



CREATIVITY, INTELLIGENCE AND CREATIVE TEACHING

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Abstract

Times back, there was a time when creativity was considered to be as a result of higher degree of general intelligence. Advancement of time, extensive research and widened knowledge has established that creative abilities possessed by an individual can be distinguished from his general intelligence. In addition, there was a belief that students with higher IQ are naturally creative, which mayn't be true always. Teachers should clearly understand that creativity and intelligence though have a relationship to certain extent can be relatively distinct from one another. Intelligence in the form of knowledge and skills can function as a supporting backdrop for creativity.

Teaching in the school should successfully develop the intellectual capabilities of the children and at the same time promote an enduring environment that nurtures their creativity. Understanding the relationship between creativity and intelligence, identifying the creativity existing among students and taking suitable measures to nurture creativity should be one main motive behind our school education.

Creativity is one of the highly valued human ability and is the primary dynamism behind all human creations. This human quality springs into action and thought from the innermost recesses of human vision. It is always valued as an expensive gift from god, which can strongly influence different spheres of human activity. Today, creative education is gaining greater significance in all schools because it is sensed as the most productive form of education capable of promoting human advancement. Teachers should awaken from their conventional, rigid and enclosed teaching methods, and renovate it for fostering creativity by favourably invoking and responding to their creative responses. Everyone at one or any level can become creative, and can come out with creative outputs. For 'creativity promotion' to become an important objective of the school education, teachers have a vital responsibility, and can be



brought into effect by applying the 'task of effort 'to three main areas like Invoking creative responses in students by implementing creative teaching, Responding effectively to the creative responses of the students and nurturing it for greater benefits and Sustaining an environment that provides chances for imagination and creative thinking. Hence in this chapter discussion are done for the points like creativity, intelligence, relationship between creativity and intelligence, identification of creativity in students, requirements for creative teaching, certain methods for fostering creative teaching and some school activities for the promotion of creativity.

Key Words: Creativity, Intelligence, Creative teaching.

Introduction:

Times back, there was a time when creativity was considered to be as a result of higher degree of general intelligence. Advancement of time, extensive research and widened knowledge has established that creative abilities possessed by an individual can be distinguished from his general intelligence. In addition, there was a belief that students with higher IQ are naturally creative, which mayn't be true always. Teachers should clearly understand that creativity and intelligence though have a relationship to certain extent can be relatively distinct from one another. Intelligence in the form of knowledge and skills can function as a supporting backdrop for creativity.

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The three main areas of importance are:

- Invoking creative responses in students by implementing creative teaching
- Responding effectively to the creative responses of the students and nurturing it for greater benefits.
- Sustaining an environment that provides chances for imagination and creative thinking.

Imagination is that tool that makes an individual to become creative, Great inventors, So Artists, Writers had incorporated a great deal of imagination and worked on it, thought and were able to create masterpieces. This important intellectual tool, which is the main trial and error as well as leaps of imagination. When a teacher is unwilling to accept the should find a place in our planned teaching programmes. Creativity itself is responses of the students, they feel uneasy and if they are frequently rejected, then) the sad end of destroying the highly valued creativity. When the creative expressions and approaches are snubbed, it can cause unrepairable damage to him and his high-minded creativity. It is notably important to mention here that a very high degree of attention, recognition, appreciation and guidance must be extended to those with average academic intelligence, but posses amount of creative talents.

TYPES OF INTELLIGENCE

Intelligence is the ability to think and reason, to solve problems and to form concepts. Intel development depends on the genetic make up of the brain and on the qualitative opponai obtained from the environment. The intellectual development greatly decides the child's abilin cope with the high demands of this sophisticated and competitive society. Like other human qualitie it matures with growth, and if students get more stimulation and opportunities to develop the intellectual capacity, it will advance. Careful analysis shows that there are students who are cleverer than others, but are found to be really creative. Psychologists have mentioned about sen different types of intelligence.



1. **Logical-mathematical:** Ability to recognize, manipulate, reason and apply logical, numeral and mathematical elements.
2. **Linguistic-verbal:** Reading and writing abilities, and responding to the characteristics of words and expressing the thoughts.
3. **Musical-rhythmic:** Recognizing and responding to rhythms of sound, music and pitch with an appreciation for music.
4. **Visual-spatial:** Ability to make and understand visual-spatial representation, pictures and putting meaning to what is seen.
5. **Bodily-kinesthetic:** Ability to control body movements according to the need of situations and improve the motor co-ordination.
6. **Interpersonal-social:** Controlling and regulating the words and action for co-operating with others and influencing others.
7. **Intrapersonal-self:** Working well with self and improving one's qualities.

