



Vol. 4 (3), Diciembre 2015, 117-136

ISSN: 2255-0666

Fecha de recepción: 07-05-2014

Fecha de aceptación: 11-12-2015

The construction of environments for learning graphic-pictorial skills. An empirical research in two Italian infant-toddler centres.

La construcción de ambientes para el aprendizaje de habilidades gráfico-pictóricas. Una investigación empírica en dos institutos italianos del primer ciclo de educación infantil.

**Ermanno Mazza
Elena Luciano
Massimo Marcuccio**
Italia

**Ermanno Mazza
Elena Luciano
Massimo Marcuccio**
Italia

Abstract

The article presents some results from an exploratory empirical research carried out in two public infant-toddler centres in northern Italy in order to understand which contextual conditions can favour the development of graphic and pictorial competence in children. Within a socio-cultural and socio-constructivist theoretical framework, the graphic-pictorial activities proposed to 31 children aged 24–36 months have been investigated from a pedagogical perspective, giving priority to the analysis of the group process of the children who scribble and to the context where it takes place.

Resumen

El artículo presenta algunos resultados de un estudio empírico exploratorio realizado en dos institutos del primer ciclo de educación infantil en el norte de Italia con el fin de comprender cuáles condiciones contextuales puedan favorecer el desarrollo de la competencia gráfico-pictórica de los niños. Dentro de un marco teórico de tipo socio-cultural y socio-constructivista, han sido objeto de la investigación, en una perspectiva pedagógica, las actividades gráfico-pictóricas propuestas a 31 niños de 24-36 meses, favoreciendo el análisis del proceso del niño que garabatea en grupo y del

We made 14 video recordings of children's group activities guided by an educator. The children's graphic-pictorial drawings were collected too. Video recordings were subsequently used to conduct a video-stimulated interview with the seven educators involved. The analysis of the video recordings led to the identification of five main content areas (the group's contagious imitation and "resonance"; the child's attribution of meaning to his/her drawings and the verbalization of the adult; children's play and exploration during the drawing activity; the communication between adults and children and the teacher's verbal behaviour; conclusion of drawing and graphic-pictorial activities). This paper aims at presenting the first two areas. The analysis of the educators' beliefs allowed us to bring out, in particular, the relevance of beliefs about the "spontaneity" of the child's behaviour and the educational practice adopted in relation to it. In the light of the research results, some areas of intervention for teachers' professional development have been identified.

Keywords: Early childhood education, Art education, Empirical research, Curriculum development, Teachers' attitudes, Beliefs, Teachers' professional development.

contexto en el que se desarrolla su acción. Han sido realizadas las grabaciones vídeo de 14 actividades propuestas a los grupos de niños acompañados por una educadora. Al final de las actividades han sido recogidos los trabajos. Las grabaciones vídeo han sido posteriormente utilizadas para conducir una entrevista, con estímulo vídeo, dirigida a siete educadoras implicadas. El análisis del proceso de producción de los trabajos gráfico-pictóricos, condujo a la identificación de cinco principales áreas de interacción de las diferentes variables (contagio imitativo y "resonancia" de grupo; atribución de significado a los garabatos por parte del niño y conducta verbal del adulto; juego y exploración de los niños; comunicación entre adultos y niños y conducta verbal de la educadora; conclusión del dibujo y de la actividad) de las cuales las primeras dos se ilustran aquí. El análisis de las convicciones de las educadoras han consentido en cambio de hacer sobresalir, en particular, la relevancia de las convicciones sobre la "espontaneidad" de la conducta del niño y sobre la práctica educativa que se tiene que utilizar en relación con esa. En las conclusiones se ipotizan, a la luz de los resultados de la investigación, algunas áreas de intervención para la formación de las educadoras.

Palabras clave: Educación de la primera fase de la infancia, Educación artística, Investigación empírica, Desarrollo curricular, Actitudes de los profesores, Convicciones de los profesores, Desarrollo profesional de los profesores.

Graphic-pictorial activities at the preschool age: themes and issues

The research project presented herein is based on the idea of exploring children who are drawing at the infant-toddler centre – as opposed to exploring the children's drawings – and understanding what environmental conditions could promote children's exploration as well as their graphic-pictorial skill level. In particular, attention is focused on the older children at the infant-toddler centre, ranging from 24 to 36 months old, those children who are generally engaged in scribbling. In Italy these children are the protagonists – in the scope of an ever more articulated educational system for children from 0 to 6 years old – of specific early educational experiences, a topic of debate to which the research has nevertheless only dedicated partial attention.

This project therefore does not set forth new interpretive hypotheses on children's drawings, for which ample literature is already available (e.g., Vass, 2012).

Infantile drawing and graphic representation have already been the object of study in numerous fields starting from the nineteenth century. The perspectives for the analysis of these drawings have diversified in several directions, from clinical-therapeutic to developmental stage studies and finally to the aesthetic-perceptual perspective, in each case highlighting emotional, developmental, cognitive and linguistic aspects.

Specific research on the genesis and development of graphic-pictorial skills in children from 0 to 3 years old has been carried out in this context. And from this analytical perspective, primarily stage-based, the first graphic manifestations – or scribbles – were long considered only to be neuromuscular preparation for subsequent figurative manifestations (Lowenfeld, 1947; Luquet, 1927; Read, 1958).

Most scholars who have studied spontaneous drawing have considered this age period to be a preparatory stage, a sort of necessary practice phase leading to “something more” (the first figurative schemas). Some have accentuated the progressive attainment of various movements and fine motor skills implicated in the various types of marks; there are also those who have given greater emphasis to the link between muscular movements and visual feedback resulting from the development of marks and shapes; others have placed more attention on the emotional and expressive aspects of gestures, and there are also those who have considered scribbling to be an occasion for encouraging a child to tell his/her story, an instrument for revealing the child's experiences for possible discussion.

Only later, the studies conducted by Kellogg (1969) and Winnicott (1971), though based on totally different theoretical perspectives, attributed more complex significance to the development of children's skills in the use of graphic-pictorial and plastic media. In particular, Rhoda Kellogg (1969), who did not hide her links to the theories of Rudolph Arnheim (1954, 1966), presented more analytical reflections on the first scribbles made by children in the preschool age, considering these the outcome of a specific developmental stage and not only as a necessary prelude to the appearance of the first recognizable figures, the first representational “schemas”.

