

Infants and Toddlers Make Meaning



A Reflective Approach to Teaching & Learning with Infants & Toddlers
Mary Jane Maguire-Fong

Our Journey Today

- A glimpse at what scientists are learning about how infants and toddlers learn.
- A proposal for how to build on this evidence from science as we teach and learn with infants and toddlers.
- Examples of a reflective approach to infant curriculum.

Truth or Myth?

Infants are **not yet aware** of and conscious of what occurs around them.

Infants are **highly aware** of and conscious of what occurs around them.



Screen shots taken from YouTube videos uploaded by parents. Babies are in car seat; car has just entered a tunnel.

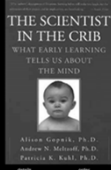
BABIES ARE HIGHLY AWARE OF ALL THAT OCCURS AROUND THEM.

The Infant Lantern The Adult Spotlight

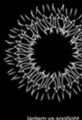
What the Research Tells Us about Young Children's Minds

Alison Gopnik Homepage

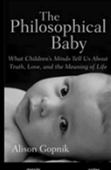
2012 The Infant Lantern



Alison Gopnik, Ph.D.
Andrew N. Meltzer, Ph.D.
Patricia K. Kuhl, Ph.D.



lantern vs spotlight



Alison Gopnik

http://www.alisongopnik.com/lantern_v_spotlight.htm

Reflection

- What did you notice?
- How did he reveal to you his thinking?

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Two clips available on the website of the National Science Foundation:
 "Berkeley Scientists Study Baby Brain Power."
<https://www.youtube.com/watch?v=JF9D8TO2KQU>
 Interview with U.C. Berkeley scientist, Dr. Alison Gopnik
 "Babies Think Like Scientists."
http://www.nsf.gov/news/news_videos.jsp?cnt=73192

BABIES ARE SMARTER THAN YOU THINK

Eight-month old infants predict what is likely to happen and what is not.

<http://www.youtube.com/watch?v=VrymCwZC7n0&feature=relmfu>

RESEARCH OF DR. FEI XU

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Probable Outcome

Improbable Outcome

"Babies listen intently to us and they are taking statistics as they listen to us talk."
 Quote from Dr. Patricia Kuhl's TED talk.

• http://www.ted.com/talks/patricia_kuhl_the_linguistic_genius_of_babies.html?quote=907

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Truth or Myth?

Infants are egocentric, meaning they cannot yet see others' perspective.

Infants are aware of others' feelings and intentions.

Explore this link to hear how the research of Dr. Karen Wynn and colleagues suggests that babies, even those as young as 3 months old, show an ability to discriminate friend from foe:

<https://www.youtube.com/watch?v=anCaGBsBOxM&NR=1>
 [From Mind in the Making, Vol. 3]

Screen shot from Dr. Karen Wynn's website, Yale University, The Infant Cognition Center

ALTRUISM IN BABIES?

Baby watches striped shirt play ball.

Green Shirt throws the ball back to striped puppet.

Red Shirt takes the ball and runs away with it.

When given choice of puppet, the babies tend to select puppet who helped (Green shirt).

<http://www.youtube.com/watch?v=F-U0kD59100> Screen shots from video available for viewing on the website of the National Science Foundation Hamlin, J.K., Wynn, K., & Bloom, P. (2010). Three-month olds show a negativity bias in their social evaluations. *Developmental Science*, 13, 923-929.

More evidence from science . . .
 How toddlers help others in need.

Warneken and Warneken clip

<http://www.eva.mpg.de/psycho/study-videos.php>

Warneken, F. & Tomasello, M. (2006). Altruistic helping in human infants and young chimpanzees. *Science*, 311, 1301-1303.

READY TO HELP... COOPERATION BEGINS IN INFANCY

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Screen shots from videos available for viewing on Dr. Michael Tomasello's website at the Max Planck Institute:
<http://www.eva.mpg.de/psycho/study-videos.php>

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INFANTS ARE AWARE OF OTHERS' FEELINGS AND INTENTIONS.



This research on *how* infants learn invites . . .

A REFLECTIVE APPROACH TO TEACHING AND LEARNING


Infants, like Scientists . . .

- Investigate and experiment to make meaning about objects, people, and events.
- Form hypotheses... “If I do ____, ____, will happen.”
- Form theories ... “This is how things happen.”

