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Imagination in Early Childhood Education

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Abstract

Imagination is the fundamental facility through which people make meaning. In childhood the process of learning to build relevant knowledge systems requires the formalization of order from symbolic codes derived from intuitive, spontaneous and chaotic information. The process of ordering information requires imaginative play for thinking to be realized as factual and fanciful. Education has developed strategies to facilitate imaginative thinking. This follows a developmental process: imagined images are drawn as symbols which later enable the child to tell stories through the visual language; imaginative play uses the embodied experience to make metaphoric connections between fantasy and factual meaning. The psychological process of mental visualization called imagination is essential for the development of literacy. This paper will examine the role of imagination in visual literacy development.

Introduction

In the process of education a teacher has the choice of what they might prioritize as their most important focus in their own personal teaching philosophy. If you were asked which of the following you would put first, what would that be: your subject, the curriculum, your pedagogy, the children, yourself as a teacher, or assessment? In this paper we argue that the focus should be on the child and the development of the child's cognitive and emotional intellect. We will also examine the role of imagination in visual literacy development.

Imagination in the development of meaning in childhood

Suzanne Langer in her seminal text, *Philosophy in a New Key*, discussed how “the eye and the ear must have their logic – ‘their categories of understanding’, if you like the Kantian idiom, or their ‘primary imagination’, in Coleridge’s version of the same concept” (1979, p. 89). Langer argues that humans have a tendency to organize the sensory field into groups and patterns of sense data, and this, often an unconscious process, sees the appreciation of forms as the primitive root of abstraction and this she states is the keynote of rationality (Langer, 1979, p. 89).

In childhood the process of learning to build relevant knowledge systems requires the formalization of order from symbolic codes derived from intuitive, spontaneous and chaotic information. The process of ordering information requires imaginative play for thinking to be realized as factual and fanciful. In a discussion of empirical evidence, which emerged in a recent research project, we conclude that imagination is the fundamental facility through which people make meaning.

Opening the mind to sensual and rational literacy

The development of mental thought processes starts with the sensory experiences we are exposed to as a child. Through growth in aesthetic discrimination, whether, observing the differences of colors, or differences in the tone of voice, the child begins to categorize within fields. Memory plays an important part in revisiting the knowledge developed through this categorization process, and imagination is employed to make connections between categories and fields. This is not unusual in the early development of the child’s thinking processes. As the mind develops it works with symbols and then structures, organizing patterns into groupings. This was evident in research conducted by Ganis (2011), as children were introduced to the natural environment and encouraged to observe in detail differences in small objects they collected. The “Single Leaf Project” encouraged children to look carefully and perceptively in order that they could see different shapes, colors and textures of leaves from different plant species

The visual language can be a springboard of entry from symbol to structure and can work in a parallel way with the development of language. However as literacy skills develop from basic to more complex, the child will use words and images in creative ways and will depend on their ability to imagine; this way of thinking will rely on openness to risk taking.

In "The Single Leaf Project" (Ganis, 2011), children learnt to discriminate between leaf types. Student responses to this include:

It's lighter than any other leaf and its perfect.

I picked that leaf because it has the colour of me, Ruben and mum's skin and the other side is dad's skin...I think it reminds me of families.

With scaffolding from the teacher, they carried their visual perceptions forward into the processes of categorization and the use of verbal literacy to describe leaves with appropriate names, all the while imaginatively categorizing and making cognitive connections in the development of meaning.

Over the past century the education curriculum has opened up in progressive countries to provide children with a balance of subjects, which elicit multi-dimensional thinking skills. There is however a regressive movement at large which continues to privilege certain subjects over others, this can often be seen in statements of professional standards for teachers which focus on literacy, language and numeracy (Queensland College of Teachers (QCT), 2009, p. 2) over the development of imagination and creativity. Educational agendas narrowly focused on developing the three R's, now known as language, literacy and numeracy (QCT, 2009), can be extremely detrimental to the development of creativity and higher-order thinking. When teachers place emphasis on skills of rote learning, they often close doors and punish children (and adults) who ask imaginative and original questions. This rigid pedagogy teaches children not to take risks for fear of being punished, as evident in Roald Dahl's stereotype of the inflexible teacher known as Ms Trunchbull in his children's book, *Matilda*.