RELATIONSHIP BETWEEN CREATIVITY AND INTELLIGENCE

Intelligence can be considered as the ability to explore more and wider within an established mental context, while creativity is the ability of the brain to go beyond the established context, discover innovative solutions, and arrive at the problems from, a new angle. Such an attempt will change or broaden the context. An investigation conducted by Wallach and Kogan identifies students into four groups. Their investigations convey a clear relationship between intelligence and creativity.

The four groups are:

- **High Creativity-High Intelligence:** This group of students has a high degree of intelligence along with a bundle of creative talents and original ideas. Their creative responses may be due to their greater intelligence. Along with their higher intellectual capacity, when they invest curiosity generally come up with productive creativity and imagination they
- **High Creativity-Low Intelligence:** These children are the most neglected. Blocking all their creative responses, they are sometimes labelled as 'dull' by their teachers. When their creativity does not get an acceptance, then naturally they begin to experience dejection, and the felt inner conflict can make them express their



anger. However if they get teachers who will value their creativity, appreciates and upholds their creative ideas, and then definitely they can contribute

- **Low Creativity-High Intelligence:** Students belonging to this group generally show a narrow and focused attention directed only towards academic achievements. With their greater intelligence, they excel in academic activities. Sometimes due to their addiction to academics, they don't spare time for imagination and creative thinking. Since they always strive for academic excellence, any academic failure will become more painful to them. In their efforts for academic excellence, which has to be highly appreciated, sadly the chances for any creative outputs are too low.
- **Low Creativity-Low Intelligence:** This group of children needs more care and affection from teachers. Mainly due to the intellectual inabilities and difficulties experienced by them, they feel inferior. They are perplexed often and usually express defensive manoeuvres and shows psychosomatic symptoms like passivity. Child-like behaviours prevails for a longer period of time. Constant motivation and encouragement can improve their learning efforts and practical works.

IDENTIFICATION OF CREATIVITY IN STUDENTS

The diverse form of creativity that is expressed knowingly or unknowingly must be identified and suitably nurtured to magnify their potential and contributions. Identification of their creative potentials can help in encouraging them to take more better creative leaps. Specific behaviours that are the roots for creativity can be ascertained when:

- They exhibits diverse interests and will be having many interesting hobbies.
- Experiments with the interested tasks in different ways and attempts to change them into new findings.
- Shows greater enthusiasm in creative problem-solving and draws out creative solutions to the problems.
- Expresses about their original ideas and attempts to transform them into creative works.
- They show greater curiosity towards the creative works of others and express the felt bursts of inspiration.
- Looks at things with new perspectives and are anxious to apply new thoughts and create something novel with self-initiated actions.



- They are more imaginative and think differently and creatively.

Albert Einstein says-"I have no special gifts -I am only passionately curious" Curiosity along with imagination and creative thinking are the influential factors that can cause the flow of creative Ideas. Psychologists have mentioned about the four initial stages essential to produce creative thoughts and creative works. Emphasis on these mental factors fosters and enhances the natural Creativity:

- **Mental reframing:** Holding interesting or curious thoughts in the mind and reframing the thoughts or problems to make it simpler or systematic.
- **Mental relaxation:** Practicing mental relaxation during which the mind is free of all other thoughts, but relatively focused only on the interested thought or problem. It can give new insight and release creative ideas.
- **Mental Illumination:** Sudden snaps of insights and all background thoughts finally break into the consciousness. Such mentally evolved new ideas have to be recorded before they are forgotten.
- **Mental selection:** All the right creative ideas are selected to start and produce some unique and innovative work. Certain creative thoughts can be far beyond the level of transforming it into any form of creative realities. Creative minds should select creative ideas that can be executed into creative piece.

Research of Torrance mainly suggests that teachers should show respect towards student's imagination, and the unusual ideas expressed. They should feel that their ideas are valued. Students should be made to develop creative thinking as a habit. They should also begin to think as creative person, which becomes a self-stimulating factor that enables them to become creative person. A stimulating environment with lots of encouragement will serve as opportunities that generate many creative ideas. All the best creative ideas that surfaces in the minds of the students should be emboldened to transform them into creative outputs. In an encouraging atmosphere in the school, all new ideas and inventiveness visualized in them should be supported to flourish into high-quality ability and prevent it from being suppressed into less-developed ability.

By breaking the barriers of conditioned thinking and motivating differential thinking, enable them to be involved in pursuits that are more creative. Even encouraging 'group



creativity' during which creative ideas put forward by a group of students are organized into creative outputs. Praise and reward the creative works of the students so that they get stimulated to scale the higher targets of excellence. Researching and practicing in the interested areas and materials will generate new insights, open up new perspectives in the mind, that will float the highly valued human ability -creativity.

