

# The Importance of Creative Thought in Young Children

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## Abstract

Creativity is largely considered to be the highest form of thought. All individuals are born with creative potential but if not encouraged or fostered, this might be lost upon adulthood. Creativity is not just a means for personal and individual expression, it can be a way of admiring and showcasing beauty and the spreading of important and valuable messages. This research links creative thinking to problem solving seeking how it can enhance critical thinking skills and increase empathy which in turn can lead to positive morality and better ethical codes. Creativity thrives in structures and environments which allow for freedom of expression, exploration and, personal discovery along with encouragement and support. Young children, predominately between four and six years of age, are more creative and willing to partake in creative activity and expression due to not having entered yet a given educational structure and oblivious to peer reaction and cultural norm. Early childhood, in terms of neurological development, is a prime time to lay the foundations for creative thinking and action. If we partake in nurturing creativity and recognize its importance for both the individual and the community, this might not just lead to better creative potential and progression but also a more empathetic and ethical world. This research explores the neurology and development of young children along with connecting modes of thought, such as problem solving, critical thinking, empathy and ethics.

## Keywords

Creativity, Children, Instruction, Empathy, Critical Thinking, Problem-Solving, Ethics

## 1. Introduction

This is primarily an exploration of creative thought. Creative thought is the con-

sideration of alternative possibilities, the ability to look at varying perspectives with fresh eyes and to use these ideas in order to come up with something truly unique (Dere, 2019). It is a mixture of curiosity and exploration which finally results in discovery. The mind finds conclusions and new outlooks which are innovative, novel and original (Noorkholisoh, 2021). The thought process is divergent and exhibits fluency and flexibility which allows one to make connections, produce solutions, change perspective and explore different ideas (Dere, 2019).

We explore, to a limited extent, why creative thought is important and in particular the effects upon young children. We look into the neurology which encompasses creativity, childhood development and different forms of thought which connect and impact and are the results of creative thinking. The principle connecting thought processes we look at are problem solving, critical thinking, empathy and ethics.

## **2. Fostering Creative Thought in Early Childhood Development**

### **2.1. A Brief History**

The concept of creativity is a notion which has been debated and discussed for hundreds of years. The Greeks, Judaic, Christian and Muslim philosophies and traditions were founded on the idea that inspiration could be produced with a higher power (Mirzaie et al., 2009). It was not until the Romantic era in Europe that artistic expression and inspiration were attributed to the human and not within communion with the metaphysical (Mirzaie et al., 2009). By the end of the nineteenth century individuals began to question how might we foster and enhance these moments of great inspiration and talent (Mirzaie et al., 2009). Studies conducted in the 1950's began to link creativity to intelligence resulting in present ideology which connects creativity with psychology (Mirzaie et al., 2009). It was within this movement, time period, and new thought process that experts such as Joy Paul Guilford, Jacob W. Getzels, Philip W. Jackson, Calvin W. Taylor and Dr. E. Paul Torrance began to focus on the development and potential enhancement of creativity in children (Mirzaie et al., 2009).

### **2.2. The "C"s of Creativity**

Many scholars divide creativity into several categories, namely the little-C creativity, the big-C creativity, the pro-C creativity and the mini-C creativity (Gilhooly & Gilhooly, 2021). According to scholars Kenneth J. Gilhooly and Mary L. M. Gilhooly described the little-C creativity as we find in everyday tasks and production, which leads to minor novel solutions to various problems (Gilhooly & Gilhooly, 2021). Whereas the big-C creativity refers to great productions of creations which result in "scientific, technological, social or artistic importance." (Gilhooly & Gilhooly, 2021) The pro-C creativity consists of professional and valuable work which does not fall into the category of important historical con-

tribution (Gilhooly & Gilhooly, 2021). Finally there is the mini-C creativity which refers to smaller scale creativity such as a doodle (Gilhooly & Gilhooly, 2021). All of these various forms of creativity involve combining a variety of existing concepts in novel ways (Gilhooly & Gilhooly, 2021).

