

What Kind of Space for Living Well in School?

by *Vea Vecchi*



Editor's note: *We are very pleased to be able to include this reprint from Children, spaces, relations. Metaproject for an environment for young children, edited by G. Ceppi and M. Zini, and published by Reggio Children in 1998. The Reggio approach to pedagogy and to the design of spaces for children, begun in the post-World War II years, has achieved international renown. Although it was developed for schools, the design philosophy has been adopted and adapted by other organizations that work with children, including museums. It may be helpful to know the following terms as you read the article:*

Atelier & miniatelier: *activity/workshop spaces in each school.*

Atelierista: *a teacher who plans and creates these spaces in a school.*

Pedagogista: *pedagogical or curriculum coordinator in each school.*

What kind of *school* for living well in a space?

I would like to confront the theme of this book directly by considering the question: What kind of space do children need in order to inhabit a school in the best way? For this purpose, I will make particular reference to the observations and data that resulted from a recent study carried out at the Diana School. I feel that this is the most productive way to make a contribution to those who design schools and those who inhabit them, because children and the way they live in places, build relationships, and learn are not always the primary point of reference guiding the various phases of school design and construction.

Using research as a point of departure is not a random choice: we have always made use of

on-site observation when we wanted to make changes, advance our thinking, and find new harmonies between the environment and a constantly changing culture. A sort of manual that simply reported the projects we have carried out and the choices made up to now would be less useful, I think, for understanding and proceeding with new projects.

Before discussing the results of our recent research, however, I would like to mention a past study (carried out in the early '70s), as it can underscore the close attention paid to the physical space that is common in the infant-toddler centers and preschools of Reggio Emilia, and can also suggest analogous investigations to other schools. The aim of this particular study was to modify the school environment, which we considered to be inadequate with respect to our educational philosophies and methodologies.

Two study groups were organized, each made up of pedagogistas, teachers, and atelieristas. One group discussed the physical space in general and prepared a survey with the help of Tullio Zini, an architect friend. Using this survey, the group examined the different types of space in a number of schools, analyzing and evaluating the movement, functionality, and quality of the ways in which the space was inhabited by the children, the staff, and the parents, observed at different times of the day considered to be representative. In parallel, the second group recorded and reflected on the various activities that took place in the schools and the materials and furnishings.

As with all research, the findings can either end up as inert material or become a source of energy for changing the present and orienting

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Five-year-olds' classroom divided into varying spaces. ©Preschools and Infant-toddler Centers – Istituzione of the Municipality of Reggio Emilia.

the future. In this case, our research provided invaluable material for further study and more in-depth discussion that would give greater awareness and clarity to projects for re-designing the space and foster the development of a “culture of inhabitation”.

As a result, the various school spaces were given new identities, including plans for new furnishings and functions that would be more congruous with the pedagogical project. The traditional common space present in many of our schools, for example, was transformed into a *piazza* that would catalyze many kinds of interesting encounters; the entrance became a metaphorical “calling card”, introducing and providing information about the school and its inhabitants; the service areas (kitchen and bathrooms) acquired the importance they deserved and were metaphorically shifted from the periphery to a central area of the physical plan; the important concepts of relationships and communication were visually reinforced in the transparency of glass walls and the flow of connections between rooms and with the outdoors; and so on and so forth.

When this phase of the study was completed, the two official study groups were dissolved and we continued to work along with the parents of the school advisory councils. Using the results of the research as a reference (a cultural manifesto), each school began to design furnishings, materials, and new contexts which were then constructed by the parents and staff themselves, renewing the interior design of

the schools. It was an extremely interesting cultural, social, and political experience that created in our schools a new culture of the physical environment and greater attention to how it is inhabited, as well as providing orientation for future work. Remodeling projects (such as the Diana school) and new building construction (the Arcobaleno infant-toddler center) offered opportunities for discussing and designing a number of avant-garde solutions in conjunction with the municipality’s technical department.

The Diana school is a good example of these kinds of solutions. Despite the heavy spatial and economic restrictions, our school has been cited as one of the most interesting examples of a “living space” by those who study schools for young children all over the world. In the remodeling project carried out, a number of the ideas that emerged from our research were given concrete form.

In an ongoing dialogue between pedagogistas, teachers, architect friends and municipal technicians, and by means of a low-cost project, several modifications were made to the space. These included the division of the overall classroom space into three more well-defined spaces, some separated by means of glass walls to maintain “communication” and others simply closed off by doors.