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How does Severyn reveal his thinking?
Is this a moment of discovery?
Can you name his learning?



Naming the Learning: Cognitive Concepts (Thinking)
Adapted by Mary Jane Maguire-Fong from the California Department of Education Desired Results Developmental Profile 2015
(Bold font indicates items more likely seen in 3-5 year olds, than in infants or toddlers.)

	Classification: Distinguishing differences	Seriation: Relating things in order of their difference
Spatial Relations: Detecting how things fill, fit in, and move in space	Cause and Effect: Observing, anticipating, and reasoning about the relationship between cause and effect	Developing understanding of number and quantity
Representation: Using one thing to symbolize and represent another	Shapes	Knowledge of the natural world
Developing understanding of adding and subtracting small quantities	Investigates objects (living and nonliving things) through observation and exploration	Communicates observations and investigations about objects
Patterning	Measurement (2-5 years)	

Naming the Learning: Approaches to Learning
Adapted by Mary Jane Maguire-Fong from the California Department of Education Desired Results Developmental Profile 2015
(Bold font indicates items more likely seen in 3-5 year olds, than in infants or toddlers.)

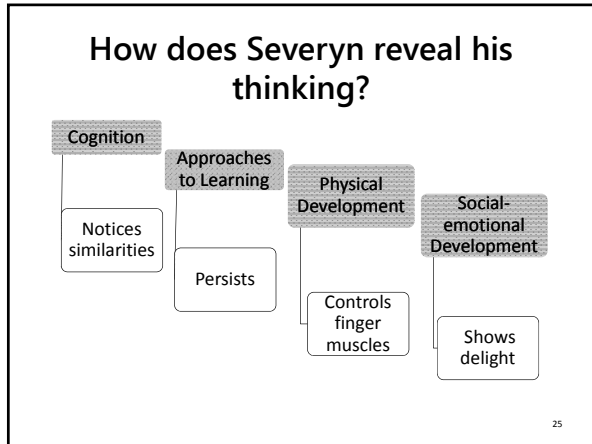
Maintains attention	Curiosity and initiative in learning	Self-comforting
Self-control of feelings and behavior	Engagement and persistence in mastering activities	Shared use of materials and space
Imitation		

Early Head Start School Readiness Goals

- Language and literacy
- Cognition and general knowledge
- Approaches to learning
- Physical development and health
- Social and emotional development.


Source: *School Readiness Goals for Infants and Toddlers in Head Start and Early Head Start Programs: Examples from the Early Head Start National Resource Center.* OHS EHS NRC – June 5, 2012

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"We as teachers are asked by children to see them as scientists or philosophers searching to understand something, to draw out a meaning We are asked to be the child's traveling companion in this search for meaning."

Carlina Rinaldi, President, Reggio Children



Rinaldi, C. (2006). Creativity, Shared Meaning, and Relationships. In J. R. Lally, P.L. Mangione, & D. Greenwald (Eds.), *Concepts for Care: 20 Essays on Infant/Toddler Development and Learning*, (pp. 21-23). San Francisco, CA: WestEd.

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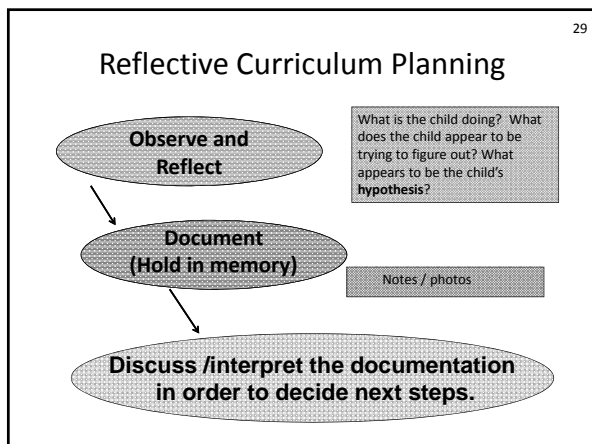
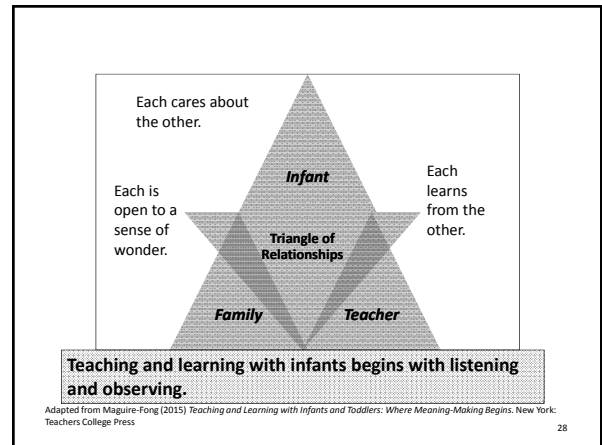
"... We are also asked to respect the meanings that children produce, the explanatory theories they develop, and their attempts to find and give answers. When we honor the children this way, the children reveal [their thinking] to us."

