

## Documenting the Documenter

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In our study on the identity and role of documentation in learning processes, we now shift our focus from the children to the teachers. Although these processes may be less visible, they are no less fascinating than those of children.

- What thought processes orient the teachers as they document?
- Does an even partial awareness of these processes have value for professional growth?

These challenging questions lead us to shift the area of our research to domains of implicit knowledge; we accept the risks this research may pose as well as responsibility for the limits this documentation too may have.

Why should we observe and increase our awareness of the processes that support the teachers' process of documentation? Our hypothesis is that when teachers reflect on and discuss their choices and their actions, their awareness of the proposals they make to the children is significantly heightened. Approaching their work in this way makes them more capable of listening to the children and more willing to introduce changes to their procedures that are more in tune with the children's own strategies. The result is that teachers discover and appreciate the role of sharing ideas in terms of their professional development.

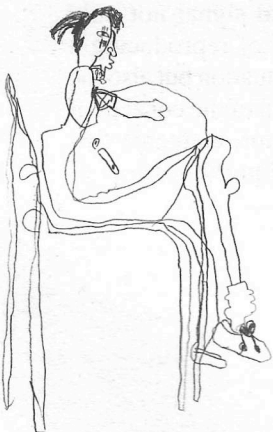
We are aware of the value of interpreting reality and thus of the risks of excessively individualistic interpretations. We therefore structure every documentation process in a way that will foster exchange. The process develops within dynamics in which subjectivity and intersubjectivity attempt to establish an ongoing dialogue. Our attention focuses on individual and group learning, which is the constant condition that nurtures the idea of being able to elaborate original theories and didactic approaches that can be continuously updated and changed.

How can we convey such a complex documentation process to others?

We tried different ways, but none seemed sufficiently clear. In the end we chose as an example a discussion meeting with a group of children that lasted a few hours during a project they were working on. We felt this would give us the opportunity to follow and document the generative potentials of comparing the different viewpoints of the teacher-documenters. We have tried to make visible some of the more hidden aspects of the documentation process that nevertheless seem fundamental to the construction of sense and meanings shared by the teachers engaged in documentation.

### Introduction to the Documentation Context

A number of years ago we began asking each class of five-year-old children to create a collective work to leave to the school, with the idea of building over



seated figure

time a sort of permanent exhibit of the ideas and competencies of the children in their interactions with the environment. This year the place chosen as the site for their project is one of the inner courtyards of the school. The children's attention is immediately drawn to a log that happens to be there. Their curiosity is stimulated and many questions emerge. Their attention is then drawn to the impressive large tree nearby, and especially to the fact that the tree is a living organism. Looking at the log, one of the girls comments: *Poor thing! Let's make a bridge that joins it to the tree that's alive.* The teachers immediately applaud this magnificent project and suggest that the children try to represent the idea graphically in order to explore it further.

Over the next few days, the children follow up their study of the project, producing three-dimensional models as well as computer generated drawings. The differences between these media enable the children to make conceptual advances and in-depth studies on the nature of the problems their project presents, in terms of the shape of the bridge, its height, length, width, and aesthetic features. The various designs are examined by the children and interpreted by the teachers: **the bridge as a union of vital energy between the living tree and the log represents the principal metaphor of the project and will serve as the guideline for the duration of the project.**

The documentation and comparison of interpretations we will follow here, as they develop, involve Isabella, a young atelierista who started working at the Diana School in September 1999; Veia, who had been the atelierista at the school for thirty years and has now been replaced by Isabella; and Laura, one of the teachers of the five-year-olds who has been working at the Diana School for twenty-six years.

The presence of Isabella, who is in the process of learning about the significant aspects of teaching and documenting, provides all the protagonists with a perfect opportunity to further their professional development. Her questions, uncertainties, and different outlook will provide her colleagues with the opportunity to reflect further on their own work. Becoming aware of the subjective differences, and together developing the meanings that derive from different discussions in order to construct shared communication codes, are essential to fostering dialogue and the pleasure of future exchanges. Over the years, this has been a constant challenge for Veia and Laura as well.

Before meeting with the children, the teachers agree, among other things, that Isabella will conduct the project, Veia will document the project with slides, and Laura, on the sidelines, will intervene only when she senses that Isabella needs help so that the quality of the discussion with and among the children will be enhanced. A tape recorder will serve as the "objective" memory of the



seated figure

group's conversation.

The relatively high number of adults in proportion to the number of children in the group makes sense when it is correlated with the need to offer Isabella, Veá, and Laura an opportunity for professional development. We often choose this kind of organization in small groups in order to offer all the teachers development opportunities that are considered essential.

A detailed, ongoing "storyboard" will make it possible to see the documents produced, the observational tools used, and the interpretations made by the three teachers.

### **A Brief Sketch of the Protagonists**



**Isabella**, the present atelierista at the Diana School, has been working at the school for eight months; this is her first experience in the field of education. She has a background in the arts, has worked in the fields of fashion and graphic design, and has experience in the use of new technologies.