### 2.3. Neurology and Development

Scholars argue that creativity is both an innate and learnt skill set which can be linked to the brain's neurology and varying stages of human development. Scholar Keith Sawyer argues that a person's whole brain is active when engaged in creative activity (Sawyer, 2011). While creativity levels may vary (Sawyer, 2011), every normal and healthy human engages both their left and right hemisphere when being creative (Sawyer, 2011). We then suggest that every child has a form creative ability (Noorkholisoh, 2021) though scholar Lulu Noorkholisoh warns, that if this ability is not nurtured, it could be hindered if not hidden upon entering adulthood (Noorkholisoh, 2021). Scholar Nicole Leggett argues that neurologically, early childhood, is the best time to encourage creative thinking as the brain is still in the midst of wiring (Leggett, 2017). Early childhood is therefore an important time to begin exercises, activities and promote ideologies which enhance creative thought in order to build a firm foundation. Children possess high levels of creative potential from the ages of four to six years of age as they are less aware of societal norm and peer reaction (Leggett, 2017). As such, we argue that it is crucial to foster creative thought within children starting from a very young age. Creative ability is often described as being the ability to come up with concrete outcomes which are both original and useful (Stevenson et al., 2021). Scholar Hans Jürgen Eysenck defined creative ability to be a mixture of personality, environment and cognitive ability including intelligence and knowledge (Stevenson et al., 2021). In the case of "A Minimal Theory of Creative Ability" (MTCA), a theory based on differential psychology used to test and understand the "*nature, magnitude causes and consequences of psychological differences between individuals and the general population.*", (Stevenson et al., 2021) creative ability is a relationship consisting of both intelligence and expertise (Stevenson et al., 2021). While children's creativity may not perfectly fit the definition of being both original and useful (Stevenson et al., 2021). this research argues that fostering creative thinking at any early age may lead children towards being more original and curious and, in later years, they might understand how to better apply their unique, and perhaps even novel ideas within society.

### 2.4. The Impact of One's Environment

Research shows that the environment, educational system and social system all play an important role in the child's creative development (Noorkholisoh, 2021). Upon study, a child's creativity declines once they enter education as they are introduced to a given set of rules and standards. In order to foster creative

thought, a child needs to feel both safe and free to develop and express their creativity (Lilly, 2014). Scholar Frank R. Lilly points towards the teaching methodology proposed by the Universal Design for Learning (UDL) which suggests that a classroom which “builds community by the honoring of diversity” (Lilly, 2014) might be a positive space for creative learning and expression. Parents can help better creative thought, in their children, by allowing the children to equally and equitably exchange ideas and behaviors (Lilly, 2014). A safe family environment, which encourages curiosity and ethical open-minded discussion and exchange is crucial in the development of creative thinking skills. Scholar Frank R. Lilly additionally suggests that a free exchange of information and ability should also be exercised alongside positive values such as “respect, trust and love.” (Lilly, 2014) This would allow children to freely explore and create while understanding the positive, and perhaps even negative, implications of their actions and creation. This research argues that this might not only enrich creativity but also create safer and perhaps even more benevolent learning environments (Lilly, 2014).

## 2.5. The Creative Personality

A large part of a child’s personality is developed during their pre-school educational years. Scholars Laryssa V. Zdanevych, et al’s research found that pre-schoolers were most sensitive to creative potential within the development of their personalities (Zdanevych et al., 2020). Children naturally are curious of their surrounding environment, in awe of discoveries, experiment, use their imaginations and daydream (Zdanevych et al., 2020). Scholars Laryssa V. Zdanevych et al. describes a creative personality as being talented with “emotional impertinence and expressed weirdness of behavior.” (Zdanevych et al., 2020) Scholars Jacob W. Getzels and Philip W. Jackson noted that their creative children were not particularly liked by their peers or teachers:

“Teachers often dislike ‘high creatives’ even when they are academically successful, and prefer the “high I.Q.s”. Darwin and Einstein, for example, were undistinguished at school, and yet produced theories of evolution and relativity, respectively. Probably, such children may be particularly difficult to deal with. They are usually are troublesome, unusual, difficult to reach, and they may behave in odd ways that do not appeal to the teacher, or their peers. Generally, their very originality may upset the even running of the classroom, and may produce difficulties for the teacher trained to insist on standard responses. Such children tend to follow their own way and views, and ‘in a culture geared to uniformity this is a pattern not easily accommodated in school.’ (Mellou, 1996)