The same stage-based perspective, in light of studies on visual perception and neuroscience, was profoundly criticized for its tendency to decontextualize the images produced by children with respect to the environmental situations that made them possible and therefore developed in a social-constructivist perspective (Vygotsky, Bruner, Arnheim), reassessing the educational significance of the relationship between child and adult (teacher and parent) as well as the relationship between peers (Clark, 2012). Some research focused on these topics has concentrated on the importance of encouraging communicative behaviours and attitudes from the adult to facilitate children's graphic expressiveness as well as the importance of graphic activities in stimulating verbal expression (Ballo et al., 1981; Ring, 2006; Scott Frisch, 2006; Sartori, 2009; Papandreou, 2014).

Furthermore, these same studies carried out from a sociocultural and constructivist point of view indicated the “ingenuous” convictions of teachers about art and art education (Rose et al., 2006; Probine, 2014). It seems that many teachers still make it a priority to focus attention on the final product as opposed to the artistic

process (Pearson, 2001), a fact which is in contrast to research that emphasizes how teachers who continue their professional training focused on the development of the preschool age child are better prepared for promoting the children's development (Ackerman, 2005; Bueno, Darling-Hammond, & Gonzales, 2010; Howes et al., 2000).

Another educational context that has been reinterpreted in light of a sociocultural and social-constructivist perspective is the assessment of child development, primarily highlighting the need to consider the level reached in spontaneous drawing activities as well as that reached in supported drawing activities (Boyatzis, 2000; Pinto, Accorti Gamannossia, & Cameron C.A., 2011).

The field of research on the art education curriculum also includes studies focused on justifying the introduction of art education into educational paths (Anning, 1999; Efland, 1990; Vecchi, 2001; Clark, Grey, Terreni, 2013) and on analysing teaching models that incorporate art activities and production (Mazza, 1996, 2001; Pizzo Russo, 1988; Vecchi, 2010). In drafting a curriculum – and therefore specific proposals for graphic activities for children from 24–36 months old – the observations put forth by Mazza (2001) are important, as they emphasize the relevance of motivation supported by curiosity (Berlyne, 1960), perception of competence (White, 1959) and a theory of action in which the mental and functional processes are organized in an integrated manner (Miller et al., 1960; Mazza, 1985). Other studies, in the wake of the standards-based movement, have also offered some proposals in Anglophone contexts for possible specific curricula designed for children in the 2–3 year age range. Finally, the most appropriate methodological perspectives for identifying the diverse aspects involved in art education seem to be observational in nature (Musatti, 1980; Musatti & Mantovani, 1987; Eisner, 2007), though not excluding experimental type perspectives (Matthews, 1999).

In light of these theoretical references, our exploratory research examined the graphic-pictorial activities proposed to children 24 to 36 months old in public infant-toddler centres in northern Italy, with a focus on the child who scribbles and the context in which the activity takes place instead of the actual marks drawn on paper.

The investigation developed starting from some assumptions about the research context: 1) currently in Italian early childhood services the characteristics of the development and potential of children from 24 to 36 months old are not always opportunely acknowledged and appreciated by teachers and parents alike, and consequently the educational activities offered to these children are not designed appropriately; 2) often these activities do not seem to be accompanied by the awareness that drawing and other types of art production using plastic materials are actually a form of expression and knowledge for the child: the child explores and gets to know himself, art and the world through art activities, communicating his own expressiveness, offering those adults who are capable of observing the child and curious to know him an important opportunity for promoting the child's methods of learning and exploring, his potentials and talents, wary of any forms of spontaneity; 3) priority is given to analysis of "finished drawings" considered to be the outcome of the child's natural "spontaneity" and original creativity, which would lend less significance to the external environment.

We also deemed it necessary to collect, document and study the drawings of the children involved in the research as a conclusive result of a process – the primary object of the investigative research – as well as in relation to all of the "lines",

“diagrams”, “combines” and “aggregates” indicated by Kellogg (1969) that were found and confirmed, as well as their spatial “arrangement” within the support in which they were processed. It was also important for us to question if in the child, as in the adult, the personal richness of each individual is not also the result of the metabolism of contacts, stimuli and suggestions coming from interactions with the group and the environmental context in general. As this pertains to the role and influence of teachers, it strongly reiterates the problem of the quality of their presence and interventions, which certainly cannot coincide with their progressive withdrawal to leave more space for children’s autonomous original creativity.

The perspective chosen for the research is particularly important in the pedagogical field for its diagnostic value as well as planning use¹. And in this sense analysing executive processes is decisive for driving the investigation towards comprehension of children’s artwork and their artistic exploration, on the one hand, and educational intentions and planning by adults in the scholastic environment on the other.

Field of investigation, objectives, methodology, stages and subjects involved in the research

The general issue that we investigated is as follows: In the context of public infant-toddler centres in a northern Italian municipality, what are the “pedagogical conditions” that govern the planning and implementation of educational interventions in the graphic-pictorial context currently in use with children in the 24 to 36-month-old age group? Specifically, the research questions were: What and how do children learn during the drawing activities proposed at the infant-toddler centre? What explicit and implicit curriculum is followed to favour learning of graphic-pictorial skills? What teaching methods are implemented by the teachers? What educational relationship is established by the teachers with the children to reach this objective? In what way does the adult-child relationship on the one hand and the child-child relationship on the other influence learning in the children involved in drawing activities at the infant-toddler centre? What are the convictions of the teachers that influence the process and the results of the children’s graphic-pictorial activities?

The general objective of the exploratory-descriptive research is therefore to reconstruct the framework of the primary dimensions and pedagogical aspects present in the graphic-pictorial education experience. The specific objectives interconnected with this are: to describe the curriculum, explicit and implicit, for the graphic-pictorial education projects; to identify the specific developmental and educational needs of the children identified by the teachers for implementation of educational interventions; to identify the educational practices and relational methods put into place by the teachers for the children and those promoted among the children; to identify if and how the adult-child relationship on the one hand and the relationship among peers on the other influence the creation of the children’s drawings; to reconstruct the articulation of the teachers’ pedagogical convictions related to graphic-pictorial education in early childhood².