Carlina Rinaldi, President, Reggio Children



Rinaldi, C. (2006). Creativity, Shared Meaning, and Relationships. In J. R. Lally, P.L. Mangione, & D. Greenwald (Eds.), *Concepts for Care: 20 Essays on Infant/Toddler Development and Learning*, (pp. 21-23). San Francisco, CA: WestEd.


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Teacher as Researcher

What do I notice in the play? What ideas are made visible? How might we support or extend the play?

What might happen if we add...? How will the children respond if we....?



Planning Questions

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What distinguishes reflective curriculum?

- Generated & guided by observations of how infants engage the world

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    graph TD
      A[Observe and Reflect] --> B[Document and Reflect]
      B --> C[Interpret and Plan]
      C --> A
    
```

“What is happening in [child] care today is a revolution in thinking about curriculum. The most critical curriculum components are no longer seen as lessons and lesson plans but rather **the planning of settings and experiences that allow learning to take place.**” (Lally, 2014, p. 52)

Lally, J.R. (2014). *For Our Babies*. New York: Teachers College Press

CURRICULUM AS “CONTEXTS”

What do you notice in Victor’s play?
How does he reveal his thinking?

Adapted from:
Maguire-Fong (2014). *Teaching and Learning with Infants and Toddlers: Where Meaning-Making Begins*. New York: Teachers College Press

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Curriculum as Contexts

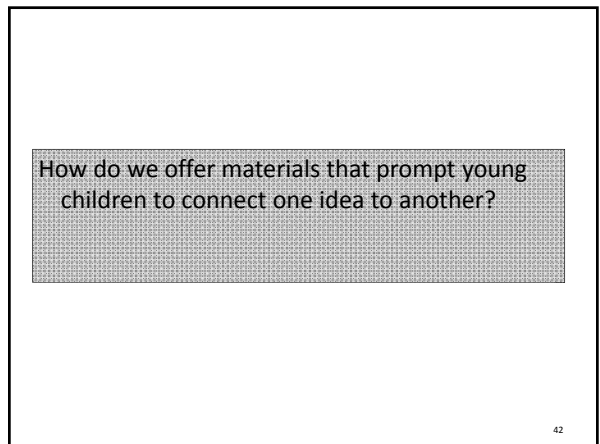
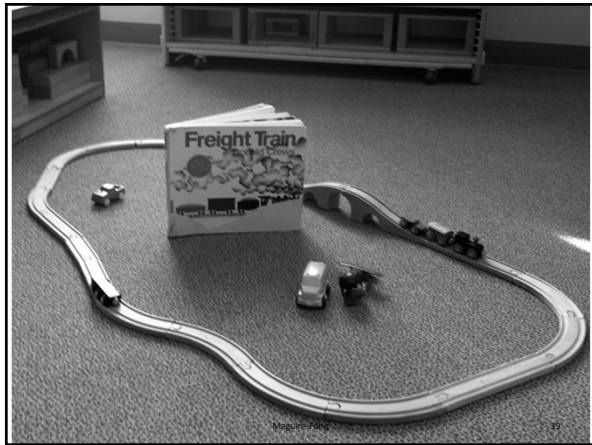
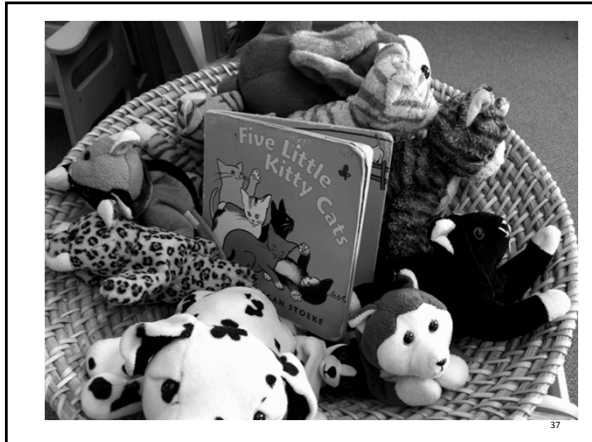
- Play spaces that invite children to investigate and build concepts and ideas
- Daily routines that invite children to use emerging skills and concepts
- Conversations/Interactions that support children in learning about self and others

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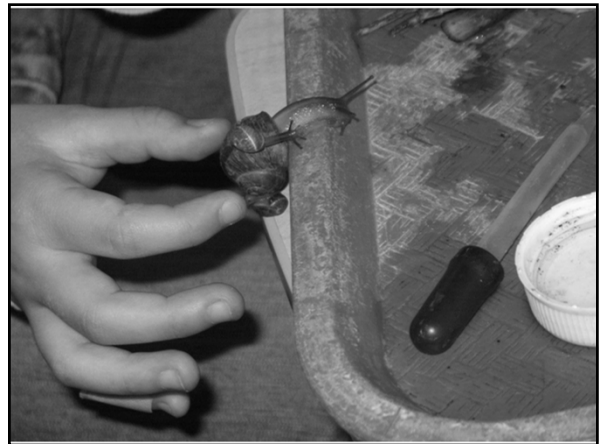
Play Spaces as Contexts for Curriculum

Examine this series of photos. What is the intention?

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Examine this series of photos. What is the intention?



What did you notice in this series of photos?
What is the intention?



