

Creativity, intelligence and high ability

Some people stand out for their creative talent, whether or not they have a high intellectual ability



by Rosabel Rodríguez Rodríguez

The relationship between creativity, intelligence and high intellectual ability (HIA), and more specifically with giftedness, has always been a complex issue to address. Many authors have suggested that high intelligence is a necessary but insufficient component to activate creativity, and the reality is that many people with a high intellectual capacity are not creative. So what is creativity and how can we foster it?

THE EVOLUTION OF A CONCEPT: CREATIVITY

Views about creativity have evolved over several decades of research and the application of creative thinking strategies. Although it is still often claimed that there is no universally agreed upon definition of creativity, the reality is that there is now a fairly consistent conception.¹

For more than six decades² most creativity researchers have consistently focused on two key concepts:³

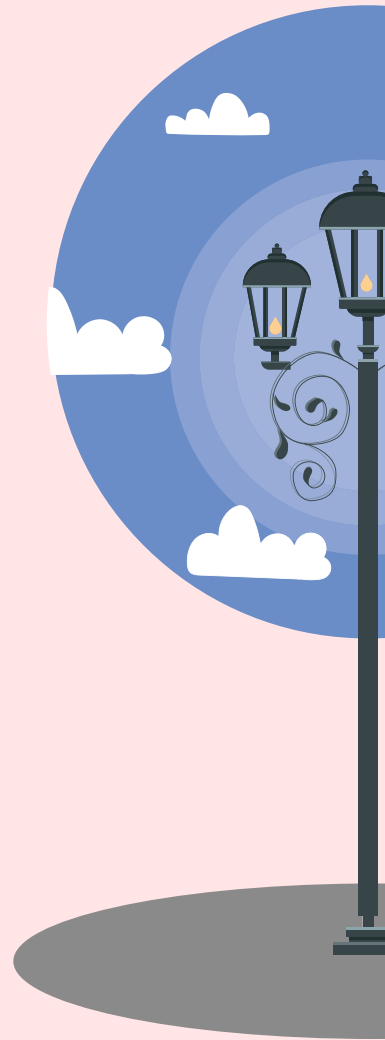
1. Creativity must represent something different, new or innovative.
2. Creativity must also be appropriate to the task at hand. It must be useful and relevant.

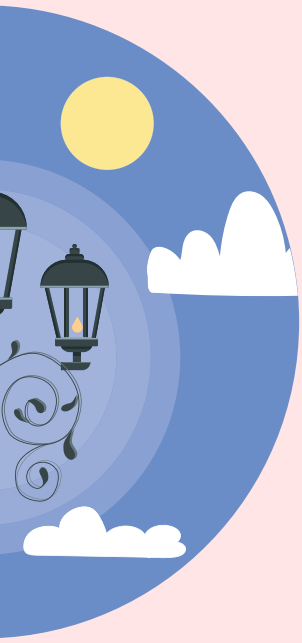
Both 'new' and 'appropriate' are absolutely necessary. Having an original, novel or different idea is not enough to be creative, because creativity is described as a multiplicative all-or-nothing game:⁴

$$\text{Creativity} = \text{Originality} \times \text{Appropriateness}$$

Thus, if originality or appropriateness is zero, then we will get a zero in creativity.

The traditional approach to creativity can be characterized as the four P's approach, that is, the study of the person, the process, the product and the productive conditions. In addition, there are a number





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of confluence theories of creativity, such as Robert Sternberg y Todd Lubart's **investment theory**⁵ and Mihaly Csikszentmihalyi's **systems theory**.⁶ In them, a person's general intelligence (g) is a necessary but not sufficient component for Creativity (C) to manifest itself. In other words, a person with high intellectual ability is not necessarily creative. Here, Creativity ('Big C') is understood as domain-specific, and a creative product is one that causes significant change within that specialised domain of knowledge, as opposed to the idea of everyday creativity ('little c'), which is used to describe activities such as improvising a recipe.⁷

Psychometric approaches, such as those used to measure intelligence, have also been used to measure creativity. This involves quantifying the notion of creativity with the help of paper-and-pencil tasks. One example is the Torrance Tests of Creative Thinking developed by E. Paul Torrance,⁸ which are frequently used to identify students with High Intellectual Ability (HIA).

RELATIONSHIP BETWEEN CREATIVITY, INTELLIGENCE AND HIGH ABILITY

As creativity and intelligence became better known, the inherent relationship between the two concepts became clear, but it was not so easy to elucidate what it was: Is intelligence part of creativity? Or is creativity part of intelligence?