¹ It should be noted here that the perspective used for the investigation relative to executive processes is also present in the semiologic art field. See, for example, the essay on the poetry of René Passeron in the book by Calabrese (1980).

² The research also had the objective of investigating the methodological aspects relative to the data collection and analysis phase. In particular, the efficacy of the interviewing technique using video stimulated recall. This aspect of the

The theoretical perspective that we chose for the research is systematic/process-based, situated and pedagogical/didactic. We embraced a holistic view of educational activities, trying to identify the interaction between subjects involved (teacher/children; child/child), personal dimensions (cognitive, social-emotional and corporal), cultural resources and materials at certain moments in the school day' in the centre specifically dedicated to the promotion of graphic-pictorial skills. We also carried out analyses of the complexity of situated educational experiences based on an analysis of the educational-didactic process through which the children produce works that are analysed from a morphological-structural standpoint. In this model of reference the child's work is conceived as the result of plural aspects that overlap with one another during the process developmental of the situated educational experience.

The investigation was conducted in two public infant-toddler centres in northern Italy and involved 31 children in the age range 24 to 36 months subdivided into five groups of 4–6 children each. In fact, in this age group the drawings produced are recognizable and more appropriate for investigation, in particular with respect to the processes through which they are constructed and developed.

There were seven teachers involved in the project. In the first infant-toddler centre, one teacher worked with the same group of children from one class for three sessions, while the other three teachers worked with a second group, coming from another class, one session each. In the second infant-toddler centre, two teachers worked with their own groups of children for three sessions, and a third teacher worked with a third group for two sessions. The children at this infant-toddler centre came from the same class.

The data was collected based on a qualitative approach for the purpose of the investigative goals, specific objectives and the object of the investigation. The different aspects of the graphic-pictorial education sessions were documented using video recordings without the presence of a researcher. The activities were carried out in an environment specifically arranged for graphic-pictorial activities. In the first infant-toddler centre, the studio was set up inside a closed room. In the second infant-toddler centre, the studio was set up in an open space. The sessions were carried out according to the infant-toddler centre schedules from 10:30 a.m. to 11:30 a.m.

We used an openEyA (*Enhance your Audience*) (<http://www.openeya.org/openeya/>) software system suitable for the demands of the research project with a Linux-based automated lecture capture system originally created for recording university lectures³. The software was loaded onto a notebook computer and permitted simultaneous synchronized management of a webcam, panoramic microphone and a camera programmed to take photographs every 15 seconds. All three instruments were camouflaged to make sure that the children did not see them. Fourteen drawing sessions with an average duration of 26 minutes and 15 seconds were recorded for a

research, however, is not examined in this paper.

³ This system was selected for the following reasons: 1) it is an open system and therefore freely accessible while still guaranteeing quality of data appropriate for the research objectives; 2) it is easy to transport from one setting to another; 3) it does not require the recorded subjects to wear a microphone; 4) it permits display of synchronized output (video, audio and images) in only a few minutes, automatic synchronization without requiring an intervention by a technician; 5) in the reproduction phase, the details in the high definition photographs can be enlarged; 6) videos and photographs can be downloaded singularly for subsequent individual analysis; 7) the cost of the hardware is relatively low.

total of 6 hours, 7 minutes and 36 seconds. More than 1400 photographs were taken.

At the conclusion of the sessions, we collected the children's "finished" drawings, which included the children's names and the names of their teachers. In total, we collected 100 drawings on A3 size sheets of paper, of which 63 were analysed.

During the second stage, the teachers were interviewed using the *video stimulated recall* technique to gather their pedagogical insights regarding the children's learning, drawing, relationships among peers and their own roles. Each teacher was invited to watch the sessions with the possibility of interrupting at any time. The semi-structured interview was developed in three stages: presentation of contextual elements of the session and the particular situations of the children; viewing of the video and open comments; guided in-depth discussion with points of view about the experience. The interviews were carried out according to a non-directive approach, giving preference to the mirror interview technique (Lumbelli, 1981; Mantovani, 1998). The seven interviews were audio recorded and lasted an average of 42 minutes and 17 seconds for a total of 4h 56'. We collected the video recordings of the sessions, the audio recordings of the interviews and the drawings after having asked for and obtained informed consent from the children's parents and the teachers.

We carried out the data analysis in two different directions using two distinct databases: the first was designed to reconstruct the interaction of the different variables during the production process of the drawings during the sessions and the emergence of specific dynamics; the second was designed to manage the articulation of the teachers' pedagogical beliefs.

The video recordings of the sessions constituted the common frame of reference for both analysis paradigms. They were analysed and subsequently encoded using a bottom-up procedure. In particular, the following aspects of the child were analysed: needs (exploration, play, creativity); familiarity with means of expression; skills (perception of shapes and colours, language, motor control and expressiveness); verbal and corporal interactions with other children (imitation, collaboration/competition, interference) and with the teacher. In regard to the materials, special attention was given to the tool (coloured pencils, wax crayons, coloured markers) and the use of supports (paper). The analysis of the verbal and non-verbal behaviour of the teachers was focused primarily on the organization of the setting, the instructions, questions and suggestions given to the children and comments on the activities and the children's work. To carry out a more detailed analysis on the verbal interactions between the children and between the children and teachers, the communication exchanges were transcribed on a computerized support.

To reconstruct the entire process of the sessions, the children's drawings (all the drawings on paper) were analysed as the result of a process using a specific analysis chart following the Kellogg classification criteria (1969) through the reconstruction of the main process stages using sequences of the photographs.

The analysis of the video recordings together with the analysis of the topics covered in the transcriptions of the verbal interactions and the interviews with the teachers, in this case also carried out through inductive encoding a posteriori (Krippendorff, 2004) using Hyperresearch software, constituted the database for deducing the teachers' beliefs.

Data analysis. Analysis of the graphic-pictorial production process

The analysis of the data for the reconstruction of the production process of the drawings in the educational sessions and the emergence of specific dynamics rooted in the context led to the identification of five primary content areas:

- the group's contagious imitation and "resonance"
- the child's attribution of meaning to his drawings and the verbalization of the adult
- the children's play and exploration during the drawing activity
- communication between adults and children and the teacher's verbal behaviour
- conclusion of the drawing and graphic-pictorial activities

The purpose of this study is not to account for all the areas in an exhaustive manner but to present instead some aspects pertaining to the first two which we consider to be especially relevant'.