**Veá** has a background in the arts and has made a key contribution to the development of the identity of documentation through an uninterrupted thirty-year research experience in the Municipal Infant-toddler Centers and Preschools of Reggio Emilia, in particular at the Diana School.



**Laura** has a background in education and has been an attentive and committed investigator of young children's learning and knowledge-building processes. Hers is the narrating voice of the storyboard.

These three very different individuals advance in their professional development in a context that is common to all three and in continuous dialogue with each other, while maintaining their different strategies and objectives.

Isabella is seeking her own interpretation of the role of the atelierista and is fascinated and captivated by the children and their extraordinariness. Here she encounters two more experienced teachers and accepts them with respect but dialogues with them in a straightforward, open manner.

A challenge in staff development is to think of ways for new teachers to grow professionally that do not involve necessarily accepting and assuming the more conforming aspects of the situations in which these teachers find themselves. Professional development should not be merely a process of transmitting the "accumulated knowledge" that the school and more experienced teachers can offer. In fact, accepting the new teachers' different points of view, which are often dissimilar and sometimes critical, may revitalize the entire group of teachers and create new thinking strategies capable of questioning even what

may seem almost obvious.

Vea and Laura, aware of their competencies and their role as mentors, approach *this experience with their usual research inquisitiveness. After many years of working together they have perfected communication codes and developed common project approaches. At the same time, the differences in their individual approaches have also become more apparent, and these differences make each and every exchange more interesting.*

With the three teachers, the direct protagonists in this path of knowledge-building are four children:

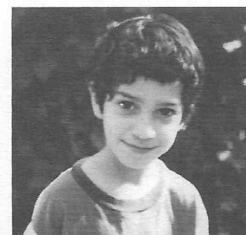
**Caterina**, age 6 years 3 months, author of the sculpture idea chosen and developed by the group, unshakable supporter of the group's competencies and careful listener; she contributes ideas and always expresses her points of view.

**Luca**, age 6 years 3 months, is captivated by project design, hypothesizing and investigating problem-solving strategies. He is inclined to formulate hypotheses constantly, choosing the most feasible and most effective ones. He pushes himself to find optimal organizational solutions that balance risks and goals and is easily infected by the group's optimism.

**Ferruccio**, age 6 years 1 month, is a "possibilist." He is ironic, logical, yet always ready for narrative digressions. Along with Caterina, he is custodian of the more emotional and meaningful part of the group's project.

**Martina**, age 5 years 11 months, interprets the group's work primarily as an opportunity for her own individual learning, which she develops at home with her father's help. She rarely speaks during the group discussions, limiting her comments to brief suggestions and reformulations of the problems the group is facing.

The discussion we examine here lasted about one and a half hours and concerned the necessary step the children had to take to transform one of the three-dimensional models they had previously produced into the large-scale bridge that would join the log to the large, living tree. We anticipated that the children would almost certainly try to decide on the measurements of the actual bridge. This would provide a learning opportunity that moved into another domain of knowledge, one that is important and difficult but, in this case, is supported by the children's desire to realize their project.



## Project Log

May 13, 2:00 p.m. Laura shares with Isabella some thoughts she feels are important for identifying and understanding, at least partially, the meanings of the proposal that will be made to the children:

- How can we as teachers deal with the problem of measurement within the project the children are working on?
- What does measuring mean to children of this age?
- What previous experience have they had with measuring?
- What might the children and teachers learn?
- Does the school have any previous documentation on this topic that can be consulted?

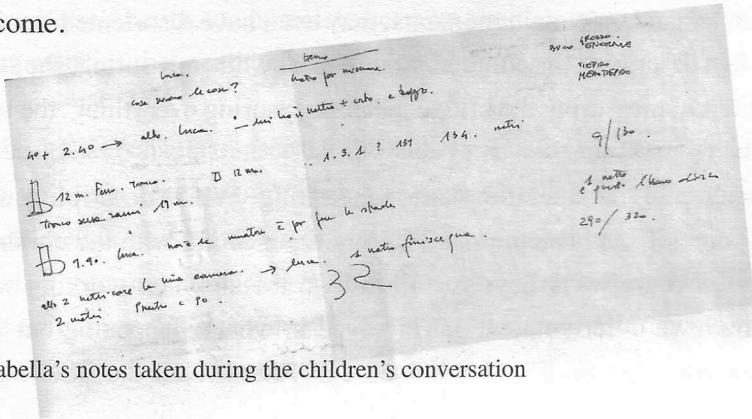
The experience gained through working on project strategies increases the teachers' ability to anticipate the paths of research the children may undertake, and to hypothesize methods and lines of observation. All this contributes to the teachers' awareness in constructing forecast models which give direction but must also be open to any changes that may be suggested by the actual work with the children.

May 16, 8:30 a.m. Isabella and Laura prepare the courtyard so that it welcomes the children in a more meaningful way: a cozy area with benches for the initial group meeting near the site where the children will build what they have begun to call the "hug-bridge." On hand are the children's project designs and three-dimensional clay model of the bridge (which they had made earlier) so as to assist their memory. Off to the side is an assortment of "intelligent materials" aimed at stimulating thought and action related to taking measurements, if the children should feel the need for them (strings, small bricks, ribbons, measuring sticks and tapes, sticks, wire, wooden boards, and so on).

