhile in continuing to challenge and provoke the children.

In this situation, the pre-service teachers felt Lucas thought his shadow was something concrete and that he thought he could catch the shadow. Therefore, they decided to use sidewalk chalk to trace around the children's shadows so the children could easily see when their shadow changed. Figure 10 shows Lucas studying a chalked outline of his shadow from the day before.

Figure 10.



Again, the pre-service teacher brought the photographs to the reflection meeting and considered new questions: What was he thinking now? To what concepts might he be assimilating his perceptions? What should we do next? Again, different perspectives were proposed, and the inquiry cycle continued with new questions emerging for both pre-service teachers and children. The pre-service teachers proposed that Lucas was now wondering about what happened to his shadow and was beginning to see the complexity of the shadow. They decided to focus on the light source and the role it plays in creating shadows. To set the stage, the pre-service teachers created a separate light/dark room with mirrors, flashlights, and cutouts of each child to experiment with to create their own shadows in a controlled environment.

In this example, the light source became a next step in the children beginning to understand the properties of shadows. Children played with the flashlights, cutouts and mirrors in a dark room (see Figure 11). Children came to see that there were artificial light sources and natural light sources. They also began to understand that they could control the artificial light source and that it was not possible to control the natural light source. The pre-service teachers chose to combine two previous ideas: to use the artificial light source that children can manipulate, and to use cutout figures of each child that they could manipulate to make shadows of themselves (see Figure 12). They also used favorite manipulative

items as well. In this way, children could combine their prior experiences and attempt to figure out how to make the shadow. The mystery of shadows was not entirely resolved, but the children took on an investigative nature with materials and openly shared with one another their discoveries.

Figure 11.



Figure 12.



“Look, I’m making YOUR shadow, Lucas!”

(Fabiola)

The Growth Project

The growth project began with children noticing plants in the garden area at the lab school. They discovered that plants came from seeds after a typical beginning activity of planting seeds in a cup and observing and documenting the growth of the plant. For this project, actual documentation pieces made by the pre-service teachers uncover children's thinking about growth (see Figure 13). The children continued to be curious about the roots; together with the pre-service teachers they planted seeds in a glass so they all could examine them more closely. The pre-service teachers discussed the documentation during a reflection meeting. Derek stated that he has roots in his feet. Why might he say this? Some pre-service teachers noted that he was referring to the veins in his feet. The dialogue continued with: What other parallels between the roots and his feet are accurate? Together the group talked about the idea of feet "grounding" us and providing our foundation.

Figure 13.

The Growth Project
Ash Leaf Family Fall 2003

What's in the Soil?



A teacher asks, "What's in the Soil?"

Harrison: "Worms!"

Serin: "Seeds!"

Madeline: "A lot of Roots!"

A teacher poses the question, "What do the roots do?"

Harrison: "Make them grow if you water them. Water waters roots and roots drink it."

"Does your body have roots?" the teacher asked.

Derek: "Yeah in my feet!" He demonstrated by showing us the "roots" in his feet!



The children seemed to understand different parts of the plant and that the plant grows, but seemed to be confused about how something grows and whether or not growth happens quickly or slowly. To help explore this problem, the children gathered items familiar to them in the classroom and

then categorized them into two categories: Will Grow and Will Not Grow (see Figure 14). Children used markers to represent through drawings, which items would grow. Pre-service teachers then asked them to explain their representations. The children's answers listed below helped the pre-service teachers and children reflect to "SEE" their thinking.

Figure 14.



Pinecone...

Derek: It grows because I've seen small and big pinecones

Serin: Pinecones do not grow....we planted one and it didn't grow

Pencils...

Ellie: Pencils don't grow

Anna: The lead will grow

Wire...

Ellie: It will grow because you water it

Anna: It won't grow, because you cut it

Harrison: It won't grow, because it is not real

Bagel...

Derek: If you plant it, you won't get two bagels

All the children agree with his statement!

The family group of pre-service teachers examined each answer the child gave to discuss what concepts the children were assimilating their perceptions with, what their misconceptions were and what we might do next. They noted that although at first glance, the child's answer may seem illogical, once the group began to discuss the thinking of the child, the child's intention became clearer. For example, Derek referred to knowing something grows because he had observed similar objects in different sizes; once we are small, and then we get bigger. Serin quickly pointed out to him that growth can be determined by planting something and watching to see if it grows. Anna pointed out to Ellie how indeed a pencil can grow because the lead gets longer when you sharpen it. At the end of the conversation, Derek pointed out what appeared to be obvious to the whole group: to grow means to multiply.

As usual, there were a variety of ideas and ways to go with next steps in the planning process. The Growth Project continued until the end of the semester with children exploring their own growth through standardized and non-standardized forms of measurement, sequencing pictures of themselves and their teachers from birth to present and representing what they looked like in their "Mommy's tummies", and what they might look like in the future. Although there were multiple misconceptions throughout the growth project, the documentation gave an opportunity for the pre-service teachers to consider where the children were in their thinking and how to scaffold their learning.