One of the new spaces, which we call the “mini-atelier” because it has the same type of materials and offers similar opportunities as the

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central atelier, turned out to be an important change which was gradually made in all the municipal schools. This change not only modified the physical space but also deeply affected the work procedures and organization at the Diana school. And so it was with other ideas and intuitions, which were implemented as soon as the opportunity arose in the various schools.

I mention these examples not just out of nostalgia but because I think they clearly demonstrate how the results of on-site observations are not only a pedagogical resource but can also (or should) provide orientation for didactics as well as school design and architecture.

The research carried out this year at the Diana school with all the children (three to six years old) focused on three particular aspects:

1. How the girls and boys of different ages move in the spaces, what they use them for, what type of relationships the children create in situations in which they organize themselves autonomously in a specific space such as that of our school.
2. How the girls and boys of the various ages perceive and represent the space of the school (inside and outside) using different graphic and plastic media.
3. How the girls and boys, at the various ages, use sensory channels to make contact with reality and develop their cognitive processes.

Without going into the means and methods of the research, I will mention a few of the elements that emerged which I feel are

interesting in terms of their implications for the work of teachers, designers, and architects.

The first finding was a confirmation that children incessantly seek out relationships with their peers. When the children first arrive in the morning, they spend most of the time in small groups (a group of three seems to be the preferred number), trying out relationships, negotiating, exchanging objects brought from home, and planning their games and roles for that day. For these relational exchanges, the older children tend to choose the more remote or secluded areas of the school, occupying all the more “hidden” spaces.



*Three-year old girls playing with colored fabric in the piazza, Diana Municipal Preschool, Reggio Emilia.
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The second finding that emerged was the confirmation, for all ages and for all the children, of the strong attraction of narrative. In different ways and different situations, the children love to weave stories, projecting themselves into imaginary worlds or simulating



The "Triangle of Mirrors" (design by Tullio Zini) that becomes on different occasions: kaleidoscope of self, emporium, house. Diana Municipal Preschool, Reggio Emilia. ©Preschools and Infant-toddler Centers-Istituzione of the Municipality of Reggio Emilia.

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real ones. In this construction of virtual worlds, the characters proposed by the mass media have an important place for both the younger and the older children: Power Rangers and Sailor Moon are currently the most frequently impersonated, for which the children have precise and shared schemas concerning their roles, words, and gestures.

For this kind of play, the youngest children (the three-year-olds) tend to choose areas that

allow a variety of body movements and offer materials that soften the impact of jumping and scuffling. In general, the boys are more nomadic than the girls, who tend to create "places within places".

One example which I think is very interesting is shown in the picture (Page 63), where a group of girls have chosen colorful capes in the dress-up area and laid them on the floor in the large space of the piazza, thereby creating

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a constellation of circumscribed spaces which they then inhabit individually or in pairs. This type of behavior and use of space gives us an interesting indication; i.e. that it is sufficient to have a few elements, in different materials and colors, that can be moved easily in order to symbolically construct different places and enable the children to project themselves into new worlds and relations.

The children also construct stories using the new technologies, often in unusual ways with respect to our adult expectations. For example, the older children often do this when they play a story on CD-ROM where, in quite large groups, one child at a time sits at the keyboard and advances the narration while the others participate in the story by impersonating the various characters, while at the same time “rooting them on” like fans at the football stadium.

One of the newest elements that we found is the use of artificial light for constructing environments and creating settings. The older children control and move certain light sources to define places and construct scenarios and landscapes. As in the previous example with the pieces of fabric laid out on the floor, the beam of light circumscribes a space, creating an environment in which stories can be played out. I will now continue with just a few quick flashes—a series of images—once again from observations made on-site, which I feel could offer some food for thought and considerations to be made when designing interiors for children. When given the opportunity, children do not necessarily use the spaces strictly according to the preconceived purposes of the adults who equip them; in other words, children do not jump only in the movement area, they do not play “house” exclusively

in the home corner, and so on. Children are nomads of the imagination and great manipulators of space: they love to construct, move, and invent situations.

Materials and furnishings, too, are recreated by the children, with their enormous capacity for imaginative projection in play. The children create a variety of relationships with these materials, sometimes using them for the purpose for which they were designed, but other times in ways that are entirely different from the original idea. Whether it is the strength of the suggestions given by the object itself or the desire to play a particular game often creates a dual, coexisting reality.