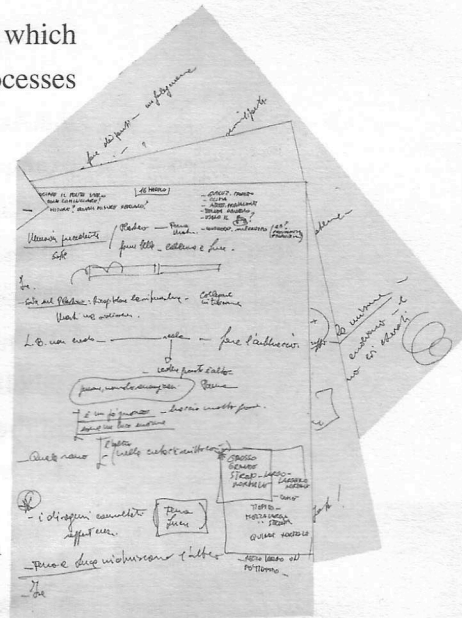
9:30 a.m. Meeting with the group of children:  
Isabella introduces the proposal for that morning: "Ferruccio, Luca, Caterina, Martina, do you remember what we've done so far?"  
We will present the first part of this discussion in detail later in the text so that our readers can better understand how we use documentation tools and how we share our impressions.

11:00 a.m. Today's discussion with the children is over. Isabella and Laura have produced some notes, Veia has taken two rolls of slides, the children have a numerical annotation of the "distance" and the "height" of the bridge, and there is also a

tape recording of the conversations, which will be transcribed later and which will be an essential element in the interpretation and documentation processes to come.



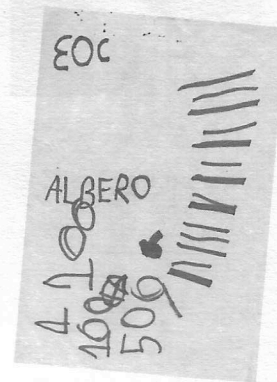
Isabella's notes taken during the children's conversation



Laura's notes taken during the children's conversation

A first glance at Laura's and Isabella's notes shows that their observational priorities differ. Laura's notes are jotted down, she highlights some of them, and she includes drawings and sketches. Laura also notes some of the children's phrases that she considers significant. She summarizes what she feels are the most meaningful moments of the discussion in order to be able to reconstruct the discussion itself.

Isabella, very involved in leading the group discussion, takes some notes primarily on the problem of measuring, an aspect that both worries and excites her.



The children's notes

Isabella, Laura, and Veia meet in the atelier while their impressions of the experience they have observed are still fresh in their minds. This immediate sharing of interpretations ensures a communicative exchange where the emotional aspect is crucial not only in recalling the experience but also in increasing the number of points of view with which to approach subsequent interpretations and the identification of future proposals (that is, proposals based on interpretations made at this moment).

11:30-12:30 p.m.

Veia and Laura, again aware of their role as mentors, leave room for Isabella's interpretations. Veia starts off their meeting by asking some questions that create a context both for the experience they have just observed and for their task of narrating and documenting the experience. Veia, whose approach is to maintain a dialogue and "relaunch" ideas, comments briefly on Isabella's statements. Laura comments on Isabella's considerations and offers her own interpretation and predictions concerning the possible evolution of the project.

Isabella's comments are lengthy. She gives a detailed reconstruction, from her point of view, of the phases she has observed, in an alternation of images that are complex and, in certain moments, may even have disoriented her. For example, when describing the children's excitement while measuring, she says, "For the children, measuring the bridge means measuring everything, the tree, the trunk, the environment."

Her comments and considerations are penetrating. While describing with admiration some of Laura's comments during the meeting with the children, Isabella says, "You always have to follow two tracks when working with children; you have to let yourself get involved in what's happening but you also have to interpret. Instead, I followed everything... all the little lights turning on..."



Isabella continues to be surprised by the amount of attention even apparently small choices require. Of her own considerations she says, "I think I have to ask myself what's important. I can only see how Laura and Veia consider even the smallest choices so doggedly—some might even find it obsessive. Instead, they're choices that build a big picture for the children..."

How much weight will these comments and rereadings have as the project progresses, and to what extent will they frame Isabella's forecasts of how the project will continue?

Isabella's comments reveal great sensitivity and reawaken in Laura and Veia the sense of amazement and the peak moments that risk getting lost over time after constant practice of careful, structured listening.

Isabella, Veia, and Laura agree to proceed with the comparison of their approaches by first making individual interpretations of the observations they made during the meeting with the children, to arrive at a narration in words and images. This sort of short documentary would underline the idea that the visual language belongs not only to the final documentation of the project but also contributes to giving meaning to and communicating the processes observed during the project itself.