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How do we offer infants and toddlers opportunity to explore the “natural” world, that is, creatures and plants?

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Examine this series of photos. What is intention?



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What Learning Might These Inspire?



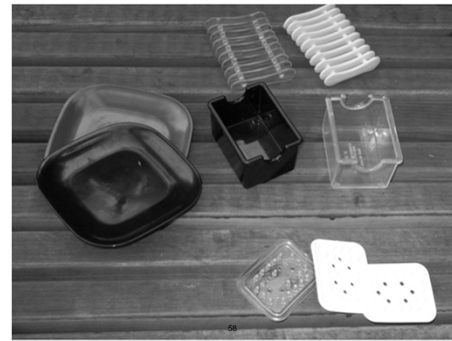
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56



What did you notice in this series of photos?
What is the intention?



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How do we offer materials from the everyday world? [Ordinary objects]

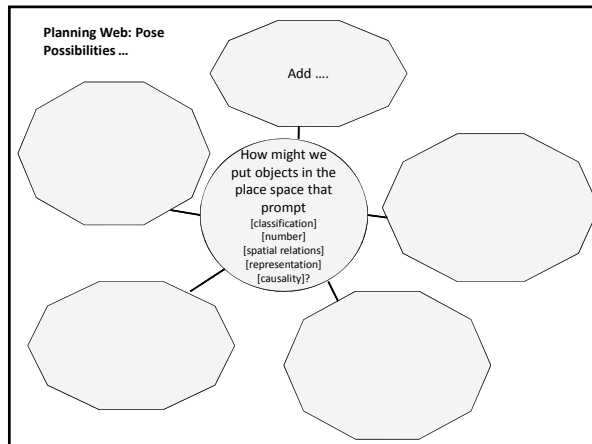
What learning potential do they hold? [concepts, skills, dispositions?]

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Consider how such materials invite infants and toddlers to:

- Explore
- Experiment
- Connect
- Invent
- Transform
- Represent

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Planning Web

- Propose concrete things you might do.
- Do it with others. Write down all possible ideas, so as to consider many perspectives.
- Most likely, you will only do some.

Plan of Possibilities *Propose a Planning Question*

- Sift through the ideas on your planning web.
- Decide on what would be a good context to offer as your “next step.”
- Write your plan as a question: “What will the children do when they discover”

Proposing Possibilities: Why use “planning questions?”

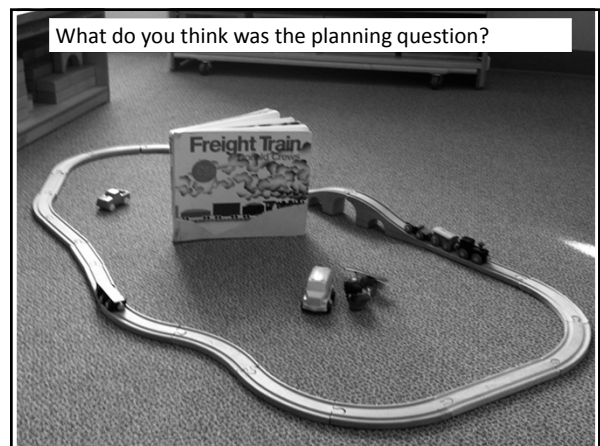
“What kind of context, what kind of possibility can you offer to the children for the next step and the next step, not because you know the next step, but because you want to offer a possibility for going deeper and deeper in their research”

Rinaldi, C., in Lally, J. R. (Producer/Director), Mangione, P. L. (Writer/Director). (2006). *New perspectives on infant/toddler learning, development, and care* [DVD] Disc 2, Chapter 3. United States: California Department of Education.


Propose a planning question, “What will the children do if we add ____ to the ____?”

THE WRITTEN PLAN *A PLAN OF POSSIBILITIES*

What do you think was the planning question?



Plan of Possibilities: Books in the play spaces
 Date: 11/4-8
 Place collection of cat puppets in basket along with books about cats; and collection of books about trains adjacent to train in connections-construction area.