When the opportunity to think from the conceptual to the practical has been denied in the education of the child there is often no point of return. This can be seen in the way adults solve problems in their everyday lives. Indeed many adults have not progressed their thinking skills beyond that of generalization, and they often become frustrated with their inability to move to the next level of exploration, that of the higher-order mechanisms of creation. So often we see adults and teachers frustrated in their inability to think laterally and solve complex problems as their minds are locked into linear rather than creative processes of problem solving (Paterson, 2011). The structure of learning today sits within an educational system that is compartmentalized and fragmented and loses sight of a connectedness to who we are as human beings and the world around us. It has been suggested that education is responsible for the closing of people's minds to critical and creative problem solving (Robinson, 2011).

Many subjects are often closed to lateral thinking processes by teachers who themselves lack creative approaches to pedagogy. Disciplines such as mathematics, which focus on obtaining an answer to a particular formula, can often show the child only one single pathway to the solution of a problem. There are of course many imaginative mathematics teachers who understand the important use of creative thinking and the visual language in helping describe complex mathematical problems, particularly as they are applied to real-life situations such as architecture (Lovász, 2011).

Literacy can also be taught in one-dimensional ways; the problem lies with the training of teachers who have been limited in the way they are required to teach and by what they are required to know. Whilst words and grammar remain the basics of verbal formulation, it is the act of symbolic transformation and imagination employed as the child is encouraged to make connections, which in fact develops literacy. The meaning of the word literacy goes beyond the traditional meaning of being able to read and write. Another definition of literacy: the ability to use language proficiently, more accurately addresses the needs of contemporary children and acknowledges the significantly important roles of the visual and oral languages in the early years whilst their ability to use verbal language is beginning to emerge.

Education is about learning to learn. The German word *bildung* which means education signifies a holistic and life-long process of human development. Maxine Greene (2001, p. 7) reminds us that education delves into new ways of engaging our senses and “signifies the nurture of a special kind of reflectiveness and expressiveness, a reaching out for meaning”.

Within the developmental trajectory the child requires a significant amount of scaffolding by adults to develop their social, emotional, cognitive and physical skills. The growth of the brain and body require appropriate experiences relevant to the child’s level of competence. Investigating, questioning, and discovering are, or should be, inherently part of any curriculum and an evolving curriculum maintains a flexible and engaged learning condition. In the world-renowned early childhood schools of Reggio Emilia, Italy, the children and teachers are continually involved in oral debate and all forms of dialogue (Rinaldi, 2006, p. 75). The artistic and metaphorical language is at the heart of knowledge construction, primarily because children emotionally respond to these languages as tools of cognition. This open-minded approach to intellectual debate is often at odds in our world where at times teachers are punished for asking too many questions and challenging the orthodoxy (Hickman, 2011).

In contemporary classrooms, teachers provide students with the opportunities for multi-dimensional ways of thinking and feeling. The teacher’s role is facilitated by a concentrated focus on observation and listening and an educational framework that is formed with a highly interconnected system where values are transmitted, discussed and created together. Cognitive development is important but emotional development is also highly significant (Paterson, 2003, p. 264), as is the relationship of the individual to others. As Carlina Rinaldi (2006, p. 139) highlights it is that relationship between “Self and Other” that is a key issue for our futures.

The thread that runs through this section place emphasis on sensual as well as rational literacy, the balance of cognitive and emotional intelligence, attention to brain, body, hand and heart, by teachers who employ imaginative, empathetic approaches to learning and teaching. It is important that teachers do not forget that children need scaffolding in social, emotional, cognitive and physical development.

Likewise curriculum writers must not forget these requirements in the child's learning trajectory.

Ordering knowledge with the help of the imagination

When we reflect upon the child's growth in cognitive intelligence, we note how the mind is used to move from sensual perceptions of the natural world to processes of categorization. Formal categories serve to impose order on our perceptions (Efland, 2002, p. 139). The development of intelligence beyond the basic level of lower order thinking requires that the mind use tools of analysis and synthesis. It is these investigative instruments, which when used imaginatively become tools with which the mind can search for deeper meaning and learn to categorize concepts into forms of structural order. Categories are cognitively-ordered structures of knowledge abstracted from perceptual experiences. They undoubtedly have rules applied to them, which help to rationalize the order within the category, thus a sparrow is a bird not a fish largely due to the rules which govern the category.

The psychological process of mental visualization called imagination is essential for the development of literacy. It is possible to connect what we now term imagination with what Lev Vygotsky termed "inner speech". Like many other educational theorists (Langer, 1979; Gardner, 1980; Malaguzzi, 1995) the role of visual language and imagery was seen as one of the first important symbol systems for the child. Vygotsky viewed inner speech as the interface between culturally sanctified symbolic systems on one hand, and, on the other hand, private "language" and imagery (Kozulin, 2002, xxxviii).