There are certain areas of the school that have never particularly attracted our attention but which seem to assume special value when occupied autonomously by the children; for example, the thresholds of the various rooms seem to be used as a pausing place, where small groups of children stop off to form relationships; or the outdoor space immediately adjacent to a classroom, which the children frequently transform into a sort of frontier zone that they like to inhabit, sometimes alone. Our observations also confirmed the importance of the floor as one of the most flexible and transformable elements for all the children of the various ages. This large surface area offers endless possibilities. The children crawl across it; use it for cuddling; lie down, sit, run, and slide on it; and cover it with other materials. The floor is an open space, a sort of worksite that can be assembled and disassembled, a blank page that can be drawn on and erased easily.

The place where the floor then turns into a riser with steps is an exceptional presence in

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the environment and frequently inhabited by the children in the same way as the piazza, simultaneously attracting various children involved in very different relational situations: sitting down to converse and exchange their small treasures, having jumping competitions from the different heights, bumping down the steps on their bottoms, or lying on the steps to observe what is happening around them.

Children love to hide in “burrows”, and any area or piece of furniture that enables a hiding place is frequently inhabited. At certain moments of the day, the tables are inhabited more below than above, just as the underneath part of the child-sized chairs set around a table provides an opportunity for slithering along the floor like soldiers in the old war movies.

A final observation has to do with the piazza, the large central space in the school, which is particularly interesting for its social implications. This space seems to be occupied by the children of different ages by means of an implicit negotiation made evident by certain characteristics:

- The total number of occupants seems to be established by self-regulation based on the saturation of the space. During our investigation, this number never exceeded 12 or 13 children.
- The space is managed in groups (never more than 4 children in each) with very different types of play going on. Despite the simultaneous presence of these groups, the tone of voice is never excessively high.

The aspect which most surprised us was the high level of tolerance between the different groups, even when the interferences were particularly strong. We wondered to what extent the normal habit in our schools of

working several hours a day in small groups on different activities, in situations that the children choose themselves, contributed to such an easy-going and civil cohabitation of the common spaces. This would also confirm how the ways and habits of inhabiting the spaces reflect a number of different aspects that are closely interconnected: responses to innate biological needs and desires, personal styles and preference, and the cultural customs and rules of the community in which we live.

These considerations should always be kept in mind when defining general parameters such as the total space available, the number of children present in each class and in the school, and the organization and methods of work. There should also be greater awareness of the fact that the way these choices are made establishes and orients styles of behavior and social relations. This should suggest to all of us the need to use great caution and make thoughtful considerations when making choices regarding children, and the importance of having a deeper understanding of their needs and desires as well as their social and learning strategies. And to place first and foremost the children’s right to grow and learn with joy.

I would conclude this part of my reflections with one indication given to us by the children themselves: the need for a space for resting and recharging their energies. One of the three spaces of the classroom, the more remote one, is often kept by the children in low light, and the teachers have the impression that in certain moments of the day this space becomes a sort of shelter to which the children go to “cool out” for a while when there is a saturation of relations: a sort of battery recharge that enables them to renew their energy and then return to the fray.

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During the long day at school, children dedicate most of their time and energies to the network of different relations taking place. We should be aware that class groups of 25 children in a school body of 75 children and 11 adults (like that of the Diana school and many others) is an incredibly exciting community and important for the intellectual and social growth of the children, but it is also a reality that is not always easy and in certain moments may even be exhausting.

To support and give substance to all the interchanges involved in this kind of community, the relationships should take place in different contexts and situations—play, work, discussion—and in solving problems that are as diverse as possible. Moreover, all this should unfold in a social climate of sharing and participation, where the children's self-organizational abilities and personal strategies encounter didactic processes and methods that enhance these potentials rather than standardizing or repressing them.

It could also be useful to remember how the spaces, the furnishings, and the materials available are not only extremely important in themselves, but often provide further suggestions and stimuli. For this reason, we examine the spaces of the school every year and decide what needs to be changed in the search for greater harmony with our pedagogical philosophies and methods, which also change in relation to changing cultural and organizational needs.

Each year, often with the help of the parents, we repaint some of the walls and the furniture most in need. Maintenance of the physical space is an important culture to be developed and should be an integral part of any civil

inhabitation. Children have the right to grow in places that are well maintained and pleasant, and schools cannot be exempt from this responsibility. Attention to the aesthetic dimension is a pedagogical practice that provides excellent results, given that the search for beauty, in the fullest sense, is part of the autonomous thinking processes of children as well as adults.



