



CHANGING THE PARADIGM: DEVELOPING NEW UNDERSTANDINGS OF CREATIVITY IN HIGHER EDUCATION

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Abstract

Higher education occupies a special position in the educational system of any nation because it is at the apex of the entire educational structure and thus influences all levels of education. Through ideas and innovations, its influence on the future of the nation is also very considerable. It is higher education firstly, because it constitutes the top most stage of formal education and more importantly because it is concerned with processes in the more advanced phases of human learning. The entrants are about eighteen years of age and therefore they are mentally mature and capable of performing at the abstract level. They can analyze, synthesize and grasp concepts and ideas of all kinds. Their creative faculties are also developed adequately. Consequently the content, methods of interaction and organization of work have to be very different from what they are at the school. If education strives to prepare children for a productive life in society, the educational system must accept responsibility for supporting and developing creativity. (Vijayalekshmi, 2013)

Keywords :- Creativity, De Bono, Techniques, The six thinking hats, The concept fan, Provocation, Movement, SettingUp Provocations.



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Introduction:-

India, the second largest populous country in the world, faces twin problem of unemployment and poverty. In order to accelerate its pace of development and to increase the annual growth rate, it has introduced New Economic and Industrial Policy (NEP) in 1991. The impact of the policy is visible in the areas of construction, automobiles, pharmaceutical, garments, trade, tourism, education, etc. As a result of this, there is a significant increase in the GDP growth rate i.e., 11.8% in 2003. However, due to the recession in economy, the growth rate has decreased significantly to 7.4% in 2009-10 and 5.37% by May, 2012 (Praveen sinha, 2013). During this period, the education system has been expanded enormously leading to the significant increase in the qualified human resources on one hand and the slowing down of the economy on the other. This has created a social unrest among the youth as they are unable to find employment matching to their qualifications.

The education system of India is very strong with 700 universities with more than 35000 colleges accommodating more than 20 million students. Among the universities, there are Central Universities (44), State Universities (Public 306, Private 154), Deemed Universities (Private and Public 126) and Institutions of National Importance (67). The enrollment of the students show that majority of them are in graduation (85%), Post graduation (12%), research (1%) and diploma and certificate (1%) and others (1%). Among the graduates, majority of them are in Arts (37%) followed by Science (19%), Commerce and Management (18%), Engineering and Technology (16%), Education (4%), Medicine (4%), Law (2%) and others (1%) including Agriculture and Veterinary Sciences.

The industrial expansion in the next five years will create 75 to 80 million jobs and 75 to 90% of all additional employment required some vocational training. The current capacity of the vocational training institutions is imparting in the country is 3.1 million per annum against countries target of skilling 500 million people 2022. According to NSDC, the current education system is not responsive to the skill demands of the existing and future industry leading to a supply demand gap on various counts. The assessment by Wheebox, people strong in collaboration with Confederation of Indian Industry (CII) revealed that employers will stress on skills rather than qualification. The findings revealed that only 34% of the graduates coming out of the higher education institution would be employable and most of them lack necessary skills required for any role in the industry. Further, it has stated that the students coming out of the higher education institution were not only poor in English language but the basic domain knowledge respective fields was also very poor. Lack of confidence and poor problem solving skills was there in most of the students.

Further, the then Prime Minister in his Independence Day speech way back in 2006 stressed upon the issue of skill gaps i.e. we will need to ensure for greater availability of educational opportunities at the higher educational levels so that we have not just literate youth but a skilled youth, with skills which can fetch them gainful employment as our economy booms and as industry grows. As a country endowed with human resources we can let this be a constraint (NSDC, Home page). On the other hand, the NSDC projected a huge demand-supply skill gap of 90% in India and estimated that only five per cent of youth in India are vocationally trained entitling the requirement of vocational training. The mismatch between the educational system and employment market, is largely due to the production of graduates and postgraduates based on the theoretical curriculum without any practical training. This has led to the loss of manpower, unemployment, low economic productivity, etc. This is largely due to the fact that the present education system provides basic education

various levels without focusing on any specialized skill. Hence, in order to improve the quality of manpower and to make use of the manpower readily in the employment market, there is a need to equip the graduates, postgraduates with specialized-vocational skills according to their aptitude so as to enable them to quickly get absorbed and adjusted with the local employment market. (Reddi, 2016)

Skill India:-

In order to promote the entrepreneurship and to supply the required man power, the skill development programme launched earlier, was revised and relaunched as Skill India in March, 2015. It is aimed to create opportunities, space and scope for the development of talents among the youth and the sectors for skill development. It is estimated to cover 500 million by 2020.