 Planning Questions: What play and conversation will these books and related materials prompt when toddlers find them in the play space?



Observations	Photos	Interpretations

Adapted from Maguire-Fong, M.J. (2014) *Teaching and Learning with Infants and Toddlers: Where Meaning-Making Begins*. New York: Teachers College Press

Examples: Planning questions

What might happen if we offer children...?

In what ways might they explore if we add to the routine / play space ...?

What might they do if we invite them to ...?


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Planning question: What will the children do when they discover _____ added to the _____ ?

Observation	Reflection/Interpretation

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Daily Routines as Context for Curriculum




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Learning Opportunities at Mealtime...



What planning went into setting these tables?

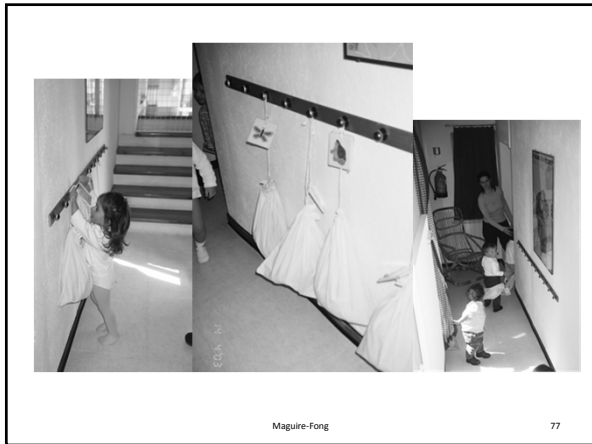
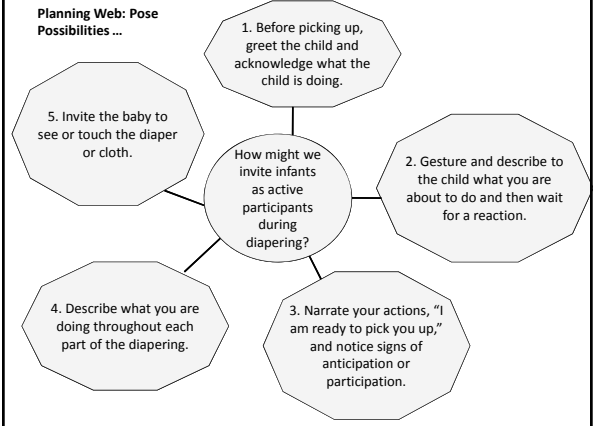
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Inviting Participation During Diapering



Planning Web: Pose Possibilities ...

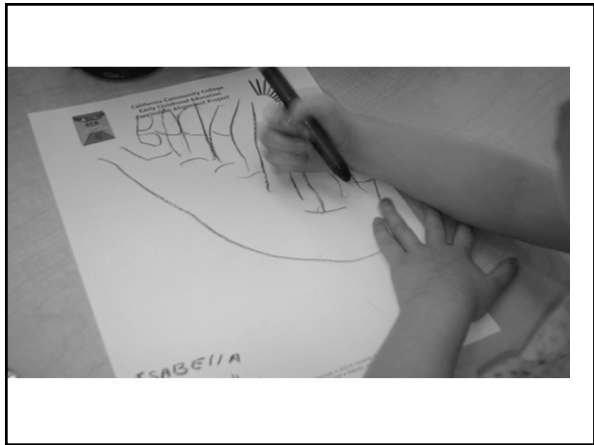




Arrivals: An Invitation to Sign-in



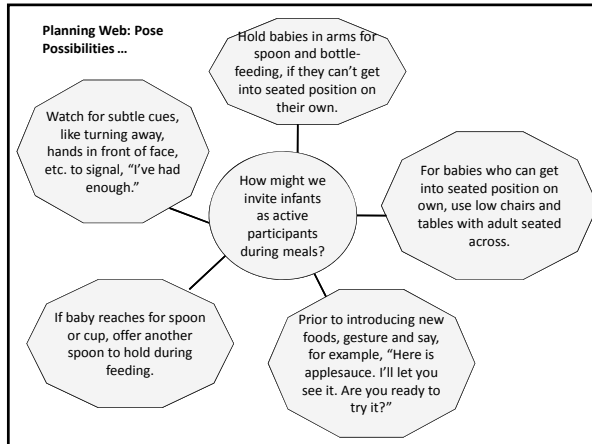
80




An Invitation to Participate in Routines



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What do you think was the planning question?



Routines as Context for Curriculum

Planning question: How will the children respond when invited to use pitchers to pour milk?

Observation	Reflection

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What was the planning question?



Plan of Possibilities: Sign-in area at entry
Date: 12/12-16

Date: Create a space near entry where toddlers can write in imitation of what their families do at arrival.


Planning Questions: What will the toddlers do if we create a place for them to sign in adjacent to where their families sign in?



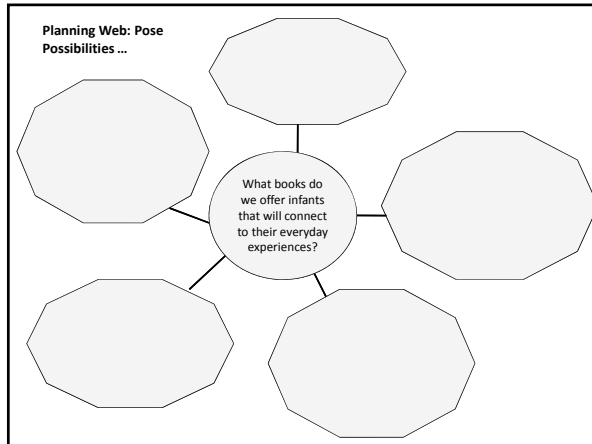
Observations	Interpretation

Adapted from Maguire-Fong, M.J. (2014) *Teaching and Learning with Infants and Toddlers: Where Meaning-Making Begins*. New York: Teachers College Press

Conversation as Context for Curriculum