Central piazza of the Diana Municipal Preschool, Reggio Emilia. ©Preschools and Infant-toddler Centers –Istituzione of the Municipality of Reggio Emilia.

We have recently conducted other studies on the sensory perceptions of the children and the relationship of these perceptions with the environment. The latest neurobiological research continues to confirm, through increasingly reliable trials, that the brain of a newborn baby does not develop according to a pre-established program, underscoring how environmental experience deeply affects the formation of the intelligence.

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Narrating with light, Diana Municipal Preschool, Reggio Emilia. ©Preschools and Infant-toddler Centers—Istituzione of the Municipality of Reggio Emilia.

In reality, each of us is an alchemic mix of inherited genes and environmental experiences, projects, choices, and chance events. It is through the interaction of all the parts that the brain takes shape, in an absolutely personal and unrepeatable way. In order to grow and learn, the human brain needs to be stimulated by sensory experiences that take place within a rich and varied environment. In the first months and years of life, a child needs to see, touch, hear, taste, and smell, to play, explore, and experiment, and above all, to feel loved. In order to create a truly appropriate type of school environment for children, it would be sufficient to keep these simple concepts clearly in mind.

When we work with children, discussing events or recalling to memory their past experiences, we often highlight the sensory elements, to help them remember the sounds, smells, light, tactile and bodily sensations, and tastes, in the awareness of how important this perceptual information is for constructing a complex mental image, a more stable memory, more complete learning, and richer connections and references.

In these “surveys” on reality, we try to avoid simplified contrasts of perceptions and sensations: light and shadow are not white and black, and the many reflections of light and shadow can be best represented by the range of whites and blacks. In the same way, contrasting sensations such as soft and hard actually offer a greater range of tactile evocations as well as words to evaluate them. Our research with children is directed toward the many perceptual nuances that are part of any attentive exploration of the senses, because of the highly subjective, personal component of every sensory perception and also so that the process of knowledge acquisition is as rich as possible.

Previous experience and specific activities carried out have made us conscious of how highly refined children’s sensory perceptions are when they are given the opportunity to explore and express them. The problem is that our culture generally views the use of multiple senses as a marginal aspect of learning and relating to reality, with the consequent risk of underestimating the extraordinary sensory apparatus that all humans possess. Nor is this aspect generally taken into

consideration in the design and construction of scholastic environments: the materials, light, color, acoustics, and microclimate are often homogeneous and inattentive, corresponding more to aspects considered to be “functional.”(But functional for whom?)

The environments we inhabit should be more in tune with and attentive to our biological abilities, in the awareness that nourishing sensory perception means giving our brain the possibility to grow better. Until there is greater general awareness in this regard, we as educators can work on a number of interrelated areas: paying more attention in everyday life to all the sensory perceptions; investigating the way in which children use their senses for gathering information and interacting with reality; and allowing children to express and develop these perceptions by providing environmental and educational contexts that are as varied as possible and in harmony with the way children autonomously use and express these perceptions.

The research we carried out this year began with a series of questions: Are there different perceptual modulations from 3 to 6 years old? And if so, what type? Are there similarities and differences between girls and boys? And if so, which ones? Can we find constants in the strategies of sensory exploration among children who have similar personalities? In what proportion do the characteristics of the perceptual source and the individual response determine the perception itself?

All this keeping in mind that in every sensory perception there is a part governed by biological memory, another part determined by the cultural environment and the generation to

which one belongs (this takes place very early and is already clearly visible in infants and toddlers), and another part linked to personal stories and perceptions. Though we know that a sensory perception is never isolated, and that perceptions and sensations are constructed by way of many interweavings, it is also true that a refined and highly developed sense can more easily gather information from the other senses and provide them, in turn, with much information, in a synergetic creative elaboration. For this reason, we also organize activities with the children that are specifically based on tactile perception, olfactory perception, and so on, though keeping in mind that the element of focus is part of a complex whole.

The data resulting from both our recent research and past studies on the various elements examined (the perception and use of chromatic, tactile, olfactory, acoustic, microclimatic, and communicative elements) have been organized into summary charts and reports in collaboration with the designers and architects of Domus Academy, providing material for the reflections included in the second part of this book regarding indications for designing spaces for children.