In order to foster creativity in young children and at the same to enable them to navigate and adapt to their given culture and communities one needs to establish organized freedom (Mellou, 1996). Researcher Dennis Child concluded that, “Too much freedom might encourage anarchy; too much guidance might

produce sterile conformity.” (Mellou, 1996)

## 2.6. The Human Brain and Variability

The human brain is capable of great variability and is an ever evolving organ (Zeki, 2001). Variability is one of its most important characteristics and is connected to both unique output and our reception of creations (Zeki, 2001). These variabilities can manifest themselves in various ways, and their original perceptions, solutions and contributions have been shown to have greatly contributed towards societal progression and evolution (Zeki, 2001). Yet variability can also come at a high cost as those who divert from the norm can become marginalized and can even result in being treated unjustly (Zeki, 2001).

Art is considered, by many, to be an acceptable outlet for variability. Artistic intelligence is often connected to the cerebral cortex (Zeki, 2001). This includes both the practice of artistry and how we experience it. Acclaimed painter, Paul Klee, stated: “Art does not reproduce the visible it makes things visible.” (Zeki, 2001) Art is often considered to be a culturally acceptable outlet for a variety of forms of personal expression. This research argues that a certain amount of conformity is necessary in order to belong to a given community along with the understanding of group accepted morality and community agreed upon ethical code.

## 2.7. Neuroscience and Creative Potential

Creativity can also be linked to neurology. Scholar Dahlia W. Zaidel believes creativity to be a mixture of “*the unique neurological organization of the human brain, the cognition afforded by it, the biological antecedents of innovation evidenced in cultural practices and selective evolutionary pressures*” (Zaidel, 2014). That being said humans are much more creative than animals and as such creativity is unique to only the human brain (Zaidel, 2014). Dahlia goes on to state that, in general, “intact knowledge and conceptual semantic systems, healthy neural connectivity, and normal levels of neurotransmitters such as dopamine are likely essential for creativity.” (Zaidel, 2014) That being said there may be heightened divergences from the norm with artistry from neurodivergent and/or brain damaged individuals as their way of communicating may differ from the general population (Zaidel, 2014). This would explain and add to unique perceptions and contributions to both individual and societal progress which diverge from the norm of understanding and expression.

Scholars Leonardo C. de Souza, et al.’s research showed that “creativity relies on fundamental cognitive processes such as working memory, attention, planning, cognitive flexibility, mentalizing and abstract thinking.” (De Souza et al., 2014) These various elements rely on the brain’s pre-frontal cortex which is additionally important with behavioral adaptation along with other mental functions (De Souza et al., 2014). The prefrontal cortex plays a part in the controlling of voluntary and goal directed actions and thought (De Souza et al., 2014). It is

additionally connected to our perceptions and understanding of our surrounding environment (De Souza et al., 2014). It selects information from its surrounding and connects it to prior understandings, which include rules and norms, within its memory, in order to make decisions (De Souza et al., 2014). The prefrontal cortex is the association cortex of the brain's frontal lobe (Fuster, 2001).

There are varying arguments on when a human is at its highest creative potential and the definition of creativity is somewhat culturally bound (Leggett, 2017). As a counter argument, scholar Aren Dietrich, focusses his attention on the usefulness of creativity and as a result would find the highest creative potential to be in an adult's mid-life when the brain is fully formed (Dietrich, 2004). The argument links creativity and the prefrontal cortex as it allows: information to be maintained in one's memory while creating and/or problem-solving; to exert control over one's consciousness when trying to better one's conclusion and/or solutions (Dietrich, 2004); the ability to maintain continuity over one's thought process; and finally, the ability to combine both knowledge and creative practice along with the understanding of how to implement one's findings and reactions and behaviors according to cultural appropriateness (Dietrich, 2004). As a result creativity may peak at one's mid-life, as opposed to childhood, as they would have control over their pre-frontal cortex and as such would understand better rules and environmental cues. This would result in better solutions and ideas as creative conclusions which would be both unique and fit into the given and set box.