The three teachers agree to have their interpretations ready in two days' time. Each of them will use her personal notes, the slides taken by Veia, and Isabella's transcription of the conversation recorded during the meeting with the group of children.

They also agree to note the criteria and procedures that they will apply because these too, along with the personally produced documents, will be the subject of comparison and discussion.

The documentation usually focuses primarily on the children's learning processes. In this case, as we have said, the focus shifts to the learning processes

of the documenters, to their subjectivity as it emerges in comparison with others. This kind of exchange is seen as an opportunity for each teacher to know herself better, to appreciate her own positive traits, and to identify those competencies that need to be developed or strengthened.

In the atelier Isabella transcribes the audiotape of the meeting with the children. She will then photocopy it and give copies to Veia and Laura. For all three teachers, this transcription represents the most objective reference for a second level of interpretation (that is, the narration through words and images) that will be carried out individually and without shared reference schemas other than the objective of producing something that can be circulated, commented on, and discussed.

If we want the observation of a group of children to be more than just a chronicle of a series of events, we must reconstruct and interpret those observations on different levels, without losing sight of the individuals who make up the group (the children and the teachers), of the group itself, the learning processes, the nature of the participation, or the methodologies produced.

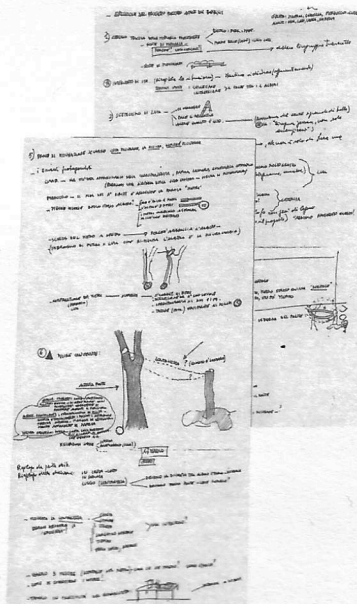
Laura, alone in her classroom, goes over the notes she took during the meeting with the children. She reconstructs in more detail the events she observed and the concepts the children seem to have dealt with, and makes note of possible foci for the continuation of the project.

She believes that this is a very productive procedure to follow as the project unfolds, providing a sort of written "recent memory" that will be reinforced or modified when rereading the dialogues and consulting any available photographic images. With this approach, the teacher gets used to proceeding by searching for meaning and it becomes possible to generate preliminary hypotheses of what will be "relaunched" to the children.

3:00-5:00 p.m.

5:00-5:30 p.m.

Laura's second set of notes:  
a detailed reconstruction of  
the events



In their own times and places, Isabella, Laura, and Veia have each produced the documentation of the events they observed. Isabella's transcription of the audiotape and the slides taken by Veia were available to all three. Isabella and Laura also had the notes they took during the meeting with the children.

May 16, 17, 18



May 18, 4:00 p.m. Isabella, Laura, and Vea exchange copies of their verbal and visual narrative hypotheses, including notes on their procedures.

The three teachers have noted the procedures they used chronologically so that the criteria and ways these procedures were adopted for putting together the documentation of the observed episode can be more fully appreciated.

Here were three documentation hypotheses that, although all stemming from a common observational situation and all using the same photographic images and transcriptions of the children's conversation, have some similarities but also considerable differences due to the teachers' different expectations, their different roles, and their subjectivities.

Once again we have evidence that reality is not objective, but is the fruit of interpretations.

Isabella's documentation hypotheses clearly show a sense of wonder, discovery, research, and indefiniteness.

Laura reveals her unswerving attention as an experienced teacher to the individuals who make up the group, to their learning and growth processes. Vea concentrates on a narration that is meaningful, effective, complex, capable of revealing multiple points of view, and rich with interpretations and new proposals.

The three narrative hypotheses prove to be very interesting even after a preliminary reading. The strategies used by Isabella, Laura, and Vea provide a decisive interpretive lens, as they seem to reveal the processes and relations each developed in order to arrive at her final narration.

The three hypotheses seem to have in common the fact that each teacher has given value to the transcription of the conversation recorded during the meeting with the children; what varies is the interpretive filter through which the conversation is analyzed.

Isabella proceeds by means of a series of readings, the first of which leads her to highlight the moments she feels are "emotionally interesting." Her visual narrative aims at being what she calls "a documentary by concepts." Her process is characterized by concentrating on the written text in order to interpret and understand it and on a visual outline that, as she says, "attempts to match up with the written text to produce a narrative that is comprehensible, simple, and strong." For the moment, this narrative is a series of notes to herself that she will use in the first exchange of interpretations of what took place during the discussion with the children.

In order to achieve the ambitious objective she has set for herself (and it is right to have high ambitions), Isabella will subsequently need many more

elaborations and exchanges of opinion. Communication is a very complex constructive process.

Laura seeks out the key procedural elements in the transcription of the group's conversation, in terms of both learning and the development of the relationships among the children and between the children and teachers. Her intense process of interpretation then links these elements to the notes she took during the actual encounter with the children. For logistical reasons, she will not see the slides until later; consequently, Laura works from memory and constructs an outline based on hypothetical images, which she will verify later.