Sir Ken Robinson describes the imagination as the source of our creativity. He says, "Imagination is the ability to bring to mind things that are not present to our senses ... Imagination is the primary gift of human consciousness" (2011, p. 141). Learning through the visual arts enables the child to become a practical theoretician. Whilst drawing the child is engaged in a continual process of imagination, reflection and internalization, constantly testing and imaginatively creating an appropriate symbol with which to tell a story to the viewer. Their inner speech or imaginative dreamings

become realized through the graphic language. Through the visual language children are involved in putting their imagination to work (Robinson, 2011, p. 143).

To elaborate further on the development of the literacy continuum, the child will complement the drawn image with their own oral language describing further details relevant to the pictorial description. The drawing stimulates the emerging process of literacy and increases the child's spoken vocabulary, the meaning of drawn symbols and spoken words emerge together.

Suzanne Langer (1979, p.123) says:

The peculiar impressionability of childhood is usually treated under the rubric of attention to exact colors, sounds etc.: but what is much more important I think, is the child's tendency to read a vague sort of meaning into purely visual and auditory forms. Childhood is the great period of synaesthesia: sounds and colors and temperatures, forms and feelings, may have certain characteristics in common. By which a vowel may "be" of a certain color, a tone may "be" large or small, low or high, bright or dark...

To appreciate subtleties of the visual language the child will employ skills of discrimination during the analytical process of comparison to see the visual and indeed aesthetic differences between their own painting and that of their peers. Dialogues about the differences and the characters in each child's story and how they are portrayed, develop language even further, increasing vocabulary and associated literary meaning.

Drawing and sculpture as visual language

Through emerging drawing systems the child learns to convert spontaneous concepts into scientific structures. Order becomes important as the child draws the house they live in with five windows, and her three siblings standing alongside mum and dad. Through engagement with drawn or painted graphic descriptions, the child's thinking emphasizes classification, concept formation and problem solving. The thinking becomes critical and employs higher-order processing skills of analysis, evaluation

and creation. Visual Arts experiences offer the child the first opportunity to move thought from initial sensory experiences to ordered structures, which, with the help of a well-trained art teacher, incorporate increasing cognition in scientific and historical concepts, which of course equate to technical skills and art appreciation embedded in the artistic discussion.

It is important to see relationships, similarities not only differences, knowledge building and not only information gathering, by organizing and placing parts in relation to each other. The importance of sensual experiences and emotions are an integral part of learning. For example the child may wish to create a dragon in clay: it is important for the teacher to encourage connectedness so the child may see that this challenge goes beyond drawing the shape, texture and color of a dragon. When working with clay the object becomes a three-dimensional solid, which presents structural problems associated with the balance of the form in space, the joining of the clay, the firing of the object. What may appear firstly as a spontaneous image in the child's imagination must be realized in material reality. This artistic process requires dialogue with peers and teachers, listening to instructions, inner speech and imaginative design, as well as the conceptual challenges in realizing an original expression, not to mention the appreciative and technical skills required to complete the final creation.

The teacher plays a significant part in stimulating imaginative design through discussion with the child encouraging the formations of connections. The teacher would encourage questioning: What does a Welsh dragon look like? How have other artists portrayed the dragon? This type of inquiry activity is often supported by the teacher's informing dialogue and helpful resources; pictures, posters, books and internet image banks. This will offer the child an exciting, engaging and rewarding educational experience, where imagination and emotional intelligence help to refine visual and oral literacy during the process of realizing a creative outcome in clay. As Langer (1979, p. 126) stresses: the transformation of experience into concepts, not the elaboration of signals and symptoms, is the motive of language.

Imaginative play and the role of metaphor

In imaginative play the child re-lives rituals learnt in the family; baby doll sits down for breakfast with a bib, a spoon and a bowl of cereal. The child pours a cup of tea and the conversation between the doll and child revolves around work for the day. The ritual of play in association with imagination increases knowledge and understanding in the literacy process. Imaginative forms of language particularly those such as art making, metaphor, poetry and song, bridge visual and linguistic modes and are playful entry points for children into deeper meaning and cognitive categorization.