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Sadness & Separation as Context for Learning

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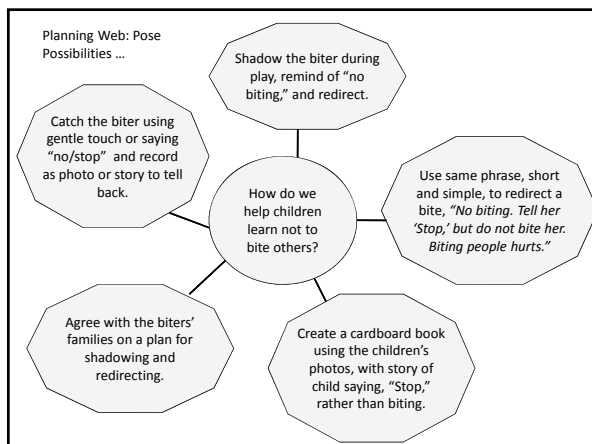
Planning question: When sad due to separating from loved ones, how will children respond if we offer them a photo of the person missed?

Observation	Photos	Reflections
<i>Record here what child involved in such an experience did or said.</i>		<i>Teachers reflect on how child responded to this new opportunity.</i>

Guidance as Context for Learning


- How do we support children's learning about self and other?

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Conversation/Guidance as Context for Curriculum

Planning question: What will the toddlers do when we start responding to a bite or aggression with a clear limit and redirection: "I can tell you are angry because he won't give you that truck. But it is not ok for you to bite him. Biting hurts people. Tell him, 'I want that truck.'"

Observation	Photos	Reflections
<i>Record here what each child involved in such an experience did or said.</i>		<i>Teachers reflect on how each child responded to this new strategy for responding to biting.</i>

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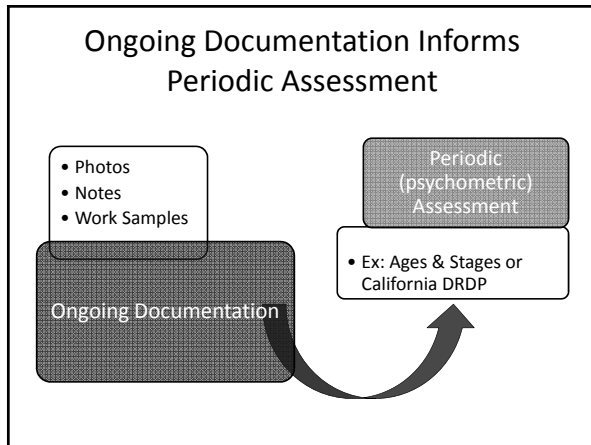
Curriculum as Contexts

- Play spaces that invite children to investigate and build concepts and ideas
- Daily routines that invite children to use emerging skills and concepts
- Conversations/Interactions that support children in learning about self and others

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Connecting the Dots ...Curriculum & Assessment

How do we know infants are learning and developing as we hope?



Planning question: What will the infants do in response to soap dishes added to the collection of familiar toys?

Observation	Reflection/Interpretation
<ul style="list-style-type: none"> • Picks up small soap dish, mouths, fingers, peers at it • Flings it away & it lands to his right • Turns to look at pile of objects • Picks from pile a soap dish identical to the one he had earlier • Smiles as he waves it before his eyes • Stares at soap dish dropped earlier • Places 2nd soap dish on top of 1st one – identical match 	<ul style="list-style-type: none"> -Severyn appeared to notice how one object was the same as the other object (emerging skill: <u>classification, number</u>, i.e. making "2"). -Showed <u>delight in accomplishment</u>. - <u>Persisted</u>