The no. of students at the graduation-level is more. The industrial sector today needs a lot of creative persons. Same is the need for the progress of our nation. If the students are taught / trained to develop their creative skill, through higher education, then they will not only develop themselves but also directly help in developing the nation as well. This will decrease the problem of unemployment among youth to a great extent.

Definitions of creativity :-

1. **Passi, B.K. (1972)** – A multi-dimensional (verbal and non-verbal) attribute differentially distributed among people and includes chiefly the factors of seeing problems, fluency, flexibility, originality, inquisitiveness and persistency. (Passi, 1988-92)
2. **Welsch, P.K. (1980)** - Creativity is the process of generating unique products by transformation of existing products. These products, tangible and intangible, must be unique only to the creator, and must meet the criteria of purpose and value established by the creator. (Passi, 1988-92)
3. **Alvino (1990)** – “A novel way of seeing or doing things that characterized by four components fluency(generating many ideas),flexibility (shifting perspective easily),originality (conceiving of something new) and elaboration (building of other ideas) (Kumari, 2014)
4. **Edward de Bono (1992)** has brought in three diverse concepts into his definition of creativity. at the simplest level, he says, creativity means “bringing into being something that was not there before”. The second aspect his definition raises is that “The new thing must have, ‘value’ and to these, he adds a third element namely that it must include the concepts of “unexpectedness and change”. The creativity involved in







generating idea, is a thinking skill that can be taught the methods of lateral thinking. (Kumari, 2014)

The creativity involved in generating idea, is a thinking skill that can be taught the methods of lateral thinking. De Bono (1967) invented the term ‘Lateral Thinking’. According to the Oxfords English Dictionary, Lateral thinking is “... a way of thinking which seeks the solution to intractable problems through unorthodox methods, or elements which would normally be ignored by logical thinking”. Lateral thinking is specifically concerned with the generation of new perceptions and new ideas. In general it includes thinking outside the box. Lateral thinking is a set of tools and structured techniques in order to develop truly innovative ideas and solutions while creative thinking is based on the premise that the best way to get a good idea is to get lots of ideas. Lateral thinking is generative and creative thinking is creative in nature. (Kumari, 2014)

Tools and Techniques:-

- **Six Thinking Hats Strategy :-**

Six Thinking Hats strategy has six coloured metaphoric hats an each colour of the hat represents a different mode of thinking. This is a system of conscious thinking that focuses an individual’s thinking in a specific direction for a specific period of time. It is a simple, effective parallel thinking process that helps people to be more productive and mindfully involved. It requires students and teachers to extend their way of thinking about a topic by wearing a range of different thinking hats. ‘Six Thinking Hats’ strategy is very useful for teacher educators, teachers as well as students. It is an extension of existing education system and of course a positive step towards new dimensions of education.

COLOURED HAT	THINK OF	DETAILED DESCRIPTION
	White paper	The white hat is about data and information. It is used to record information that is currently available and to identify further information that may be needed.
	Fire and warmth	The red hat is associated with feelings, intuition, and emotion. The red hat allows people to put forward feelings without justification or prejudice.
	Sunshine	The yellow hat is for a positive view of things. It looks for benefits in a situation. This hat encourages a positive view even in people who are always critical.
	A stern judge	The black hat relates to caution. It is used for critical judgement. Sometimes it is easy to overuse the black hat.
	Vegetation and rich growth	The green hat is for creative thinking and generating new ideas. This is your creative thinking cap.
	The sky and overview	The blue hat is about process control. It is used for thinking about thinking. The blue hat asks for summaries, conclusions and decisions.

- **The Concept Fan :-**

Concept fan is one of the alternatives. Suppose there is a room in which there is a ceiling. Ceiling is fairly high enough and I wish to attach the balloon on the ceiling. What do I do? May be I will use a ladder or I will climb the wall and put the balloon on it. Maybe in some occasions we can stick the balloon to the ceiling directly.