The group's contagious imitation and "resonance"

The focus of attention was on the actions of the children during the drawing activity and the conditions in which they made their drawings, permitting identification and analysis of the methods with which the children reciprocally influence not only their own drawings but more so the process of expression, exploration and knowledge. In fact, the videos demonstrate diverse group "contagion" and "resonance" phenomena, which in turn present similar characteristics to the dynamics of imitative learning, already extensively identified and studied by psychologists in animal and human behaviour (Allport, 1937; Harlow *et al.*, 1971; Lorenz, 1965; Piaget, 1945, 1951).

Imitation is not intended in the sense of "copying" the work of classmates – this would not even be possible at this developmental stage in drawing skills – but instead refers to the suggestive influence that each child, through his or her actions and verbalizations, can have on another child over the course of activities. Children reciprocally observe and listen to each other, and this influences their ways of behaving and exploring while using art materials.

This reciprocal influence is also reflected in the drawings of the single children, but in many cases it seems to spread curiosity and exploratory behaviours related to the sensory-muscular, cognitive, technical, relational, emotional and imaginative realms, all of which are the foundations of progressive acquisition of graphic-pictorial skills. It is clear that in this developmental stage the children, in exploring the materials, are trying to understand what these materials are (paper, pencils, pastels, markers ...) and what it is possible to achieve with them, how they can be controlled, how to master them and "bend" them to one's own will.

For example, in one of the videos from the study, one of the children spends some time touching the "dust" left by the coloured pencils on the sheet of paper with his fingertips, dragging it back and forth on the paper: he was evidently still exploring one of the characteristic qualities of the material available to him, regardless of the marks that he had already made or those he would make later. When his experience

is observed by his nearby classmate, this sparks the desire in the second child to also try this new game, representing one of these “contagious” moments which frequently occurred during the video recorded sessions at the two infant-toddler centres.

In relation to how the children use the materials, when one of the children under observation starts to tap the tip of the marker on the paper and make dots, also creating a consistent and obvious “acoustic” rhythm, other children also start to play at the same game⁴. In this case also the chance start of the game by one child instilled the desire in all the other children to try the game on their own.

The study also demonstrated that when no specific instructions were given by the teacher, the choice of materials (crayons or coloured pencils or chalk) and their use was often based on the observation of another child using a material in a certain way, a behaviour accompanied by an explicit invitation to a classmate when the child was being observed: “Look, I’m using this.”

In some videos a child, at first randomly, marks a finger or wrist with the marker and then intentionally does so, leaving marks on his own body. In a short time span the new “tattoo” game spreads through the group of children, reflecting knowledge and curiosity about the most essential art materials: the children discover that using a tool, the marker in this case, they can leave marks not only on paper but also on other surfaces, including the human body and the Formica table. Also, for example, rubbing on the mark left on the Formica table erases the mark, which does not happen on the child's arm or on paper. Other children discover that when using coloured pencils, certain yellow and pink pencils leave marks that are less bright than those left by red or blue pencils, while others draw using three crayons held in the same hand like one large crayon with three tips.

In other cases, the drawing is put aside and the child begins to play by setting the coloured pencils side by side to create a kind of “fence”. Also in this case other children are attracted by this new activity, and they try to imitate it on their own, competing with one another to see who could hold the most pencils.

Ideas and suggestions therefore emerge among the children which can motivate new attempts at creating and new inventive, exploratory, play-related directions based on materials, shapes and colours in both the “actors” and the “observers”. Furthermore, imitation is indicated by Piaget (1951) as a decisive element in the alternating assimilation-accommodation equilibration in the process of learning.

In the aforesaid cases the imitative behaviour of the children also influenced the marks they made, even though only in an indirect manner, but certainly influenced by the desire to repeat behaviours and gestures to obtain specific effects.

These contagious phenomena are probably due largely to the fact that the children are involved in a group learning activity, where they are working together and not individually, observing and contributing to common exploration and co-construction of meaning. In this sense, this being together, just as it elicits empathy and imitational resonance on an emotional, social-relational, muscular and linguistic spectrum, also has similar repercussions in the graphic-pictorial context.

On the other hand, psychological and ethological research, as well as the

⁴ This resulted in a “braking” intervention by the teacher, presumably more interested in preventing the markers with tips that had been pressed inwards from becoming unusable instead of taking a cue from the children's intuition and further enhancing their exploration of artistic materials.

more recent discoveries in the field of neurobiology on mirror neurons, have also demonstrated that merely observing behaviours in other congeneric individuals stimulates new possibilities for learning in puppies and is a fundamental learning method.

Observations of these group “resonances” lead to a new appreciation of the Vygotskian meaning of proximal or potential development. This, if a rethinking of the crucial nature of the role of the adult in education has served us well, without diminishing the active, autonomous and creative role of the child who is learning, can also broaden the possibilities for development motivated by the stimulating and provocative presence of other children in the group.

Therefore if children exhibit behaviours which incite curiosity and imitation in their peers, this phenomenon should not only be observed, documented and understood by teachers, but also given value as an extraordinary resource for individual and cooperative learning (Laroche, 2015). This requires caution and competence in teachers (observation, communication, planning) in the reading of the work and presentations of children, but also in the management and planning of their own interventions. If in fact the teachers are not alert, available and ready to take note of these imitative and resonance dynamics, their ability to understand the processes and products is significantly reduced, and their ability to guide and promote graphic-pictorial exploration is even less effective (Cohn, 2014).

The ability to grasp certain incidents could be refined to the point of transforming these incidents into valuable opportunities for documenting the development of the children’s abilities, their interests and their potentials, in order to offer more specific, useful, well-aimed, encouraging comments and suggestions. This would give value to the opinions and discoveries of the children and draw from them suggestions and ideas for the continuation and calibration of ongoing activities and the planning of future activities..