When she does receive the slides, Laura partially revises her hypothesis since the photographic images significantly enrich and integrate the perception of the atmosphere, the emotional aspects, and the spatial interrelationships of the group.

Vea tries to transform the words in the transcription of the children's conversation into visual images, constructing what she defines as "the script of a film that will come later."

She then proceeds by looking at the relations between two "scripts": the one related to the audiotape transcription and the other based on the visual report she has produced (her slides). She selects the images based on what she sees as the "significant emerging elements" and hypothesizes the missing photographic images. The result is a narration where text and images are intensely interpenetrating. She entrusts the evolution of the narration to a "first encounter with an audience outside the project," as sharing ideas with others will modify not only the narration but also the interpretation of some of the moments of the project path.

What elements of a professionally enriching exchange can we expect to find in this sharing of ideas? The true value of this moment lies not so much in deciding on a documentational procedure that all will respect but in the fact that it bears witness to the different mental procedures through which each teacher has tried to generate a hypothesis of documentation. Its extraordinary value lies in perceiving oneself as a distinct individual in comparison and in dialogue, and thus in a position to identify those areas of learning and exchange on which to concentrate. There is also the more articulated and precise perception of how our own thoughts can benefit from and evolve by listening to other points of view. Finally, our exchange leads us to examine the deeper meanings of documentation, thereby updating the idea of documentation itself.

Our brief attempt to give an example of the teachers' work during the documentation process stops here, fresh from an exchange that we extend to the reader, to whom we dedicate a short exercise that we hope will stimulate his or her curiosity and elicit questions.

For obvious reasons of space, we show here (opposite page) only the first page of the notes Isabella took during the children's discussion. This observational technique is frequently used by the teachers at the Diana School because we feel it is useful to subsequent interpretations, circulation, and for sharing ideas and opinions.

The name of each child and the teacher or teachers involved head separate columns on the page; in this case, one of the teachers present is Isabella, the atelierista. The participants' comments are entered in spatial sequence and are numbered. When the chart is completed, each child can be "read" individually, by going down his or her column, and in relation to the group, by reading horizontally. The very first column on the left is for indicating time, including breaks and moments of silence, and the last column on the right is for the teacher's personal interpretations and those of her colleagues. On this chart there are three columns in which to record comments of Laura, Isabella, and Veá. Notes and interpretations of Isabella's observations by Laura and Veá appear on page 107, using the same numbering as Isabella's notes.

To facilitate reading, comments that were actually made on two separate occasions—individually and as a group—have been combined. As the reader, you may approve or disapprove, and add your own interpretations. What usually takes place following this is a discussion, which results in the final interpretation.

### **Comments on Isabella's Transcription**

The document, transcribed and circulated to gather impressions and interpretations, must have the elements that enable this to happen. In Isabella's transcription some of these important elements are missing. Since a camera or video camera is not always used, it is important to take notes not only on what is said but also on the atmosphere; quick drawings and sketches (for example, eyes turned to a child, smiles, yawns, and so on) are very helpful.

Also missing are the starting and stopping times, as well as intermediate times that would help to better understand what is happening (for example, how much time passed between the beginning of the discussion and the taking of the first actual measurement, how long the children remained silent, and so on).

Isabella's notes

Lucrezia	Cate	Lina	Feno	Laura	Isa
	beta!	0. Perché l'ho fatto tardi... Sembra un pesce.			1. non
		1. le scaltre	6. Un uomo si metterebbe più, una parete uscirà da più.		3. Feno, Lina, Caterina Mancina...
		5. E il nostro piccolo piccolo...			5. Vi ricordate cosa distruggiamo fare?
		10. Perché così ci mettiamo sopra noi... delle foto.	No!! Li collegavamo		7. A parte quello filosofico... c'erano i nostri due abbati...
		13. La Caterina aveva dette che potevamo distruggere anche perché da poi	12. Li distruggiamo		9. Il nostro stesso grande... è quello prima lo. Perché c'era perché ante?
		15. No, lo non me lo ricordavo così	14. Si distrugga davvero più		12. Giusto, li collegavamo e perché c'era 14. Bene. Potrebbe essere un altro progetto che facevamo.
Divide	Ho un'idea!	16. Si applica			16. E' un progetto che si può fare grande?
		17. Mhm... non credo	18. Grande come fatti' abbato!		21. Perché non si può fare grande secondo noi?
		20. Dovremmo prendere una scala			23. Perché è troppo difficile? Provi a dirmi secondo te, perché è la cosa più difficile?
		21. Ah, è un po' troppo difficile			25. L'abbato è la cosa più difficile? E la Scala ve la trovo
		24. fare l'abbato più, non distruggiamo la scala che abbiamo fin la			27. Una scala? Vi piace molto? Vi piace di più di tutti è possibile!
		26. Parole da non è alta sicci metri			29. Cosa dovete guardare adesso con la scala?
		28. ... sempre abbato è vecchio le pieno di rovine	28. Io sono una scimmia ma non so arrampicarmi.		31. Una scale pratici dillo se è difficile fare l'abbato. Una due cartelle e non arrampicarsi. E' difficile? Com'è?
		30. Potremmo vedere se è molto alto	31. Li.		33. E l'abbato come avevamo?
		32. un po' grosso			35. Una ha detto da partire abbato deve essere molto grosso... con cosa vole dire prote?
		36. Molto grosso	32. Io so io, lo so io		37. Feno?
		38. Dove essere un buon enorme!			

