

Review

Creativity is an axiomatic principle of human life. No culture could ever make a headway without creative leaders. However not much attention has been given to fostering growth of creative potential through our educational systems. The creative minority is one of the chief resources of any country. It is essential to know about the requisites of creative performance and to provide for them for national progress and elevation of humanity.

However identification of and education for creatives attracted educationists and psychologists only after Guilford's proposition of Structure-Of-Intellect model in 1958 which was a great blow to limited, conventional view of intelligence as measured by IQ metrics (Guilford, 1958). Various studies since then have shown that the conventional IQ metrics emphasizing verbal, logical, analytical thinking do not identify creative potential and creative potential requires different environment to flourish.

While planning for progress in our country it was recognized that 'the undue stress on examination and memory work is not conducive to development of originality or a spirit of research' (Kothari, 1966). However we were not able to put these pious precepts into practice and the output of educational and research institutes was not satisfactory.

When Jnana Prabodhini (JP) started in 1962 special education of intellectually superior and nurturing their potential for remaking of nation, the need for identifying and nurturing creativity was realized. What is the nature of creative potential, how to identify it, can it be nurtured, what kind of environment is needed for its growth, were some questions.

Psychologists in JP seriously attended these questions one by one. There were planned steps to explore this field through post graduate and doctoral researches.

In 1960's there was much ambiguity regarding the concept of creativity as well as scarcity of literature. So the first step was to study the nature and expression of creativity, its relation with intelligence and other factors (1). Essentially the school population was the target group. In this exploratory study average intelligence was found to be closely related to creativity but high intelligence was not so related, on the contrary, at the higher level the relationship became weaker and even negative. Growth of creativity was found to be obstructed at higher grades. Creative students were not well adjusted in school but were quite independent in thinking. The family background, was also a decisive factor for nurturing creativity. The facts brought forth by this study added to the restlessness of educationists in JP.

If high intelligence does not guarantee high creativity, training for creative thinking was essential for JP students selected on intelligence tests. In another doctoral research the investigator extended the use of SOI model and devised training programme for improving creative thinking in four basic skills - creative perception, divergent thinking, creative appreciation and creative problem solving (2). He analyzed the relative significance of such skills and tested the improvement by Torrance's Tests of Creative Thinking (TTCT). Though training in each skill contributed to improvement in TTCT score, combination of all skills was more effective.

It was not surprising that research in the area like creativity had immediate extension to study other variables and other groups (4). The effect of school climate and sex differences were investigated. No sex difference was noted. Training had additional effect though school climate favoured creative performance. Further techniques of creative thinking were applied in group project work (5) for girls and positive results were observed. Creativity training became a regular class in Jnana Prabodhini Prashala (JPP) and also the techniques were applied through school subjects. These experiments with all girl students (std. VIth - IXth) had positive results (3). The whole school climate became conducive to development and expression of creative behavior. More research was needed for further extensions.

To what extent this design can be successful in different domains? If our country needs more creative scientists, can we train school children for scientific creativity? An educationist with science background took this responsibility. In the doctoral research designed with this aim, the researcher developed various tasks for improving scientific creativity, and also standardized the test battery for its assessment (6). The basic training module was the same as developed in earlier study, but the need for domain specific curriculum and strategies, was clearly revealed.

The expression of creativity and success of training also depend on family background. Parents' education, socio-economic background, cultural values, etc. have facilitating or hindering effects. So the role of these factors was explored (9). Using the same training module and the Torrance's Tests, the investigator compared the effect of training on privileged and under privileged groups of students, and found the favourable effect on both. Though the latter group benefitted more, it did not reach to higher limit of the former. The effect of environment was also evident in other study. In the comparative study of thinking processes of rural and urban women the investigator found both the groups low on creative thinking (7). Culture and values play the major role in both privileged and underprivileged groups.