### **3. The Implications of Creative Thought on the Young Child's Ability to Problem Solve, Critically Think, Empathize and on Their Ethical Behavior**

Starting from a very young age, in order to adapt to their surrounding community, children learn to critically analyze and evaluate the various options and consequences of choice and action that they are presented with (Keen, 2011). In order to fit into and adapt to the given system, one must critically think and problem-solve. Our findings argue that the more knowledge a child is exposed to the better their ability to produce original and novel ideas will be. This can consist of academic standard subjects such as the sciences, the arts, languages and mathematics along with the ability to authentically and personally make conclusions and express opinions. The more knowledge a child is exposed to, the better their ability to reassemble and combine ideas, as they will have access to an increased amount of divers information allowing for both original and novel concepts (Keen, 2011).

#### **3.1. Creativity and Problem Solving**

According to authors Thomas B. Ward, Steven M. Smith, and Jyotsma Vaid's book "Conceptual Structures and Processes in Creative Thought", creativity can

lead to new advancements and innovation within given subjects and professions, a diversity of outlook and contribution to research and artistry, problem solving and solution finding in regards to societal, social and environmental dilemmas along with laying down the thought ground work towards the ability to build and change of one's personal ideology (Ward et al., 1997):

“Humans are prodigious builders of cognitive structures. Out of an ongoing stream of discrete experiences we construct a vast array of concepts that bridge the gaps between otherwise separate events and give coherence to our world. When we form these new concepts, or modify or extend old ones presumably we create new cognitive entities that did not exist prior to those activities. In addition, because these concepts serve the purposes of understanding, organizing, classifying, and communicating about the world, they also satisfy another criterion of creativity, namely, usefulness. Hence, at its core or essence, the continual growth of categorical and conceptual knowledge is in itself a creative phenomenon.” (Ward et al., 1997)

According to scholars Michael D. Mumford et al. problem-solving is the combining and reorganizing of various ideas and concepts (Mumford et al., 1993). It has been found that many of the greatest contributions to the arts and sciences were derived from the mixing of two or more different ideas and concepts (Mumford et al., 1993). In order to combine various concepts, one has to be exposed to differing knowledge and information. Exposure alone does not suffice in generating novel solutions, one must gain a firm understanding of the new and different concept (Mumford et al., 1993). There are various different steps and applications in order to better one's problem-solving and in particular one's creative problem-solving skills. These skills include “problem construction or problem finding, information encoding and category search, idea evaluation, planning and implementation and solution monitoring” (Mumford et al., 1993). All of which have an effect on creativity. It has been found that an environment which fosters independent learning and values unique, new ideas and contributions would greatly help and increase creative problem solving (Mumford et al., 1993). That the more the individual is exposed to, researches and tries to comprehend in regards to the various angles and complexities of the given problem the better the solutions will be.

Scholar Rachel Keen argues that problem solving is not only essential towards creative thought and application but is a key thought process and ability which contributes towards societal innovation, progress and survival (Keen, 2011). Problem solving not only necessitates finding solutions but also the ability to project one's self into the future (Keen, 2011). This would lead to the developing of a comfort and increased ability with attempting to predict and anticipate future problems before they come firmly into existence. She further states that there are various categories of mistakes one can make when creating a conclusion and making decisions which could contribute to societal collapse. These categories include non-anticipation, non-awareness and prediction of future problems, non-recognition of existing problems and failed solutions. Her re-

search found that future oriented thinking can be taught to children, as early as pre-school, with playful and exploratory learning which leads to heightened flexible and creative ability (Keen, 2011).