PANTE: 64 MISURA 1. GIORDANO 15 MAGGIO

Isabella's notes (translated and typed on the computer)

Martina	Caterina	Luca	Ferruccio	Laura	Isabella
	2 Nice!	1 Lodi did this one... It looks like a fish.  4 (talking to himself) Here's a ladder...			3 Ferro, Luca, Caterina, Martina...  5 Do you remember what we did?  7 Apart from that, let's take a look... There were our two trees... the big tree...
		8 It's our little itsy bitsy...	6 We put a man here, sitting on the bridge, a leg came out from this hole...		9 ... and the little one. Why was there this bridge?
		10 Because like this we can put us on it ... some photos	11 No!! We were going to connect them!		12 Right, we connected them.
		13 Caterina said we could attach the two branches; that way they could be friends.	12 It made a hug.		14 Okay. It could be a project we could do.
		15 No, I don't remember it like that.	16 Yes, we can really make them hug.		17 Is it a project that can be done big?
20. Davide's not here.	19 I have an idea!	18 Hmm... I don't think so.	20 As big as that tree!		21 Why can't it be done big, do you think?
		20 We'll have to get a ladder.			23 Why is it too hard? What do you think the hardest thing is?
		22 Well, it's sort of too hard.			25 Is the hug the hardest thing? I can find a ladder for you.
		24 To make the hug here, we don't have a ladder that goes that high up.		27 Do you need a ladder?	27 A ladder? Ten meters! We'll show you that everything is possible!...
		26 As long as it's not ten meters high!	28 I'm a monkey who doesn't know how to climb.		31 What do you have to look at now with the ladder?
		29 This tree is old and it's full of spider webs.	31 There.	30 Where do we put the ladder?	33 Luca's climbing up because he said it's hard to make the hug. Luca has to check and not just climb up. Is it hard? What's it like?
		32 We have to see if it's really tall.			35 Is the hug like it should be?
		34 Kind of big.			38 Luca said that this hug has to be really big... what does it mean to be "big"?
		36 Real big!	37 I know, I know how!		
		39 It has to be a huge hole!			

Bridge: Measurement on the first day (May 15)

Critical notes and interpretations  
by Laura and Vea  
on the first page of Isabella's observations

Preliminary note

The context is missing: Where are the children?  
What are they doing?

- 1 What looks like a fish? The element is missing.
- 3 Good to repeat the names of the group members: it makes them feel like individuals in a group.
- 8 Appreciate the interventions that recall and communicate the important meaning (the metaphor) of the project.
- 10 Idea that gives strength to the group and communicates to everyone who the authors of the project are. Bridge and children are united in the project.
- 11 Underscore again Caterina's initial idea. The children continue to hold onto the meaning of the project. Has the metaphor already been transformed into a structural hypothesis?
- 17 Good question, but introduces a difficult problem in too direct a way. Maybe it could have been formulated like this: "How can we connect these two tree friends with a bridge-hug?" The question recalls the concepts just expressed by the children and, even though it doesn't modify the problem they have to confront, it frames the problem in a less distant and more acceptable way.
- 18 First doubt that emerges in the group about the real construction possibilities.
- 19 What is Caterina's idea? If someone has an idea is it always better to hear what it is?
- 20 Isabella's question gives a pessimistic perspective to Luca's legitimate doubt, and could convince the children that it really is too difficult a project to realize.
- 21 The roles the children have in the group in this phase begin to emerge: Ferruccio, the "possibilist,"
- 22 Luca, the skeptic.
- 23 Good intervention by Isabella.
- 26 Luca's concern about the height appears (then climbing the ladder makes it visible).
- 27 Laura becomes a practical support of the children's indications.
- 30 In this way the ideas don't run the risk of getting dispersed.
- 32 The first measurement hypothesized is by using the body.
- 34 First hypotheses on the dimensions of the embrace (when the bridge
- 36 will be hooked to the large tree).
- 40 Why aren't the two girls getting involved? It's a good idea for the teacher to ask herself this question and look for a way to encourage them to participate without letting their role be characterized by the long time that goes by in silence.

### Visual Essay

It might be of interest to see how we construct the final narrative when photographs or slides are available.

Let's see how the observation chart, once it has been interpreted, is transformed into a narrative in order to share it with others. This narrative will be commented on by the children, families, and our colleagues, and will invite further reflection and interpretation. The visual narrative does not follow the events by means of a series of captions, but progresses via meaningful syntheses.