Attribution of meaning to the doodles by the child and verbalization by the adult

“What is it?” This is perhaps the most common question that the teachers involved in the research had when confronted with the children’s artwork, and it was the same question that they posed insistently to the children.

In all the video-recorded sessions, the questions “What did you make?”, “What is this?” appeared. In some of the videos it is evident that the children do not always have a ready, clear answer for the questions “What is that?”, “What did you make?” In a couple of cases the child does not respond even though the teacher insists. In some situations the child seems embarrassed by having to give an answer because he was simply enjoying the experience of using the available materials to obtain certain effects – “taking the pencil for a walk”, Klee would have said – without the representational intentions hypothesized or expected by an adult. At times the answers produced seem to be more an attempt at making the teacher happy than the description of a true attempt at representation. In this sense, many of the videos documented how the answers imitate the answers previously given by their peers. And so a chorus of monsters, balloons, nests, seas and beaches, etc. suddenly arise.

For example, in one video a little boy said: “I made a balloon,” and in another video, another child answered a direct question from the teacher saying, “This is a monster.” In both cases, immediately afterwards other children in the group attributed the same meaning to their own scribbles or declared that they also wanted to make the same image. In other cases the representational contents (the “what is it?”), even if not recognizable, seem to be connected to previous experiences from stories, songs, family situations, visits to gardens or farms, represented in the artwork of the children sometimes with colours, with certain lines, with memories that function to verbalize the answer to the question, now expected and ritualized, “What is it?”

The teachers’ questions seem to reflect a sort of difficulty the adults have in deciphering the marks made by the child and, when confronted with this difficulty, the questions seem to emphasize the request to the child to explain his intentions or at least provide some suggestions for a possible interpretation of his work. These questions could nevertheless be interpreted by the child as a sign of his limited ability to express himself in an understandable way. And this could be quite discouraging for the child.

But just behind this question there is another problematic issue related to the adult’s expectation that every mark made by the child must be a graphic representation of a thought, idea or feeling about an object, a situation or event. Through the question posed, the adult communicates her expectation that the scribble has a recognizable “graphic translation” with the desire to communicate something, which often is in some way the general objective implicit in the graphic-pictorial activities proposed.

The expectation of “figurative intentionality” overlaps the expectation of *figurative realism* by the adult. In fact, all the adults evidently expect the appearance of the first “little person” or “house” in the children’s drawings so they can celebrate. But figurative realism also presents ambivalences that translate into overlapping didactic objectives that could weaken the differentiation of various activities, not only at the infant-toddler centre but also subsequently. In fact, these figurative manifestations – these “schemas”, according to terminology by Lowenfeld (1947) – do not spring from nowhere, as if they were the result of a sudden leap in maturity. As demonstrated by Kellogg (1969) and Morris (1962), they have their roots in scribbles, in the various marks, in their overlapping and simplifications, requiring slow gestation in muscular, visual, topologic, mental learning, sometimes not adequately taken into account.

The necessary competencies for accurately decoding the images and those that can be promoted to build these competencies are at the base of educational concerns and proposals for graphic-pictorial activities in infant-toddler centres as well as in subsequent schools. Therefore it is understandable that the paradigm of figurative realism – based on “what is it?” – appears as a need in the child to create something that is recognizable and can be shared as well as something that persists in the expectations of most adults, for many of whom this unfortunately remains the only criterion for aesthetic evaluation. An image that is similar to represented reality is a beautiful image. Only what is recognizable is tolerated. There is a need for realism and the expectation of realism: understandable because, in the long-term educational process, these are not the only parameters for reading and producing an image. Figurative realism is not a replica or copy of reality but instead an evocation, a resonant reference, obtained by taking advantage of and using the characteristics of the means implemented (Eisner, 1972).

In light of this, it seems auspicious to expand the questions asked, going beyond only asking, “What is it?” to articulating verbal interventions that accompany the children’s artwork with questions and considerations about the materials, gestures, choice of colours or problems that may have arisen. We witnessed in some of the observed cases an intervention by an adult that was more focused on encouraging the child to talk about his experiences, relationships and emotions, as opposed to only soliciting the “secrets” of the graphic language, which seems inconsistent with educationally connoted graphic-pictorial activity in the infant-toddler centre, that is to say, aimed at reaching specific educational objectives. There is often accompanying verbal interaction that seems oriented towards pursuing general developmental objectives (like eliciting memories of experiences, recalling relationships and emotional bonds, referring to precise cognitive or linguistic elements) as opposed to objectives that are more focused on knowledge and practice of the graphic-pictorial language.

Analysis of teachers’ feedback

Also in relation to the beliefs of the teachers, the purpose of this work is not to present them in a complete manner but instead to present only a few aspects that we consider to be particularly relevant. It should also be noted here that because of the exploratory nature of the research, the objective of the analysis in this specific aspect of educational situations is not so much the identification of transversal constants as the creation of a map, as complete as possible, of the areas of beliefs and their articulations and interconnections, as they can be inferred by the words and behaviours of the group of teachers involved in this study.

A preliminary element – contextual – that emerges from the statements made during the interviews, is the absence of specific preparatory training courses aimed at the development of competencies for managing educational activities that promote children’s graphic-pictorial skills. The few training occasions in which some of the teachers had participated were all part of their in-service training programmes. The rest of their preparation occurred during normal socialization processes at work with the strong influence of experiences they had in their first years as teachers. This shows us that the set of firm beliefs with which the teachers begin teaching is more influenced by the “common” culture than by a critical reflection on it based on the results of scientific research. If we consider this situation in relation to the short amount of time dedicated and the conditions in which, for organizational reasons, in-service training is provided in infant-toddler centres, as well as the medium to long time necessary for changes to the belief systems of the adults to be made, we cannot help but suppose that the possible “ingenuous” beliefs about graphic-pictorial development in children and about art education formed over the passage of time are deeply rooted and persist widely, without the possibility for real change.