Anatole France says "The whole art of teaching is only the art of awakening the natural of the young minds for the purpose of satisfying it afterwards. The springs of natural curiosity-the base for creativity can be opened out by planned creative teaching. The proves teachings in present day teaching in school are actually making students more and more imitative rather than creative. This greatest malady prevailing in many schools should be suppressed by creative methods of teaching. Drawing out the unexpressed creativity in every student is also one of the prime objectives of education. Every child in the class need not be creatively genius by birth, but certain degree of creative interest can be fostered by the thoughtful effort and desire of teachers. The present education system, which follows a rigid course of prescribed syllabus, does not provide ample opportunities for developing the thinking skills in schoolchildren. We have to support a system of education, which at every stage provides freedom for creative thinking. Just the bookish teaching and learning, narrow outlook of the teachers and rigid methods of teaching has always been one set of major obstacles that has been suppressing creative interests in students.

In most of the students when their creative thoughts do not get encouragement and proper channels for expression, it is forced to remain dormant within them. This deficiency prevailing in our educational process should be overcome, to make this teaching-learning process more productive. Our teaching approaches should transform students into good thinkers and lifelong learners. Teachers should adopt different forms of creative teaching with a learner centered pedagogical teaching method replacing the less productive and rigid traditional methods. The pre-requisite for this type of teaching approach is prior understanding of the objectives of creative teaching and proper planning. Developing the wide range of interests, awakening natural curiosity and nurturing creative thoughts through a systematically organized programme of instruction are the basic objectives of creative teaching. If teachers



are able to create a creativity-fostering atmosphere, the rest will be done by the atmosphere itself. Even the wingless leaves can fly birds when wind blows.

CREATIVE THINKING

The creative and imaginative qualities can be greatly enhanced by incorporating selected activities into the classroom. By breaking from the usual thoughts and opening the minds for more unconventional thoughts, broadens the chances for creativity, Students to be good thinkers must be good at observing, listening and remembering or recollecting information. Then they should ask questions to themselves about what is observed, experienced or heard. Stronger is the observation and listening power, more they tend to ask questions about it. Encourage the child to think differently, deviating from the normal ways of thinking. With good inputs into the brain, in a relaxed state should be the right means to activate the brain to try some unusual outputs or Ideas. They should also be careful to retain the ideas within the grip of memory so that they can construct on the ideas, over a period of time to generate novel results. Also, teach students to be more to the innumerable creativity of the nature.

When students are fascinated towards the wonderful mechanism of the nature, they keep thinking more about them. Creative thinking working in the mind generates many ideas. Ideas when transmuted into action with definite planning, many creative works results. Everything ultimately depends on the initiatives taken by teachers to create right situations that induce creative thinking and imagination.

It is noteworthy to mention that one of the greatest and most powerful stimuli that support the creativity is curiosity. When properly harnessed and transmuted, this driving force is capable of nourishing the creative abilities. Situations which can generate curiosity, and efforts to sustain the curiosity and making them to respond creatively to the stimulation, when done and achieved will show your skill and ability. Try to set up more open-ended tasks that make them to find out divergent outcomes. Help students to develop skills in self-expression, which acts as a foundation to convert the creative thoughts into practical pieces. Attempting to explore the possibilities and applying deeper thinking will help in launching creative pieces.

REQUIREMENTS FOR CREATIVE TEACHING:

It is a fact that teachers cannot transform each student into individuals with high creative ability. However, during their stay at the school, students can be trained to think in a



creative manner. Any small extent of their creative potentials and talents can be nourished, developed by recognizing them and by providing them sufficient activities and opportunities.

The following requirements mentioned acts as pillars for the act of creative teaching:

- Divergent thinking, novelty of ideas, flexibility and originality of thoughts should be possessed and experimented.
- One should be sensitive enough to notice the prevailing eagerness, curiosity and high degree of interests being exhibited by the students.
- Teachers themselves should have or develop the power of imagination, because creativity is basically unleashed imagination'.
- One should have good inter-personal relationship and social interaction with students, which helps in easier spotting and fostering of creativity.
- Teachers should have a mind-set to evaluate the effects of creating a positive environment through imaginative or creative activities.
- Teachers should not forget that creative or imaginative ideas and qualities could be developed and enhanced in students by your own classroom behaviours and initiatives.

CERTAIN METHODS OF FOSTERING CREATIVITY

If students do not show a natural inclination towards creativity, some degree of creativity can be fostered by teacher's initiatives. Some of the practical suggestions that develops creative thinking, and which promotes creative qualities are:

- Teachers should encourage students to read critically, analytically and creatively. The should be informed to write down all their creative thoughts, everything that impress their mind, and to think more about it.
- During some teaching situations, avoid saying everything about a topic and make them think. Provide them those productive opportunities that allow them to freely express and arrive at conclusions.
- Make students to work in groups on a set of ideas that are appealing to their interest and ask them work on it and incorporate all the best parts of the contributions into some novel output.