The next step was to work with teachers and parents, and make creative thinking a part of education. Making some changes in previous module the researcher developed a model

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for enhancing creative thinking in school classrooms through regular teaching and also trained teachers and tested the favourable effect on students (12). In two other small studies programme in creative story writing was developed (8) and the relation between creativity and achievement in science was studied (10). For making any change in the school, teachers' ability and attitude are important variables. In a study of teachers in English and Marathi medium schools difference was noted regarding attitude for facilitating creativity but not in creative ability (11).

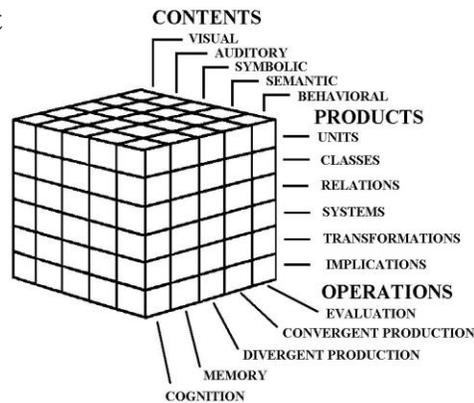
Researchers and trainers became aware of significance of more generalized effect of training in creative thinking. Gradually training in creativity started appearing in other interventions too. Research in creativity attracted attention of both researchers and practitioners; that can be mentioned here. In one such research (35) (in Section III) parents were given training in communication skills and to be creative in child rearing practices. The investigator found the effect on child's scores on creativity tests as well as some factors in intelligence test concluding that creative parents facilitate child's development more holistically.

In another experiment (5) (in Section II) investigator found favourable effect of holistic training in 'Behavioral thinking' including divergent production.

Let it be noted here that in all these researches SOI model and specifically the parameter of Divergent Production that distinctly characterizes creative thinking, have been involved (The diagram of the model is given ahead for reference). In JPIP SOI model has provided a strong foundation for measurement and development of abilities in various strata of society. In that the nature and contributions of SOI get investigated from time to time. Moreover the critical study of SOI research as well as deliberations with scholars and reanalysis of some data done with international experts confirmed its appropriateness (Prof. Usha Khire-Fulbright Program: Senior Research Fellowship, 1990). The abstract of this exhaustive study is beyond the scope of present compilation.

Structure-Of-Intellect

By J.P.Guilford



(J.P.Guilford (1977). *Way Beyond IQ*.

Buffalo:Creative Education Foundation)

Research Put to Use

Because of novelty of the subject creativity and its effect, it was enthusiastically carried to schools as well as industrial work places. There are regular training programmes for children and youth, teachers and officers and executives. They are more comprehensive and deal with creativity in thinking, working and living. Books are published to help children to be more creative. (Kalpak Banu Ya) (English version-‘Be Creative’) and (Pratibhechya Prantatil Pravas) are the scientific and interesting outcomes of the study.

The wider perspective by SOI model has given a strong foundation to produce numerous tests for measurement of abilities as well as to design training programmes for their enhancement. There are also books covering full array of these abilities. (Hasat Khelat Buddhivikas) (English version-Enhancement of Intelligence), (Buddhivaibhav) (English version-Glory of Intelligence)]

What is needed?

More studies are needed to find out the factors limiting creative expressions and contributions by women and under privileged. Culture and creativity can be studied at different levels such as family, organization and society at large. (e.g. There was a study by Dr. Ashok Nirpharake on ‘Culture and Creativity at Japan’ done at Nagoya University, 1977.)

Identification of creative potential poses a problem. Creativity tests are essentially open-end tests and psychologists have to change the mindset to spend more time for using these tests. We need to standardize new tests and qualitative observation methods.

Though training in creative thinking is spreading the message it has distracted psychologists from significant research questions such as role of commitment in creative endeavour and a synthesis of Wisdom, Creativity and Intelligence' for adult excellence. Training in creative thinking skills is training in creative intelligence which is only a part of 'human creativity'; hence a confluence of Indian and western approach is essential to explore 'human creativity' in all walks of life and more so in research and training in creative leadership.

References :

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