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Reflective Conversation: Key Questions When Discussing Documentation

What do you notice?

- Observe & Listen

How do children reveal their thinking?

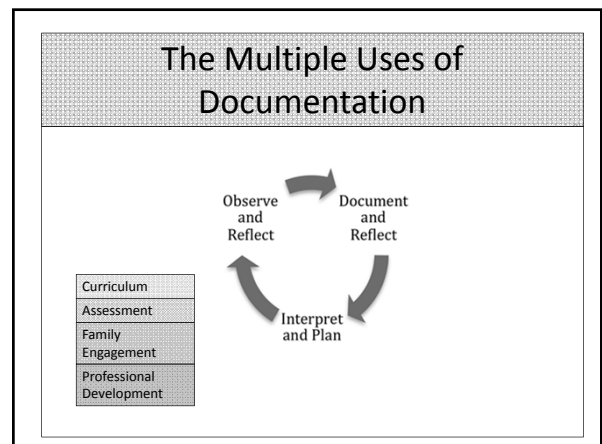
- Assess the learning -- What ideas or skills do you see? How do they relate to desired results / school readiness goals?

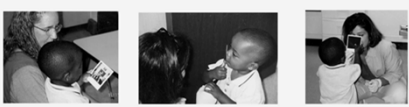
How does this inform what you plan next?

- Curriculum Plan

How do we invite families to join in this work?

- Family Engagement





Missing Someone Special
A moment of sadness, remembrance, and joy

Teacher Colleen was leaving for the day. One of the infants in her primary care group cried when he saw her prepare to leave. The next day, we took a photo of the child together with his primary care teacher. With his help, we laminated it and wrote Colleen's name and his name on it. He had it in hand as Colleen prepared to leave. After she left, he stared at it for a long time, kissed it, showed it to Ann Marie, motioned for her to kiss it, and carried it tightly in hand for the rest of the afternoon.

Adapted from:
Maguire-Fong (2014). *Teaching and Learning with Infants and Toddlers: Where Meaning-Making Begins*. New York: Teachers College Press

Tools and Time

Essential Conditions for Documentation

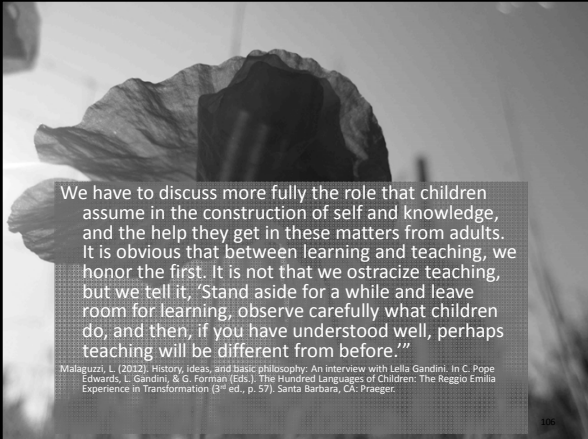
- Provide easy-access, easy-to-use cameras and means for reviewing photos as a group.
- Schedule time for teams to share documentation and to engage in reflective conversation.

"If we believe that children possess their own theories, interpretations, and questions...then the most important verbs in educational practice are no longer 'to talk,' 'to explain' or 'to transmit' – but 'to listen.'"

- Carlina Rinaldi, 2006

Rinaldi, C. (2006). *In Dialogue with Reggio Emilia: Listening, researching, and learning*. New York: Routledge.

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We have to discuss more fully the role that children assume in the construction of self and knowledge, and the help they get in these matters from adults. It is obvious that between learning and teaching, we honor the first. It is not that we ostracize teaching, but we tell it, 'Stand aside for a while and leave room for learning, observe carefully what children do, and then, if you have understood well, perhaps teaching will be different from before.'"

