

Promoting creative thinking in children

Kumar Gandharv Mishra and Tarun Kumar Tyagi

LET'S start with an interesting task. Can we explore two numbers whose sum is 2? For which, we are free to use all numbers and mathematical operations. Hence, we try and explore many responses with the collaborative efforts. Tyagi (2023) reported the different responses provided by the children for the same, as given below.

$$1 + 1 = 2$$

$$1.5 + 0.5 = 2$$

$$4 + (-2) = 2$$

$$\frac{3}{2} + \frac{1}{2} = 2$$

$$2^1 + 0 = 2$$

$$2^0 + 2^0 = 2$$

Hope it was a fun activity to play with different types of numbers, as well as to make connections by using different mathematical properties and operations. We can discuss some more ways at the end of the article. The idea behind introducing this problem was to let you think in different ways and see who may be considered "creative". Creativity is one of the buzzwords ever since the National Education Policy (NEP) 2020 was released by the Ministry of Education, Government of India. Policy documents and research have emphasised enhancing and assessing the creativity potential among children in every aspect, whether it is science, social science, or mathematics.

In a general notion, creativity refers to creating something different or unique, or creating an economical way of solving a problem as compared to other ways. Several psychologists and educationists have defined creativity in their own ways. One of the pioneers in the theory of intelligence, Spearman (1931), has defined creativity as the power of the human mind to create new content by transforming relations and thereby generating new correlates. Creativity differs from intelligence, and according to the majority of popular theories, a certain level of intelligence is a prerequisite to being a creative person.

Guilford (1967) introduced the concept of divergent and convergent thinking to explain different types of psychological operations while solving problems. Divergent thinking is used to generate multiple responses, and convergent thinking is

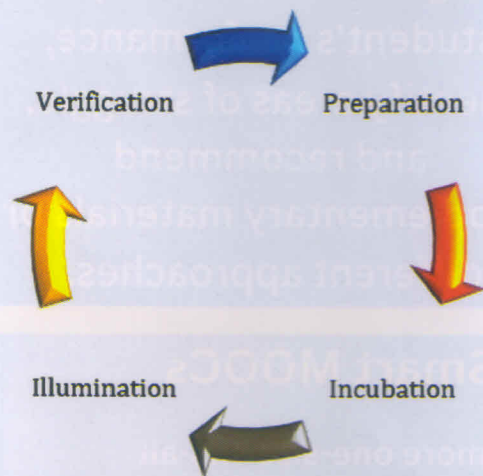


Figure 1

used to select or choose the best response among all other available options. In fact, creativity has been defined as a process as well as a product, i.e., in terms of the thinking process (ways of solving a problem) and also in terms of outcomes (frequency of ideas) respectively. It is considered a driving force behind all of the innovation that leads to the cultivation of human society and civilisation. The cycle proposed by Wallas (1926) represents the different phases through which a child passes while going through a creative act, as shown in Figure 1.

Usually, the preparation starts with thinking of different ideas and ends with selecting the best idea that fits the context, i.e. it initiates with divergent thinking and ends with convergent thinking, and the cycle continues. Hence, the development of divergent thinking is a crucial factor in enhancing creativity. With time, ideas become outdated. Something might not be considered a creative response today that it used to be a few decades ago. Therefore, the emergence of new ideas from the human mind is the greatest need today, and at the same time, the ability to select the optimum idea, which, according to need, is also important. Hence, convergent thinking and divergent thinking are both required during the process of creativity.

Given its significance for the welfare of the world, scholarly attention is highly required to inculcate such skills