Although the introduction to the problem of the bridge appears earlier in this text, we feel it may be of interest to the reader to see how the subject is introduced as a whole.

At this point the documentary is still a working tool which requires some photographs that were not taken during the discussion itself; these will be taken later. A broader exchange of ideas with other colleagues and pedagogistas is also needed.



**The Embrace  
Height and Distance**

\* the asterisks indicate slides to be taken

Over the last few years, we have developed the awareness and the custom of leaving a collective work in the school environment. This work contributes to building over time a sort of permanent exhibit of the ideas and competencies of children in relating to the environment. This year the children identified one of the school's two inner courtyards as the project space.

\* slide of inner courtyard taken from the outside looking inside to better show its relation to the school

Immediately on entering this small space,

the children's attention focuses on...

a log that happens to be there.

\* slide of the log

*Poor thing!...* (other comments not heard that lead to): *Let's make a bridge that connects it to the tree!* (and further comments)

The teachers ask the children to try to visualize this initial, wonderful project idea.

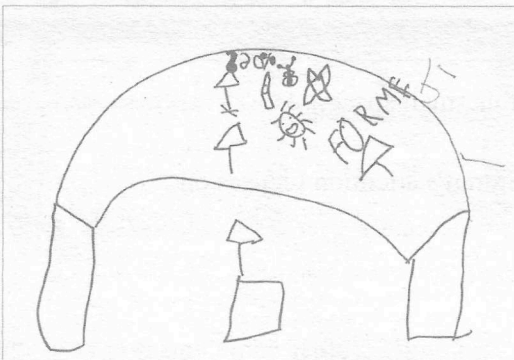


\* slide of some of the preliminary drawings with brief interpretations

Ferruccio's drawing



Caterina's drawing



Luca's drawing

Martina's drawing

**The bridge as a union of vital energy between the living tree and the log represents the principal metaphor of the project. It is necessary always to bear it in mind and use it as the guideline for the entire project path.**

The moment documented here reflects a discussion that lasted about an hour and a half (presented here are only the first fifteen minutes) dealing with the necessary passage from the graphic and plastic models previously produced to the full-scale realization of the bridge.

We anticipated that this passage would lead the children almost inevitably to dealing with problems of measuring. We are always pleased when a project involves a number of very different problems from different domains of knowledge, and when these are dealt with by the children for a good reason.

Although many measuring instruments are available in the classroom, this group of children had never before faced this problem, except perhaps indirectly, and certainly had never used a measuring stick or tape.

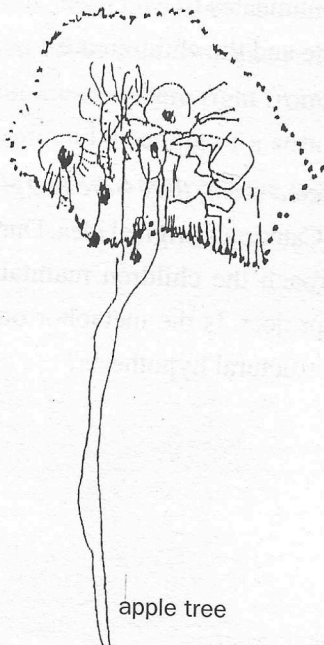
The courtyard as it waits  
for what might happen.



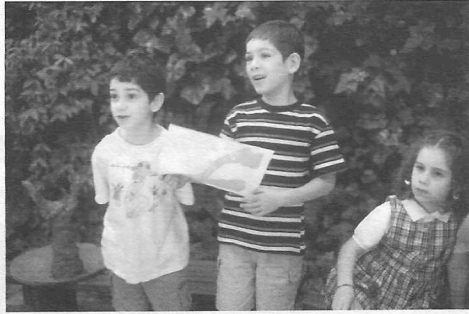
Laura has prepared materials that could  
be used for measuring and has put them  
to one side. There is a wide variety of  
materials, carefully thought out to  
allow for different  
hypotheses and  
experiments.



We will see whether the children realize that  
these materials are there, and if and how they  
use them.



apple tree



As soon as they enter the courtyard, Luca and Ferruccio are drawn to the model of the bridge done on the computer. All four children will repeatedly turn to the models of the bridge they prepared previously (drawings, clay models, computerized models). It is interesting to understand better the conceptual relationships the children manage to construct between the models and the actual bridge, and how they will make use of them.

The children are invited to sit down. Laura and Isabella are present.

Isabella: "Ferruccio, Luca, Caterina, Martina, do you remember what we talked about before? What do we have to do to continue our work and build the bridge?"



By calling each child by name Isabella reconfirms the identity of the individuals in the group, and by asking questions she redirects the children to an ongoing path. Together, she and the children begin to tell their story.

Isabella: "Here are our two trees. A big one..."