### 3.2. Creativity and Critical Thought

Along with problem solving, critical thought is another principle component of the creative process. Scholars Michael Scriven and Richard Paul define critical thought as:

“Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning or communication, as a guide to belief and action.” (University of Louisville, 2024)

According to Sharon Bailin critical thought is the ability to come to personal judgements and conclusions within a given “frame work or context,” (Bailin, 1987) yet for Bailin, creativity calls for rule breaking and “transcending of the framework itself.” (Bailin, 1987) Critical thought and creative thought are two different modes of thought, that she argues are in fact joint (Bailin, 1987). She describes critical thinking as being analytical, which means that it consists of arriving at judgments, within a set framework, set of rules, logic, research and reasoning (Bailin, 1987). Whereas creative thought transcends set systems, with divergent thought, imagination, rule breaking, intuition and suspended judgment (Bailin, 1987). These two different thought processes are necessary and come into play with innovation, invention, creative production, the identification of assumptions, generation and construction of counter arguments and the creation of a personal ideology.

### 3.3. Creativity and Empathy

The key components of critical thought and their link to creativity, can lead one to wonder if fostering these abilities might result in gaining empathy? Empathy is the ability to understand the feelings, experiences, and other forms of otherness, of another (Oxford Learner’s Dictionary, 2023). According to scholars Jason Decety and Jason M. Cowell, humans are unique in the learning and understand someone else’s perspective, that with the learning from a differing perspective, they may start to empathize with those outside of their family and tribe towards other sub groups and possibly towards the whole of humanity (Decety & Cowell, 2014). In this way learning differing perspectives might provoke care and concern which might help diminish stereotypes and then result in positive feelings towards the given difference and those who possess it (Decety & Cowell, 2014). Decety and Cowell suggest that the reading of fiction which possesses differing perspectives and the engaging in differing forms of media, arts and culture might provoke positive outward thinking emotions and, as a result, lead to an increase in positive morality (Decety & Cowell, 2014).



### 3.4. Creativity and Ethics

Scholar Sarah Songhorian argues that empathy has long been connected to positive morality as it consists of the ability to understand, care for and share the emotions of another (Songhorian, 2019). While a person may be able to feel empathy for a given individual without any given knowledge of their situation, a firm understanding and information regarding the difference and person does help in the development of a moral conscience and moral ability (Songhorian, 2019). One can feel empathy for a person's pain but positive morality may lead one to care and the helping of the given person in need (Songhorian, 2019). Empathy though is biased and while one can hope that the given understanding can lead to better moral character it can also lead to immoral choices (Songhorian, 2019). That being said, empathy contributes greatly to ethics but is not sufficient enough for good moral behavior (Songhorian, 2019).

Finally, in agreement, scholar Kathleen M. Haney argues that empathy is essential to ethical thinking (Haney, 1994). That in order to serve a community outside of oneself, one must be able and willing to understand the perspectives of another (Haney, 1994). Her argument is as follows: "*Empathy is a means to knowledge of the human nature; knowledge of the human nature enlivens and encourages empathy. On such a basis, ethics is possible.*" (Haney, 1994)

This research argues that empathy should be fostered as a communication process in the early years of childhood which scholar Carol M. Davis believes will become more concrete as the child matures (Davis, 1990). Her ideas are that as the individual matures they will start to see similarities as opposed to differences which could result in better ethical behavior. She argues that individuals who are more creative and possess stronger curiosity of others might have heightened capability towards the development of feeling one with the whole of humanity (Davis, 1990). This research argues that the younger the child is exposed to difference along with a positive outward thinking value system the better the child's perceptions and ideology regarding openness and acceptance will become.

### 4. Conclusion

In conclusion, in order to create a benevolent and safe environment for children, one needs to create both freedom and structure. In order to be creative, a child needs to feel enabled to discover, create and express themselves freely. However, in order to create a safe and benevolent environment, the learning of positive outward thinking values such as respect and love, goes hand in hand. While a child should feel enabled to be both authentic and free, they should also understand the consequences of their actions and creation on others.

Creativity involves the learning of otherness and, if honoring diversity, it can lead to heightened empathy. This heightened empathy might in turn lead to heightened positive moral and ethical behavior towards those in and outside of their given communities. The practicing of creativity, during early childhood,

will not only be the beginning of the exercising of a lifelong positive skill set but could also lead to the betterment of the human and humanity at large.

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## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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