Different theories offer different answers. For example, **threshold theory** suggests that intelligence is a necessary but not sufficient condition for creativity;⁹

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certification theory focuses on the environmental factors that enable people to show creativity and intelligence;¹⁰ while the **interference hypothesis** suggests that very high levels of intelligence can interfere with creativity.¹¹ All these proposals are supported by very high quality work, so it is easy to read them and end up thinking: how is this possible?

Currently, the most widely accepted perspective suggests that although there is a certain positive relationship between intelligence and creativity, this relationship is minimal and is therefore understood that intelligence and creativity are two independent though complementary factors.

At this point, we can also ask ourselves: Is there a direct relationship between creativity and high ability? And if so, what type of relationship is it? In view of the above, it is probably easy to anticipate that there is no simple or consensual answer.

On the one hand, we can find authors such as E. Paul

Torrance,¹² who was a staunch defender of the idea that giftedness cannot be understood without creativity. For him, high intelligence is not enough for a person to be gifted; however, his position is not widely shared. In fact, generally speaking, high IQ is more often sought after than high creativity. Thus, for example, in countries such as the United States, where there is a long tradition of studying HIA, each state has its own definition (mostly variations of Maryland's 1972 definition).¹³ In 2012, a study by McClain and Pfeiffer¹⁴ revealed that only 27 states included creativity in the definition of HIA.

On the other hand, Renzulli's proposal¹⁵ is probably one of the most widely accepted today. According to this author, there are two types of giftedness: high-achieving (academic or 'school') giftedness and creative-productive giftedness. The former is more analytical in nature, while the creative-productive type emphasises generation and production.

The reality is that the most creative students may be perceived as 'weird' in schools, rather than smart.

Creativity exists as a talent, that is, as an outstanding aptitude in some people, and that it is part of high ability.



Predictability is often valued in classrooms, and these children defy the monotony by doing unexpected things. This way of acting may increase their popularity among other students¹⁶ but not their attractiveness to teachers.

So what do we really know about the relationship between these concepts? Although there are still many issues to be resolved, progress has gradually been made and certain consensuses have been reached. In general we can agree that:

1. For there to be creativity there must be a certain intellectual capacity, although this is not a guarantee that they will grow together progressively.
2. Similarly, it seems clear that having high intelligence does not guarantee high creativity, nor vice-versa.
3. We also know that creativity exists as a talent, that is, as an outstanding aptitude in some people, and that it is part of high ability. Creative talent does not depend exclusively on a high IQ but also on other social and personality factors that facilitate creative production.

It has been proven that the convergence of intelligence and creativity has a positive effect on both

Schools should provide an environment that specifically values creative thinking and recognises it in students

4. Finally, it has been proven that in any situation, the convergence of intelligence and creativity produces a synergistic effect where both benefit each other.

Therefore, creativity must always be present when we talk about high ability, both during assessment, as an indispensable element of it, and in classroom programmes, where it should occupy a prominent place in the curriculum.

THE DEVELOPMENT OF CREATIVITY

Pedagogical practice is very important in enhancing creative potential or its achievement in childhood. In fact, schools should provide an environment that specifically values creative thinking, recognises it in students, and promotes it through teacher behaviours in the classroom.

Given our understanding of the phenomenon, what can teachers and schools do to promote students' creative abilities?



Teachers need to understand creative development and the ways it can be fostered or inhibited in school practices

There are six goals we can focus on to promote these behaviours:¹⁷

1. Develop intellectual risk-taking through the expression and appreciation of differences and the choice of activities of interest.
2. Develop high-level convergent and divergent skills through the use of educational models that require and promote these skills.
3. Encourage deep learning in those who have an interest and aptitude in a given domain so they can develop quality knowledge in it.
4. Develop strong communication skills in written and oral contexts, providing feedback on the effectiveness of the work.

5. Develop personal motivation and passion.
6. Encourage creative habits of mind through reading and perspective-taking and introducing novelty.

Teachers are often informed and aware of these principles, but applying them can be difficult.¹⁸ Therefore, teachers and professors must be educated to understand creative development and the ways creativity can be fostered or inhibited by school practices.

The suggested goals should be systematically applied to each learning area to maximise student engagement and learning, and applied to current ideas and problems in the world that are encountered in real life.

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Creative



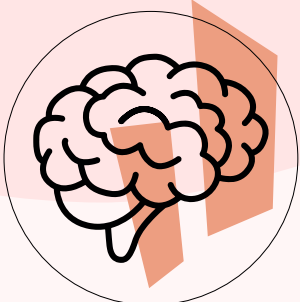
Adventurer



Logical



Strategic



Passionate