Metaphor is the imaginative use of language and is essentially visual. It makes linguistic connections with pictures, which helps the child to conceptualize visually. Metaphor is often played out kinaesthetically, through imaginative play and dance in the early years, as children are encouraged to jump like a frog, hop like a kangaroo, growl like a tiger and so forth. Increasingly the use of metaphor becomes more sophisticated and is imbedded in word play and sensual experiences.

The metaphor is an important element in the transformation of thoughts into visual images and, according to Russell Meares (1992), the metaphor is necessary to the “empathetic process since the intangible movements of inner life can only be conveyed by means of things that can be seen and touched” (p. 182). The relationship of storytelling and the metaphor, with its connection to empathy, is significant in seeing patterns and relationships that connect our thinking to the world.

A category of metaphor, referred to by the cognitive linguists George Lakoff and Mark Johnson (1992) as personification, allows us to make sense of phenomena in the world in human terms and through this we understand our own motivations, actions, and characteristics. Lakoff and Johnson have suggested that metaphors have entailments through which they highlight and make coherent certain aspects of our experience (1992, p. 156). Carl Linnaeus’ (2011, n.p.) system of classification within the botanical world and his Western scientific thought, aligned an empathetic relationship through metaphor to connect plant sexuality and human love. Care and attention to language and the place of the metaphor in the construction of meaning builds a relationship to empathy within the imagination.

To illustrate the power of metaphor we think back to childhood and the task of learning to ride a pony. Trotting is often no problem, children manage to master this technique spontaneously but learning to canter can prove to be an impossible challenge, until the instructor tells the child to pretend they are sitting on a rocking horse. The visual symbolism inherent in these words connect the vision and the meaning of the movement for the child. The visual metaphor provided by the instructor's words and the importance of the child's listening can make the cognitive connection happen. The words stimulate a connecting image, which creates relevant meaning for the context. These experiences are used by the mind to begin the categorization process, of comparison, connections, structural profiling and ordering.

Maxine Greene (1995, p. 3) states that for the child to assemble a coherent world, it is important that we as teachers realize that it is imagination that makes empathy possible. Within an educational environment there must be a strong emphasis on allowing imagination to be released rather than be suppressed in order that children can make meaning.

In recent research (Ganis, 2011), the development of empathy in children while working with artists was highlighted through their increased perception of the natural environment. The magic of discovery in childhood that occurred in the outdoor bush milieu was evident in the observation of the young people's curiosity and their engagement with nature. The same process of discovery happens for both child and adult. As teachers the learning process was stimulated through continual dialogue: talking and questioning. The children's voice was valued as a significant contribution to fact finding and knowledge construction, and the children refined their perceptual skills.

The observations the children made of the natural environment tended to be careful investigation of small things. Visual observations were coupled with their urge to touch, even if the plant was a stinging nettle, to feel the texture or quality of the leaf or moss which at times came with consequences. This increased ability to observe and feel showed the children's receptiveness to what was around them and their heightened empathetic view of the landscape.



Figure 1. The process of discovery on the Boombana track, Mt Nebo.

The languages of literacy

Loris Malaguzzi, the late Director of the Reggio Emilia early childhood system in Italy, wrote a beautiful poem called *The Hundred Languages of Children*. His intention was to focus on the many different aspects of the emerging literacy of children in the early years.

It is important to realize that there are fundamental underlying processes of cognition, which move the child through the visual, oral and written trajectories in their quest of knowledge construction. All sorts of media are used to scaffold these cognitive processes, from the early use of play dough, clay, pencils, chalks, paints, blocks, wood, hammers and nails, through to more sophisticated media such as books, cameras, and computers. No one media takes precedence over another, in fact, the child will need exposure to all media in line with their individual stage of physical and cognitive development.

The strategies education has developed to facilitate imaginative thinking follow a developmental process: imagined images are drawn as symbols which later enable the child to tell stories through the visual language; imaginative play uses the embodied experience to make metaphoric connections between fantasy and factual meaning; children's literature can stimulate the child to imagine images within the mind, connected to and reinforcing word meaning. Teachers will use all these forms of inquiry to encourage the child to "enter the game" as Loris Malaguzzi used to say, to enter the game of literacy and intellectual development.

The fact that thought and action, thinking and doing are the focus of the Visual Arts curriculum, combines for the child the working processes of imaginative concepts and practical outcomes. Lakoff and Johnson (1987) argue that higher-order cognitive structures emerge from our embodied, concrete experiences (Efland, 2002, p. 150).