When ladder is not available, we are finding the alternatives for the ladder. Now what are the other alternatives to use. You can stand on the table, that way you will be using similar function of the ladder because ladder takes you up closer to the ceiling so the same function can be done standing on a table or stool or you can be lifted by another person and say just lift me up for sometimes. Little kids stand on the shoulders of other kids and they reach the height just like in 'Dahihandi'.

Another alternative could be to use a sticking gum and with the sticking gum the balloon can be attached to the ceiling and it will get set over there. So this is creativity. Creative things means, all alternatives are similar to the ladder but lastly you have to use the creative idea to have the same result. Another thing could be let the balloon travel to the ceiling if you fill in it a gas. Lighter than air like helium or hydrogen. These balloon automatically travel to ceiling and stay over there. You can also save the pains of sticking. These are the various ways to do achieve the same thing.

Using Concept Fan:-

First idea, first alternative is ladder. The fixed point is raising me above the ground. Ladder raises you up from the ground. It makes you closer to the ceiling, it takes to higher. So the fixed point is, raise me above the ground. If you use fixed point, you may be able to generate new ideas. If the ladder is not available use the stool, use the table on which you can stand. Third idea could be if where is no stool, no table is available, no ladder is available to tell somebody to lift me up. So same fix point is generated for the new idea. So you have an idea and you have a solution also. You find the solution to attract its important features and main as a fixed point. So ladder takes you up. Fixed point is Concept which generates ideas or generates alternatives.

- **Provocation :-**

Provocations are unusual ideas / concepts or statements. It is according to 'de Bone'. He says that suppose we use provocation just like that it looks like a silly statement. So in order to declare whatever is going to follow is going to be a silly statement, which we are going to use along with in the movement to create, to generate new concept. Let us use a

word which is called PO and it has now become a part of the English language dictionary. This PO says ----- whatever is going to follow provocation, don't take it in a little manner, don't take it as coated, for ex. We say PO cars have square wheels now if the word PO was there and suppose somebody says the cars square wheels then probably he would feel isolated and say 'ok' the car has square wheels but we know that cars don't have square wheels. So that is why this word is invented in order to be sure whatever. You heard you take it seriously. You do use an artificial manner. You use a translitical manner. It is used for movement to generate further useful ideas.

Another provocation is PO, Aero planes land upside down, this is a new idea. Planes don't land upside down. They have used run way. Just like a slide just they take the run. Way slowly and slowly lift and they become airborne but if the planes want to take off like a rocket. Suppose this is the idea, this is the provocation. You have a mind and you will put it like this PO, planes lands upside down or they may take off upside down from down to up.

The purpose of provocation is to escape from the routine or usual ways of thinking. So whenever we try to think in an unusual manner, to think, we use provocations.

Provocation is also compared with hypothesis. Hypothesis is something which we use in scientific method of exploration. There we observe certain things and make very serious kind of hypothesis. Hypothesis is not like provocation. Hypothesis is concrete, very real, & responsible. Provocations are unreasonable. Hypotheses are used to test them. We accept them or reject. Provocations are not tested. We move them to get newer ideas.

Provocation and Hypothesis they have the similarity that is they seek our perception, one is a coverage, the other is diverse when we use the hypothesis we are either systematically accepted or rejected. It is useful in getting more knowledge. Similarly provocations are little bit unreasonable, but with the movement we find more reasonable solutions and we can explore using provocations to find new things.

There are two stages using the provocation, if you want a final alternative or you want to do exercise using provocation, so we set provocation. We define a provocation, write a statement starting with PO which gives a provocation and then we use the provocation but we are not going to see in this particular manner. In this sense and in this sequence we are going to do reverse way.

- **Movement :-**

Once provocation has been generated, we modify those ideas and concepts which are depicted in the movement and that gives us some ideas or concepts or ways of doing the same thing in better ways. Provocations themselves are not very useful but when you modify them

or change or alter them little bit here and there, you get something new quickly. There is a difference between movement and judgment. In judgment we analyze the concept and we either accept or reject it. We find it profitable or less profitable. We find it as practical or non-practical and we reject or accept the specific solution.

In movement we don't accept them or reject in specific provocation. We take it as if it is a stepping stone. We move from an old provocation model towards a newer concept, newer thing and then we try/test that thing is going on or not. So this is the basic difference between movement and judgment.