Luca: ... *and the little one... Let's put our pictures on them.*

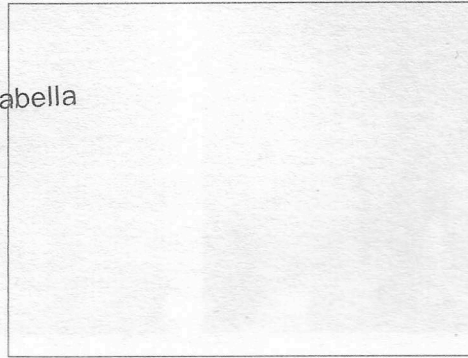
This idea gives the group strength and communicates to everyone who the authors of the project are. The bridge and the children are united in the project.



Ferruccio: *We connected them, they were hugging.* Ferruccio underlines Caterina's original idea. During this entire first approach the children maintain a clear sense of their project. Is the metaphor on its way to becoming a structural hypothesis?

\* close-up of Isabella

Isabella asks: "Could we build this bridge, make it life-size?"



While the question is valid, it does introduce a difficult problem far too directly. Perhaps the question should have been formulated as: How could we connect these two tree-friends with a bridge-hug? This question would thus use the concepts the children had just expressed, and even though it would not change the problem they have to deal with, that problem would be introduced in a way that is in harmony with the children. This would facilitate the passage from metaphor to structural hypothesis.

The idea of an embrace is particularly important because that is what has generated the children's project. The idea emerged spontaneously from their feelings of tenderness and solidarity toward the log. **It is important never to lose the essential sense and meaning of what one is doing. The children's and adults' actions and forms are constructed within this sense of the embrace.**

During the project path the children have intuitions that escape our notice during the "live action" of their work. We glimpse these intuitions only later, when we read and interpret what has taken place. We must not avoid asking ourselves to what extent our not listening to the children's ideas may have led the children away from the problem and even at times disoriented them.

Being quick to listen, however, is by no means simple. We can make it more careful by capturing and reflecting beforehand on the principal concepts, as in this case—where right from the start we captured in the children's words the profound meaning of a structure/bridge that is generated by the solidarity of the embrace between the log and the tree.



Luca: *We should get a ladder... we've got to see if it's really high or not.* Immediately afterward: *Well, it's a little too hard.*

The children's first approach to measuring is physical and puts height and difficulty in relation to each other.

Here Isabella intervenes with a well-pitched question: "Can you try and tell me what's hard about it?"

She helps Luca and the other children articulate and visualize the complex operation they will have to perform. For the moment, the

difficulties are expressed as the need for a ladder and the danger connected to the height. As for the rest, we will see what happens.

Luca: *As long as the ladder isn't ten meters high!*

One of the roles that Luca will have that morning—that of the skeptic—begins to emerge.

Ferruccio, instead, will be the "possibilist", and Caterina will alternate moments of silence with moments when she will single-mindedly support the desire to build the bridge. Martina has the most elusive personality in the group; she is very quiet, almost absent. Her interest will be sparked only during the exploration and discovery of the measuring stick. She will extend and continue developing this interest at home and will question and challenge her father for never having told her about measuring sticks or taught her how to use one.

Are children's roles within the group generally stable or do they change in the course of a project? What other roles do they take on? Do their roles change based on the topic at hand?

We ask ourselves these questions in all situations, not just in this particular case. Although we may have our opinions and impressions on the matter, it is important to continue to verify them in other situations and contexts.

Luca and Ferruccio are constantly playing the protagonist roles, albeit in different ways. Caterina is sometimes attentive, and Martina often seems absent. In these cases the teacher must seek out the reasons and try to get anyone who seems distant more involved. This is not easy. Children have their own personalities and approaches, and it is unfair to constantly hold back someone with an approach like Luca's. What is more, with his intelligent impetuosity, he often contributes to giving direction to the work and carrying it forward. Isabella also tends to rush headlong and is carried away by Luca and by the fear of losing the direction he is giving to the project. She speaks a lot, too much perhaps, but it is not always easy to maintain self-control. Even after many years of experience we still find it hard.



Isabella should have perhaps been more aware of the girls' silences and their expressions. Sometimes we are aware of these things but it is not easy to find a balance that still supports the vitality and creativity of the whole group. We must also accept the fact that there will be alternating moments. If the difficult ones last for some time, however, as in this case, it is necessary to try different ways of involving everyone. Once again, this is not easy to do.

Talking about the size of the embrace (the point where the bridge encircles the tree trunk), Luca defines it as "very big, an enormous hole" and to confirm where the embrace takes place...

(The brief narration that follows comes from another page of Isabella's notes; we include it here in order to complete our account of Luca's thoughts.)



... he turns to the clay model: *That's what it says in the clay.*

The children seem to be aware that the models contain information and memory concerning how to build the bridge. We say "seem" because we will see that at other times the children appear to completely lose sight of the indications the models provide or to no longer consider them important.

The children continue talking about the "hug": Caterina defines it as "enormous," and Martina, who finally speaks, uses a metaphor to describe it—"a belt," she calls it.

Although the discussion with the children lasted an hour and a half, our account here only deals with the way it began. Another discussion is needed to solve the problem of measuring.

After numerous discussions and design variations, the bridge is now under construction.