The Cherry Tree: A Mini Story

A different type of scaffolding took place in the next example. This is a mini story, rather than a portion of an actual project. This story took place during the summer session and was a conversation between Lucas, 2 years and Leo, 5 years. Here, Lucas and Leo were examining a Crab Apple Tree (see Figure 15).

Figure 15.



Leo was careful, pulling the branch down so Lucas could examine the “berry” more closely. Both of the boys were incorrect about the tree. It was neither an apple nor a cherry tree. A discussion with the pre-service teachers revealed they believed the children were assimilating their knowledge to the size (big versus small) and color (red) to determine a name for this berry. The pre-service teachers wondered what they should do to correct the boys’ misconceptions. The story continues in Figure 16.

Figure 16.

**“Apple?” Lucas**

Leo wondered what to do. He was a patient teacher, so he pulled down the branch for Lucas to touch and feel. Lucas stopped saying, “apple,” which made Leo happy.

The ending of the story revealed that there was still a question about what the tree was, but Lucas had changed his thoughts. In this instance, the teacher was Leo, and the scaffolding that took place was between the two children. The teacher observing and documenting this mini story made a

conscious choice to wait and see what happened next rather than pursuing her own ideas about how to correct the misconceptions.

Reflections from Pre-service Teachers

At the end of each semester, pre-service teachers reflected on the process of documentation. Many had expressed difficulties they felt at the beginning of the semester as they began learning how to use the documentation planning tools. Danielle, a pre-service teacher, gave her account of the difficulty most pre-service teachers have in balancing interaction and documentation.

Using the cycle of inquiry to document family block times was overwhelming and cumbersome at first. It was very hard for me to find the balance between documentation and interaction. However, once I began to realize the moments that really needed to be written down, I was able to shift to focusing on how my interactions were extending their observations and conversations (Danielle, teacher portfolio).

Danielle also stated here what many others have said; that over time, documentation became easier to do and was a necessary component of being able to understand what the children were trying to do. Mikaela, another pre-service teacher, shared in her reflection how she grew to use the documentation to make curricular decisions.

I used to have trouble understanding children's ways of thinking that was related to their own exploration and inquiry, but I have grown in a way to help children develop new ideas about learning for themselves. From these cycles, I know how to enhance children's learning through the use of a variety of materials such as using manipulatives, providing real life experiences, using other references, etc. for adapting instruction to students' responses, ideas and needs (Mikaela, teacher portfolio).

Although pre-service teachers initially found documentation difficult, they also discovered the value it brought to their own development. In the reflection below, Beverly described how her own perspectives changed because of documentation.

I have developed an understanding of how to observe the children, taking even the smallest of information, think about it, and organize experiences as they try new investigations while maintaining their curiosity. In encounters with their on-going dialogue, documentation helped me to see the role that each child takes. It also helps to deepen my understanding and interpretation of their questions, which were driving forces in continuing to present different mediums to represent their ideas. To me, this process requires flexibility, willingness to follow

the children's lead, and patience in supporting the students in an environment where they can maximize their full potential (Beverly, teacher portfolio).

Through these reflections, pre-service teachers make note of the difficulties in developing skills to document and reflect upon children's learning. However, they also note the deep appreciation, value and respect for what the children say and do as necessary components in making curricular decisions. They also recognized the potential impact documentation has on their own development as future teachers to be able to share with others and gain new perspectives about the teaching and learning environment.

Conclusion

Misconceptions, hypotheses, assumptions, questions, and action are all part of the teacher's role in scaffolding the children. The teacher must be able to see what the child is thinking in a "best guess" in order to provide a meaningful experience that connects to what the child is trying to figure out about their world. In order to do this, pre-service teachers need to understand the developmental domains and their interconnectedness. In addition to understanding development, pre-service teachers must be in relation with the child spending quality time interacting with them in their environments. Without the relationship and time spent together, the pre-service teacher may not be able to see the connections children are making from one experience to the next.

Pre-service teachers are able to see this type of thinking in children, but they do need tools such as the observation, reflection, action plan, and portfolio pages to help develop this type of reflective practice. The tools here are not exhaustive examples of how to guide pre-service teachers; however, they have been useful in the lab school setting where the shared examples took place.

It is hoped that these tools provide insight as to one way that a teacher education program responded to the need of helping pre-service teachers see and reflect upon what they have observed and inspire others working with pre-service teachers. To reiterate, borrowing from Malaguzzi's quote, *"It is useless to assert that the readiness of children is too hard to observe. It can indeed be seen! We*

need to be prepared to see it, for we tend to notice only those things that we expect” (as cited in Edwards et al., 1988, p.84).

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