There are two fundamental ways in which movement can be generated or can be used. These are general attitude and systematic techniques.

1. **General Attitude:-** Once you are used to it with enough practice or experience and it come without conscious effort, you can do the moment technique. You don't have to work really hard. It happens just by chance or naturally. Basically we use the hunches. In provocations we develop some hunches, some innovative ideas, innovative concepts which we can use as solutions or techniques.
2. **Systematic techniques:-** Which work on the movement we generate from provocation. We can do the movement and get to the useful or better ideas.

There are five techniques of systematic nature.

1. **Extract principle/feature/concept:-** We can move from concrete to abstract ideas and we can find out what are the broader things or broader ideas in it. For e.g. What are the basic principles, basic features, concepts involved? And from that we can get to some sort of a solution.
2. **Focus on difference** – (present practice and provocation)
Whatever the provocations suggest, we need to find the difference. If you can observe the difference then you will find some ideas to modify. For e.g. PO, long thin stamp. Gun area focus (stamp). It is a very creative idea. It can be used for sealing. We can modify the system where length would represent the value. That further would help us to practice using thin long stamp.
3. **Movement to movement:-** Let us assume that the provocation has become the reality then how life is going to change from movement to movement for e.g. Suppose PO refers to square wheels whereas all the cars have round wheels and here the provocation is to imagine that the car has square shaped wheels instead of round. How can you visualize this? You have a car in which wheels are there in the shape of the square. You want to make a move so start up and down like bumpy ride. Road is

bumping so it maybe bumping and bumping and double bumping too. But we need to have a smooth drive. Live the life movement to movement.

4. **Positive aspects :-** Focus on + aspect of pro. PO, Engine on roof cease of repair, more space, less risk of damage, easy cooling.
5. **Circumstances :-** more value. PO, Engine on top. PO, Rounded bottom glass. PO, Yellow-shirt candidates.

- **Set up Provocation :-**

First provocations are used and then provocations are set. What are the various sources of provocation? Provocations are very crazy kind of ideas. They may not be useful, they may not be the correct solutions right now, but they may lead to a useful concept if you develop them further. Provocation comes from the sources of ‘creativity’. It just comes by chance or accidentally.

Setting provocation technique:-

1. **Escape Method:-**You see, what is taken for granted or things which you do throughout the day and even use become parts of our lives and we find it extreme difficult if these things are unavailable. For e.g. You want to set up a hotel. You find good waiters who don't do argue with people. You can have character waiter. Menu:-I will take it ---- dish. You choose a dish. Good. Our chef is very famous for whatever dish he prepares. People like to have it. This is how new concepts are also born.
2. **Stepping stone:-**Visualize that on a walk you come to a stream that you need to cross. Your first action is to pick up a large stone and throw it into middle of the stream. The second action is to use the stepping stone to get across. I mention this analogy to indicate that setting up the stepping stone and using the stepping stone are two distinct operations.

All the mentioned techniques (The six Thinking Hats Strategy, The Concept Fan, Provocation, Movement and Set up Provocation) have been mentioned by ‘de Bono’ in his book named ‘Serious Creativity’(1992).

Conclusion:-Creativity need not be seen as a standalone competency but in the context of other abilities and capacities that are developed through a tertiary education. If creativity is central to being, then higher education needs to understand what it means to be creative in many domains. We need to raise awareness of what creativity means in these different contexts and encourage educators to support forms of learning that will enable students to develop the forms of creativity that are most appropriate for their fields of study and future careers. Higher education needs to see creativity within the important role it plays in

preparing people for an uncertain and ever more complex world of work, a world that requires people to utilize their creative as well as their analytical capacities. The work needs people who can combine their knowledge, skills and capabilities in creative and adventurous ways to find and solve complex problems. Creativity is important to our inventiveness, adaptability and productivity as an individual, and to the prosperity and functioning of our organizations and more generally to the health and prosperity of our society and economy. A majority of the schools in India suffers from the absence of creative and aesthetic efflorescence. Every learner enjoys undesirable scope for being imitative rather than creative. The need for stepping up of higher education to foster the spirit of creative and aesthetic awareness has become a must. Realizing the fact that creativity is an important element in relation to education and societal growth, the higher educational system must accept responsibility for supporting and developing creativity.

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