Looking in more detail at the beliefs held by the teachers, an interesting area that their words highlight – and which we would like to briefly explore – involves the “spontaneity” of the children’s behaviours and the educational practice that should be adopted in response. The emergence of a belief about “spontaneity” can be seen above all in relation to the statements made by some teachers about the decision of the children to remain involved in or abandon the drawing activities. For example, one of the teachers stated: “I am happy that I tried to wait a moment with the children and I tried to turn the situation around, and I got some responses [...] [if I had not found

myself in the situation of being video recorded] I don't know if I would have waited so long to ask them to come back in; there I have some doubts [...] but I wanted to try and propose something different to the children [...] I don't know if I did the right thing." (E4)⁵

We also find a belief about "spontaneity" "at work" in the words of another teacher (E5), who said when she viewed herself involved in a situation in which two children were drawing on paper for about thirty minutes: "I asked myself: should we continue or should I interrupt them!? Because seeing them [...] I was sorry to interrupt their work [...] It usually never happens, [...] really. They immediately give you signals – either because they tell you or they get tired and sit there without doing anything else or they get up and leave – clear signals that make you understand that they are tired. In this case it left me a bit perplexed [...] I quickly 'liquidated' [...] the tired children; I sent them to the classroom because that's what we usually do, but at the same time I had some difficulty [...] telling them 'that's enough'."

In the first case we see, still on a largely implicit level, the teacher's questioning of her belief about the concept/phenomenon of the child's "spontaneity" at a largely implicit level and the relative educational methods for managing it. The "pressure" of the research situation perceived by the teacher led her, when confronted with a child's behaviour interpreted as the choice/desire to stop drawing, to give the child a new piece of paper and invite the child to continue. In a "normal" situation, she said, she would not have acted that way. The "unexpected" behaviour by the child following the teacher's "new" proposal – he goes back to drawing – surprised the teacher, who quite likely expected the child's refusal to be perpetuated because it was derived from a deliberate "choice", firm and decisive, which the teacher had to respect absolutely so as not to interfere with the child.

In the second case, even though a contrasting situation – the teacher intervenes to interrupt the activity and not to promote an already interrupted activity – we see the teacher in a conflictual situation because of the children's behaviour. Confronted with a clear manifestation of interest and involvement in the drawing process – independent of the reason at the base of it – the teacher's question implicitly reveals that she considers the children's behaviour to be a manifestation to be respected in full so as not to limit them with her own intervention.

It is probable that, as underlined by Eisner (1974), this behaviour is born from the fear of being intrusive and limiting the children's free expression. Nevertheless, without wishing here to investigate the "causes" of the beliefs or to evaluate them, we can certainly affirm that the data analysis demonstrates the presence of a belief – about the absolute value of what spontaneously emerges from the child and that this must be accepted and respected by the teacher – the strength of which seems to have been "weakened" by the children's behaviour itself: upon the simultaneous urging of the teacher, in the first case, but not in the second case.

If our interpretation can be considered valid, it then also has important implications for the methods used for teacher in-service training and how this training can be conducted more effectively.

⁵ In this section of the article, E (educator) followed by a progressive number indicates quotes from the interviews.

C onclusions

The perspective of the research presented here concentrated on the actions of the children involved in drawing activities and the conditions in which they make their drawings. It permitted identification of multiple dynamics, among them the widespread phenomena of group “contagion” and “resonance”, where the actions and words of each child, through listening and reciprocal observation, have an evident suggestive influence – or serve as inspiration and suggestion – on the exploration of other children in the same small group. This reciprocal influence is also reflected in the artistic creations of the single children, but in many cases it seems to spread curiosity and exploratory behaviours related to the sensorial-muscular, cognitive, technical, relational, emotional and imaginative realm, all of which are the foundations of progressive acquisition of artistic skills.

Alongside the diffusion of these imitation and contagion phenomena among peers, interventions by adults who are well-prepared, capable and willing to uncover these imitative dynamics and articulate them through well-aimed verbalizations seem to be less common. In this sense, greater intentionality in the adults in understanding the children’s words, gestures and actions could transform some episodes (a pencil point that breaks, the comment of a child who when using white on white paper says, “This doesn’t write ... should we throw it away?”, a sheet of paper that tears or gets a hole in it, the child who suggests to the child next to him: “But the sea is blue, not purple!”) into valuable opportunities for renewing the educational objectives of the graphic-pictorial activity proposed to the children: for documenting the development of the children’s abilities, their interests and their potentials, for offering comments and suggestions that are more specific, useful, well-aimed, welcoming and able to give value to the opinions and discoveries of the children, as well as for drawing from them ideas for the continuation and calibration of ongoing activities and the planning of future activities.

In particular, the teacher’s verbal intervention could collect the suggestions of the children, encouraging them towards “targeted” explorations of the graphic language, thus articulating their own verbal behaviour far beyond the question, “What is it?” In this way, the children’s interests and curiosity could be not only accommodated but also rebounded back to them – thanks to the intervention of an attentive adult, not invasive but instead present – towards richer, more articulated forms of exploration, respecting the children’s ideas, resources and potentials and consistent with the objectives of the graphic-pictorial project they are involved in. Otherwise, every project risks being dependent on chance, each learning opportunity dangerously abandoned to spontaneity and extemporaneity.

In this regard, the comprehensive data analysis seems to demonstrate that the graphic-pictorial projects proposed in the two infant-toddler centres investigated were guided by “partial” educational objectives or objectives linked largely to general and/or “superficial” and/or “functional/instrumental” aspects. These educational objectives are not always easily recognizable unless they are linked to generic socialization objectives, consequently making it difficult to promote consistent and incisive educational methods specifically designed for the graphic language. In particular, it is difficult to see an orientation of the activity on the part of the teacher towards the

promotion of the children's curious exploration of the cultural area under consideration. Furthermore, the interviews confirm the generic nature of the objectives, in particular in light of the teachers' statements.

On the one hand, in the interviews the "non-interventionist" presence of the teachers is in some cases motivated by the precise intention to "observe as opposed to intervene in the play". On the other hand, the detached and decentralized teaching style seems less concentrated on observing themes and actions related to the graphic-pictorial exploration and more concentrated and insistent on managing conflicts among peers, steering the children towards behaviours considered appropriate and encouraging dialogue among the children about stories and memories connected with what they are drawing. It should nevertheless be taken into consideration that some of the teachers attributed their own verbal behaviour towards the children to the influence of the research situation, making them feel as if they needed to give more visibility to the children involved in the activities under observation.