- Should ask them those questions that elicit original responses from them. Treat their unusual questions with due consideration. Open-ended questions bring out range of responses sometimes highlighting the originality.
- Give them assignments that are more challenging and discourage rote memorization. Let the assignments stimulate in them the quality of exploration and originality.
- Expose them to many opportunities that generate many ideas in their mind. Guide them appropriately to transform good ideas into productive realities.
- Set activities or study programmes that sets open-ended tasks that motivate them to search for divergent outcomes rather than only convergent outcomes.
- Teachers should appreciate the creative behaviours of students in front of others. Reward in whatever possible way, all their creative achievements and self-initiated actions.
- Encourage them to take part in the activities of the science club, art and literary club, nature clubs organized in the school and take initiatives to present the creative qualities in them.
- Develop creative imagination, inquisitiveness and a spirit of enquiry, which are essential components of creativity.
- Students should be taught to be creative in their observation and spare time to the unusual in and special features.
- Discourage any form of self-criticism because it is demotivating unfavourable state of mind fails to create new ideas.
- Teach them the importance lying in divergent thinking, a habit of searching for difference and different ways of organizing the knowledge. creativity.
- It is said that if they are encouraged to use the rough book, it encourages becomes easy for them to draft and re-draft their original ideas and workout the creative thoughts.

SOME SCHOOL ACTIVITIES THAT PROMOTES CREATIVITY

Clark defines creativity as 'the synthesis of all human functions including emotion, cognition, action and intuition'. Teachers should generate plenty of chances to actively engage them and nurture their creativity. Certain tasks and projects have to be set as part of



programmes of study for the development of creative qualities. Here are some activities that helps students to be more creative and more creatively self expressive;

1. Formation of a readers club: Students read, explore and responds to the contents of the book from different angles and takes time to imagine creatively on the interested topics of the book. They share their entries about a book with others, expresses their personal views. A group discussion about the feeling of the contents brings out the self-experienced thoughts and ideas.

2. Formation of a reader's theatre: Without any stage setting, costumes and memorized repetitions, students acts out certain stories, situations read from book through their vocal, facial expressions and gestures.

3. Working on projects: Students, in consultation with their teacher selects the topics. They study, experiment, investigate, research on the components of the project, and finally prepare a report highlighting the results of the study. More scope is provided to come out with creative and self-discovered outcomes.

4. Formation of writers club: Adequate time and guidance is given for the students to write, compose, edit and publish some form of literary articles in a readable format. Here again self-imagined, self-constructed literary works are valued and appreciated.

5. Formation of science club: "Learning by doing and learning by living are the two cardinal principles of teaching and the same is truly applicable to teaching and learning of science. It is a natural urge in children to make things, to break things and to handle things and they should get opportunities for self-expression, independent research, constructive activities and projects outside their normal curriculum. The organization in the school, which can provide an outlet for the pent-up (unexpressed) emotions of children and canalize their energies towards desirable goal, is the science club.

Thus, it is an important organization, which caters for the inculcation of scientific attitude, a genuine interest in science, and scientific activities, supplement the work of the classroom and the laboratory, and puts science syllabus on practical route. Activities of the science club will make learning of science more joyful, enhances their comprehension of scientific facts, and develops a zealous enthusiasm in them to strive tirelessly for the cause of science.



The main aims of the science club should be:

- To increase knowledge and understanding of scientific phenomenon.
- To provide for students the study of science at the highest intellectual level. To develop in them a sense of healthy competition for a better cause.
- To keep students in touch with the recent advances of science and know the effects of such advances on human life.
- To inculcate scientific attitude and provide opportunities for training in scientific methods
- To always have a concern for protection and conservation of environment Important activities that could be included into the activities of the science club are project work, seminars, model preparation, chart preparation, visit to science museums and places of scientific interests, nature study trips, collecting information about different topics of science in CD-version, preparing herbarium of medicinal plants, maintaining scrap book with newspaper cuttings related to science topics and maintaining a small garden of few important plants.

Thus, teachers should skillfully promote more and more creative expressions by systematically subjecting them to different mental functions like imagining, thinking, reasoning, visualizing conceptualizing, trying new ideas, differently applying and thus encourage them to grow creatively There should be many moments in the teaching-learning process for expression of originality, production of new ideas and expressing things in a unique way. Teachers has to step out of the routine and habitual process of the formal education and take necessary step to generate the momentum that greatly encourages self-expression and self-fulfillment that leads to the joy of invention and discovery.

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