Malaguzzi, L. (2012). History, ideas, and basic philosophy: An interview with Lella Gandini. In C. Pope-Edwards, L. Gandini, & C. Forman (Eds.), *The Hundred Languages of Children: The Reggio Emilia Experience in Transformation* (3rd ed., p. 57). Santa Barbara, CA: Praeger.

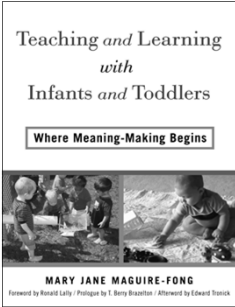
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Additional Resources

- Lally, J. R. (Producer/Director), Mangione, P. L. (Writer/Director). (2006). *New perspectives on infant/toddler learning, development, and care* [DVD] Disc 2, Chapter 3). United States: California Department of Education.
- California Department of Education. (2012). *California Infant/Toddler Curriculum Framework*. Sacramento, CA.
- Rinaldi, C. (2006) Creativity, Shared Meaning, and Relationships, in J.R. Lally, P.L. Mangione, & D. Greenwald (Eds.), *Concepts for Care: 20 Essays on infant/toddler development and learning*, pp. 21-23. San Francisco, CA: WestEd. [Chapter available online at http://www.wested.org/online_pubs/ccfs/06-01-chapter4.pdf]
- Free online DVD's produced by California Department of Education Learning Environments and Curriculum (21:26)
This video addresses "Curriculum and Curriculum Planning," "Environments, Schedules, and Routines," and "Strategies to Support Learning and Development."
Observation, Screening, Assessment, and Documentation (19:25)
This video addresses "Observation," "Screening and Referral," "Assessment," "Documentation," and "Interpretation, Planning, and Implementation."
Child Development and Learning (16:32)
This video addresses "Knowledge About Child Development and Learning" and "Facilitating Child Development and Learning."

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For Deeper Study



MARY JANE MAGUIRE-FONG

Foreword by Ronald Lally / Preface by T. Berry Brazelton / Afterword by Edward Torrick

Published by Teachers College Press
<http://store.tcpress.com/0807756199.shtml>

Mary Jane's website with resources aligned to book:
<https://sites.google.com/site/teachinglearninginfants/>

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