But often this respect for children's autonomous activity and the specific methods used for some of the teachers' interventions – when implemented – risk being transformed into a solution that leaves the children alone in confronting the world, the world of imagery and the world constructed by them, for which they only essentially possess nascent skills. But must the teacher's intervention be limited to providing an opportunity for these activities, leaving the learning to take place just by attempts? And if the adults are involved in observing and listening to the children, how can they use the data collected to create appropriate environments and learning projects capable of enhancing the originality and creativity of the children and promoting their graphic-pictorial competencies?

The research seems to confirm the enduring misunderstandings and beliefs of the teachers about the "spontaneity" of the children's behaviour and their original, innate creativity that deserve further analysis and investigation.

For example, the generic nature of the objectives of the proposed graphic-pictorial activities seems to be based on the desire to satisfy the demands of the children's parents: to let the children participate in the "messy" activities that are rarely proposed and not very feasible at home, to see their children's "artwork", to see that their child has the same type and number of drawings and "artwork" as the other children. And it seems therefore that the idea persists that promoting the children's interests, resources and potentials (as pertains to graphic-pictorial exploration) means offering them the activities that they like and have the most fun doing. Nevertheless this idea is also accompanied by another idea – more generic than based on drawing out each child's originality – the idea that they will work well with any project that you propose to them.

All this demands reflection on what kind of educational project, what educational relationship with children and what relationship with children's families early childhood education is actually focused on and on the conditions that could transform the children's learning processes in relation to the graphic language into a valuable opportunity to renew the protagonism of the children on the one hand and educational alliances with the families on the other.

Along with this, a decisive investment in developing specific competencies in the teachers for promoting graphic-pictorial skills also seems to be an auspicious

prospect. This could contribute to the professionalism of teachers who are capable of promoting children's learning processes in a single educational area – for example, graphic-pictorial activities – not so much in a sectorial and fragmented sense but instead as part of a precise educational style and a wider educational project.

Finally, a decisive investment in professional training is particularly important. This would make it possible not only to give educational meaning to the planning of graphic-pictorial activities – often improvised rather than planned – but also to construct new ways of exploring shapes, colours, materials and expressive languages. In this way, children and adults (parents and teachers) could participate and become the co-creators of a common and shared educational project that believes in the power of images and of expressiveness, in the face of the depersonalizing and trivializing pressures of images from the mass media that children are subjected to on a daily basis.

References

- Ackerman, D. J. (2005). Getting teachers from here to there. Examining issues related to early care and education teacher policy. *Early Childhood Research & Practice*, 7(1). Retrieved from <http://ecrp.uiuc.edu/v7n1/ackerman.html>
- Allport, G. (1937). *Personality: A psychological interpretation*. New York, Holt, Rinehart, & Winston.
- Anning, A. (1999). Learning to draw and drawing to learn. *Journal of Art and Design Education*, 18(2), 163–172.
- Arnheim, R. (1954). *Art and visual perception. A Psychology of the creative eye*. Berkeley, CA: University of California Press.
- Arnheim, R. (1966). *Toward a psychology of art. Collected essays*. Berkeley, CA: University of California Press.
- Ballo, M., Bertetti, B., Campagna, C., Kraus, A., & Lumbelli, L. (1981). Disegnare parlando e parlare per disegnare. In L. Lumbelli (ed.), *Pedagogia della comunicazione verbale* (pp. 179–213). Milano: Franco Angeli.
- Berlyne, D. E. (1960). *Conflict, arousal and curiosity*. New York, NY: McGraw-Hill.
- Boyatzis, C. J. (2000). The artistic evolution of mommy. A longitudinal case study of symbolic and social processes. In C. J. Boyatzis & M. W. Watson (Eds.). *Symbolic and social constraints on the development of children's artistic style* (pp. 5–30). San Francisco, CA: Jossey-Bass.
- Bueno, M., Darling-Hammond, L., & Gonzales, D. (2010). A matter of degrees. Preparing teachers for the pre-k classroom. Retrieved from http://www.preknow.org/documents/teacherquality_march2010.pdf
- Calabrese, O. (1980). *Semiotica della pittura*. Milano: Il Saggiatore.
- Clark, V. (2012). Art Making as a Political and Ethical Practice. *Canadian Children*, 37(1), 21-26.

- Clark B, Grey A, & Terreni L (eds.) (2013). *Kia Tipu Te Wairua Toi - Fostering the creative spirit: Arts in early childhood education*. Auckland: Pearson New Zealand.
- Cohn N. (2014). Framing “I can’t draw”. The influence of cultural frames on the development of drawing. *Culture & Psychology*, 20(1), 102-117.
- Efland, A. (1990). *A history of art education*. New York, NY: Teachers College Press.
- Eisner, E. W. (1972). *Educating artistic vision*. New York, NY: Macmillan.
- Eisner, E. W. (1974). The mythology of art education. *Curriculum Theory Network*, 4(2/3), 89–100.
- Eisner E. (2007). Assessment and evaluation in education and the arts. In Bresler L. (ed.), *International handbook of research in arts education*. Part one (pp. 423-426). Dordrecht: Springer.
- Harlow, H., Mc Gough, J.L., & Thompson, R.F. (1971). *Psychology*. San Francisco: Albion Publishing Company
- Howes, C., Phillipsen, L. C., & Peisner-Feinberg, E. (2000). The consistency of perceived teacher-child relationships between preschool and kindergarten. *Journal of School Psychology*, 38, 113–132.
- Kellogg, R. (1969). *Analyzing children’s art*. Palo Alto, CA: National Press Books.
- Krippendorff, K. (2004). *Content analysis. An introduction to its methodology*. Thousand Oaks, CA: Sage.
- Laroche G. (2015). Social Learning and Drawing: What Children Learn by Copying the Images of Their Peers. *Art Education*, 68(3), 19-25.
- Lorenz, K. (1965). *Evolution and modification of behavior*. Chicago: University of Chicago Press.
- Lowenfeld, V. (1947). *Creative and mental growth; a textbook on art education*. New York, NY: Macmillan.
- Lumbelli, L. (1981). *Il colloquio non direttivo*. Milano: Franco Angeli.
- Luquet, G.H. (1927). *Le dessin enfantin*. Paris: Delachaux e Niestlè.
- Mantovani, S. (ed.). (1998). *La ricerca sul campo in educazione. I metodi qualitativi*. Milano: Bruno Mondadori.
- Matthews, J. (1999). *The art of childhood and adolescence: The construction of meaning*. Philadelphia: Palmer Press.
- Mazza, E. (1985). La razionalità della tecnica. Contributo per un itinerario didattico-espressivo. *Ricerche pedagogiche*, 76–77.
- Mazza, E. (1996). Indagine sul riconoscimento dello stile e delle qualità espressive di un’opera d’arte. In B. Vertecchi (ed.), *Per una nuova qualità della scuola* (pp. 231–242). Napoli: Tecnodid.
- Mazza, E. (2001). *Incontrare l’immagine. Per sapere e per fare. Prospettive didattiche*. Roma: Anicia.