Therefore, I would just briefly mention a project currently in progress that seems particularly interesting and in harmony with our study of the physical space. We proposed to the older children (as we had already done other times in the past) to go through the various spaces of the school at different times of day and in different atmospheric conditions (sunny, cloudy, rainy) to create a “map” of the school by means of a number of sensory “paths”, in this case light, smell, and sound.

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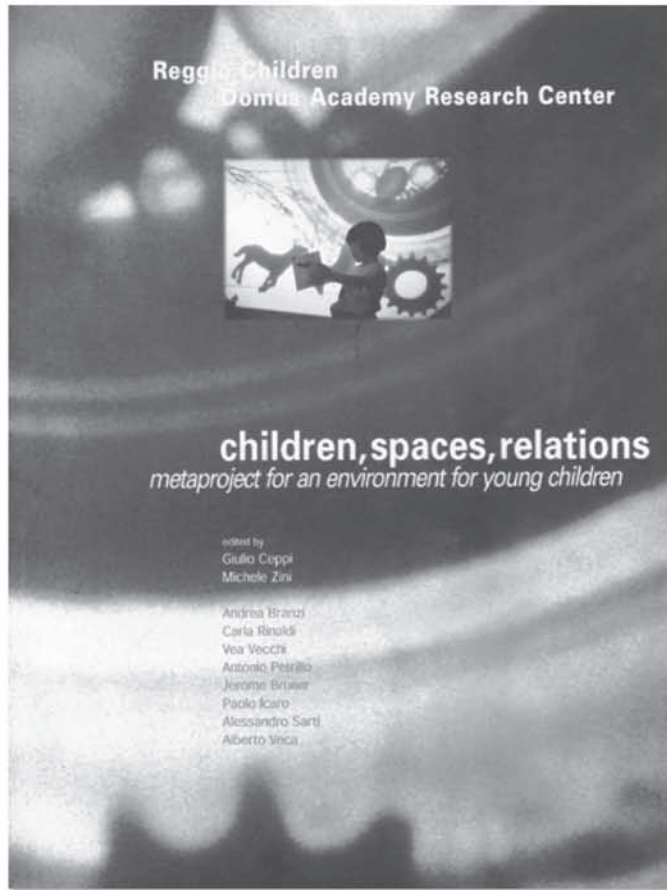
The children moved around the school, noting the qualities of the light, smells, and sounds in the various spaces, and then discussing them, defining them verbally and representing them symbolically. With light, for example, the children first divided it into categories of sunlight and “light that you switch on” (natural and artificial light), and then they proceeded to qualify the light in relation to a sunny day: “a mountain of light,” “medium light,” “not much light,” and a cloudy day: “gray light.” They then represented the various luminous conditions graphically, with great competence and symbolic sensitivity.

On the wall or windows of each space of the school, we now have symbolic graphic representations provided by the children as a memory and definition of that space’s qualities of light, sound, and smell at three different times of day. Here, the children soon discovered

constants and variables. The collection of different kinds of light, smells, and sounds throughout the school, placed in a sort of catalogue with suitable symbols, is a clear testimony to children’s potential in dialoguing with a sensory material.

Those who design spaces in which children will spend many hours a day, at an age in which the brain, the body, and the feelings are so extraordinarily reactive and undergoing rapid formation, must be aware of the possibilities that the space offers the children for expressing and developing all their genetic equipment, as well as the restrictions created by the space and that which it denies.

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**Reggio Children & Domus Academy
Research Center**

Children, spaces, relations. Metaproject for an environment for young children

The Municipal Infant-toddler Centers and Preschools of Reggio Emilia, internationally recognized as an experience of particular cultural interest, constitute a model of “relational space” dedicated to young children. As part of a range of activities organized to further develop and promote this educational experience, Reggio Children has initiated a line of research in conjunction with Domus Academy (Milan) on designing spaces for young children. The research focuses on the underlying philosophy of the Reggio Emilia Preschools in terms of the school environment, providing information and thoughts on the quality of the environment as a point of reference for architects, designers and educators in designing schools. This book presents a critical analysis of the cumulative experience of the Municipal early childhood system of Reggio Emilia, reflections on the tools of design, with indications regarding both the distribution of space and the “soft qualities”, essays discussing the pedagogical and architecture/design issues that form the theoretical basis of the research.

For further information: www.reggiochildren.it