Lakoff and Johnson (1980, as cited in Efland, 2002, p. 137) studied the cognitive foundations of abstract mental activities such as categorization and metaphor as observed in empirical studies of linguistic behaviour. They suggested that we learn





Figure 2. 'I wonder what's been there? Are they foot marks, snakes, shoes?' Looking carefully for little things in the petri dish. Ben and Lachlan found some fungi and moss. Meg drew on an observation sheet (Ganis, 2011).



about our world through the senses and then cognitively categorize things into groups dependent upon commonalities, properties in common that defined categories of things. The classification of things provides the basis for organizing knowledge and is a fundamental process within the school context whether it be in the art room as children might classify pottery tools or in the general classroom where they may classify birds and plants.

A teacher can deepen the learning experience in the natural environment to accommodate this fundamental process of categorization, but experiential learning encapsulates this further where nature is seen as the third teacher. In the natural environment children have the opportunity to extend their personal thoughts and experiences, by connecting with real world experiences.

The interpretative experience in visual literacy is highly charged with the imagination of younger children through a correlation of metaphorical referencing. They do this through play and relating their personal being to the real world. These enchantments and constructed fantasies are formed with very little stimulus material. Classroom research (Ganis, 2011) with older students has identified that control and order in interpretative play is what is required for specific strategies to be engaged. The concept of “less is more” for younger children, as we move through our education, becomes “more is less” for the older child.

Therefore we should heed the fact that the cognitive processes of categorization whilst important for scientific ways of thinking, can also hamper the spontaneous flow of creative thinking if not handled with sensitivity by the teacher. With this in mind, and our realization from Vygotsky (2002) that both ways of thinking are important for the child, teachers need to be highly aware of structuring educational experiences which balance both imaginative ways of thinking with positivistic ways of thinking.

Social learning

There is no doubt that children’s learning is increased as they work collaboratively with peers, teachers and parents in a social environment. Learning is more relevant for

the child if it moves concepts into practical problem solving situations. Indeed in early childhood we often witness a reversal of this as we see children immersed in active participation in practical activities, whether it is building a sandcastle with their siblings at the beach, figuring out a jigsaw puzzle in class with peers or exploring the bush while at work in the early childhood centre. Imaginative concepts are internalized, clarified, classified and tested through practical action. The external products of these concepts and actions are improved literacy ability, in the visual, oral and written forms.

Ganis (2011) describes this improved literacy whilst working with children in the outdoor learning environment:

Lachlan says: Little green monster. Hey look at that tree.

Meg says: Princess and the lady beetle.

JJ says: Don't touch yellow leaves.

V says: Why?

Vanessa says: it's like a game... Big secret vine, big rocks, the fairy tree is right under there, mushroom, thorns, slippery stairs pass it on...

The touching of the plants and mosses and the slow pace of meandering through the track, wanting to absorb so much of the experience, demonstrates the rich engagement of the whole process of the walk in the bush. Much of the child's world is analyzed, discussed, shaped and reflected upon during these social experiences all within the playful, imaginative framework of childhood experience.

The social nature of learning is clearly expressed by Loris Malaguzzi (1987, p. 18) as he describes the imaginative metaphor of the hundred languages of children:

... we maintain that all the languages that children experience are born with them. They are interacting attitudes equipped with exploratory and perceptive capacities able to organize information and sensations and to search for exchanges and reciprocity. Our children are gifted with the incipient art of semiology and of the detective, the capacity to utilize clues, to hypothesize "missing" explanations and to reconstruct facts.

Malaguzzi (1987, p. 23) criticizes the current trend of imposing imitative mechanisms of spoken language on the child that are devoid of all inter-change, rather than strong imaginative processes linked to experience and to the problems of experience.

Maxine Greene (2010) sums it up when she argues for art and imagination to take a greater centrality in the classroom because it is about active participation in learning, this is a rejection of a merely passive taking in of knowledge. She believes that teachers need to be able to take greater risks in teaching and says teachers' concerns are as profound as any philosopher's, as they have to do with good and bad, and freedom and justice. Greene believes the arts can move the young to see new things and unexpected possibilities.

The visual language provides children with the first entry point to a range of languages. Through seeing, perceiving, categorising and analysing within the imaginative process, children learn to make meaning and construct knowledge for the further development of literacy. Mastery of the visual language is absolutely essential for reading and writing. An early childhood education that ignores the imaginative process as a tool for visual literacy seriously hampers the child's later ability to make meaning, understand knowledge and develop further forms of oral, read and written literacy.

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