- Miller, G., Galanter, E., & Pribram K. (1960). *Plans and the structure of behavior*. New York, NY: Holt, Rinehart & Wilson.
- Morris, D. (1962). *The biology of art*. London: Methuen & Co.
- Musatti, T. (ed.). (1980). *L'osservazione dello sviluppo psicologico e della socializzazione del bambino in asilo-nido*. Roma: Istituto di psicologia del CNR.
- Musatti, T. & Mantovani, S. (ed.). (1987). *Bambini al nido: gioco, comunicazione e rapporti affettivi*. Bergamo: Juvenilia.
- Papandreou, M. (2014). Communicating and Thinking Through Drawing Activity in Early Childhood. *Journal of Research in Childhood Education*, 28(1), 85-100.
- Pearson, P. (2001). Toward a theory of children's drawing as social practice. *Studies in Art Education*, 42(4), 348–365.
- Piaget, J. (1945). *La formation du symbole chez l'enfant*. Paris, Neuchâtel: Delachaux et Niestlé.
- Piaget, J. (1951). *Play, dreams, and imitation in childhood*. London: Routledge and Kegan Paul Ltd.
- Pinto G., Accorti Gamannossia B., & Cameron C.A. (2011). From scribbles to meanings: social interaction in different cultures and the emergence of young children's early drawing. *Early Child Development and Care*, 181(4), 425-444.
- Pizzo Russo, L. (1988). *Il disegno infantile. Storia teorie pratiche*. Palermo: Aesthetica.
- Probine, S. (2014). Thinking Through Art—A Self-Study That Explored the Use of Visual Art as a Tool to Examine Pedagogy. Te Iti Kahurangi. School of Education e-Journal, 2. Retrieved from http://edjournal.manukau.ac.nz/__data/assets/pdf_file/0018/172413/Probine_S-staff.pdf
- Read, H. (1958). *Education through art*. New York, NY: Pantheon Books.
- Ring, K. (2006). Supporting young children drawing: developing a role. *International journal of education through art*, 2 (3), 195-209.
- Rose S. E., Jolley R. P., & Burkitt E. (2006). A review of children's, teachers' and parents' influences on children's drawing experience. *Journal of Art and Design Education*, 25(3), 341–349.
- Sartori, P. (2009). I piccolissimi e l'arte. *Infanzia*, 6, 458–465.
- Scott Frisch, N. (2006). Drawing in Preschools: A Didactic Experience. *International Journal of Art & Design Education*. (25(1), 74-85.
- Vass, Z. (2012). A psychological interpretation of drawings and paintings. The SSCA method: A systems analysis approach. Budapest: Alexandra.
- Vecchi, V. (2001). The curiosity to understand. In Reggio Children & Project Zero (eds.), *Making learning visible. Children as individual and group learners* (pp. 158–212). Reggio Emilia: Reggio Children.
- Vecchi V. (2010). *Art and Creativity in Reggio Emilia: Exploring the Role and Potential of Ateliers in Early Childhood Education*. Abingdon, Oxon: Routledge.

White, R. (1959). Motivation reconsidered. The concept of competence. *Psychological Review*, 66, 297–333.

Winnicott, D. W. (1971). *Therapeutic consultation in child psychiatry*. London: Hogarth Press & The Institute of Psycho-Analysis.

Artículo concluido el 6 de mayo de 2015

Mazza, E., Luciano, E. & Marcuccio, M. (2015). The construction of environments for learning graphic-pictorial skills. An empirical research in two Italian infant-toddler centres. *RELAdEI - Revista Latinoamericana de Educación Infantil*, 4 (3), 117-136.

Disponibile en <http://www.reladei.net>

Ermanno Mazza

Department of Classics, Modern Languages, Education, Philosophy

University of Parma

Italia

E-mail: ermanno.mazza@unipr.it



Adjunct Professor. Ermanno Mazza is a researcher of didactics and empirical research in education. He worked at the University of Parma and since his retirement he has continued to cooperate as senior researcher at the same University. In particular, some of the subjects of study are: the methodology of empirical research, art education, comics comprehension, educational dimension of fostering and adoption and didactics.

Elena Luciano

**Department of Classics, Modern Languages, Education, Philosophy
University of Parma
Italia**

E-mail: elena.luciano@unipr.it



Ph.D., Researcher. Elena Luciano has a degree in Letters and a Ph.D. in Education. She is a researcher in General and Social Pedagogy at the University of Parma, where he teaches Early childhood education and Adult Education. She conducts research and training sessions in educational services for children and families, as well as in the hospital setting. In particular, some of the subjects of study, treated with attention to the European context, are: the educational relationship, the relationship between adults in childcare services, documentation and evaluation of learning of children, the children voice and perspectives on their learning, the educational value of the childhood disease, the relationship between educational, social and health.

Massimo Marcuccio

**Department of Education Studies «Giovanni Maria Bertin» - EDU
Alma Mater Studiorum – University of Bologna
Italia**

E-mail: massimo.marcuccio@unibo.it



Ph.D., Associate Professor. Massimo Marcuccio has a degree in Philosophy and a Ph.D. in Empirical research in education. He is associate professor at the University of Bologna where he is lecturer in Theories and Methods for Planning and Evaluating Educational and Training Programmes. His research focuses on three main areas: educational assessment and evaluation in formal, non formal and informal contexts; methodology of empirical research with particular attention to mixed approaches; learning to learn.