## CHAPTER VI

### SUMMARY AND CONCLUSION

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CHAPTER VI

SUMMARY AND CONCLUSION

INTRODUCTION

In the past, people have always been interested in men and women who have superior ability. However, one finds that in many societies because of socio-cultural conditions, talents have remained anonymous in spite of interest in such people. Now, of course, one finds practically all societies greatly concerned with identifying talent and providing opportunities for its upward mobility. The national planners in India, have also emphasized the development of human resources through the cultivation of talents through special educational programmes (National Education Policy, 1986). It has rightly pointed that the talent needs to be assessed, nursed and nurtured through effective educational endeavours. The education Commission (1964-66) has also observed that the talent has to be identified early and allowed to grow in the best atmosphere and under the best teachers. However, not much attention seems to have been paid to the education of the gifted and creatives in India.

The exceptionals, with superior intellectual and creative abilities are badly neglected. The contribution of the gifted and creative is highly significant to the growth of the society. They create new horizons and set new standards in
science, technology, literature, fine arts, industry, social leadership, and in other walks of life. No sooner does society become devoid of nature's gift of talents it would start to stagnate and ultimately perish (Mohsin, 1963). They can make original contributions in their area of work and contribute to the society's most precious resources.

Arnold Toyanbee (1964) considered the creative and gifted as society's great asset and stated that they have the type of talent which can make history, through reshaping man's world. It has been estimated that approximately 200 out of every 1000 children are gifted and can contribute significantly to the welfare of the society. But, as the gifted children are neglected in schools and colleges, held on par with the average child, their talents are lost, often irrevocably, both to themselves and to society. Therefore, their talent should be identified in time, cultivated and utilized for the good of society.

NEED FOR AND SIGNIFICANCE OF THE STUDY

Understanding the personality of the pupil is extremely indispensable for any teacher entrusted with the education of any type of children whatsoever. Such an understanding is particularly indispensable for a teacher of exceptional children obviously because their individual differences are all the more sharply drawn in certain significant respects. With a complete
understanding of the individual personality of the talented child, his education becomes a relatively smooth, progressive and even pleasant process.

Until the late nineteenth century, very few systematic studies have been done on the gifted and creative students. In India, not much work seems to have been done in the area of giftedness and creativity. In a tribal and remote area like Mizoram, there is only one investigation undertaken in the field of special education. The study by Varparhi Khiangte in 1987 is mainly meant to develop a creativity test. This indicates the necessity of undertaking research in this field. Also the education of the exceptional children has not been paid much attention. Therefore, the present study has been designed to identify the gifted and the creative college students in Mizoram. The personality characteristics and the problem solving ability of the gifted and the creative has been studied. Personality and problem solving ability differences with regard to gender, course of study and differences in socio-economic status of the gifted and creative are also analyzed.

STATEMENT OF THE PROBLEM

"A Study of the Gifted and Creative College Students in Mizoram in Relation to their Personality and Problem Solving Ability".

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OBJECTIVES OF THE STUDY

The major objectives of the present study are:

1. To identify the intellectually gifted students from the colleges of Mizoram.

2. To identify highly creative college students.

3. To study the personality characteristics of the gifted and creative college students.

4. To study the problem solving ability of the gifted and creative college students.

5. To find out the existing provisions for the education of the gifted and make suggestions for special education schemes in the state of Mizoram.

HYPOTHESES

1. There is no significant difference between the gifted and creative college students with respect to 16 personality factors.
2. There is no significant difference between the gifted and creative college students in their problem solving ability.

3. There is no significant difference in personality, problem solving ability of students grouped on the basis of gender, course of study and socio-economic status (SES).

4. There is a constellation of personality characteristics and problem solving ability of the students belonging to groups such as gifted and creative.

DEFINITION OF TERMS USED

Giftedness

Paul Witty (1958) defines giftedness as remarkable performance in any potentially valuable human endeavour. For the present research, the term gifted is taken to mean the students with potentially high intellectual ability and is measured by the standard Progressive matrices by Raven (1992).

Creativity

Creativity is taken as a divergent thinking process enabling the pupils for creative outputs (novel and useful) and measured through verbal and non-verbal creativity tests on four primary traits - fluency, flexibility, originality and elaboration.
Personality

Personality is more or less stable and enduring organization of person's character, temperament, intellect and physique which determine his unique adjustment to the environment (Eysenck, 1970). It is that which permits a prediction of what a person will do in a given situation (Cattell, 1972). For the present research, the personality characteristics are defined in terms of the sixteen personality traits and measured by the 16 PF questionnaire (Cattell and Cattell, 1979). The 16 personality factors are:

1. Factor A  Reserved-outgoing
2. Factor B  Dull-bright
3. Factor C  Affected by feelings-emotionally stable
4. Factor E  Humble-assertive
5. Factor F  Sober-happy go lucky
6. Factor G  Expedient-conscientious
7. Factor H  Shy-venturesome
8. Factor I  Tough minded-tender minded
9. Factor L  Trusting-suspicious
10. Factor M  Practical-imaginative
11. Factor N  Forthright-astute
12. Factor O  Self assured-apprehensive
13. Factor Q₁ Conservative-experimenting
14. Factor Q₂ Group dependent-self sufficient
15. Factor Q\textsubscript{3} Undisciplined self conflict-controlled
16. Factor Q\textsubscript{4} Relaxed-tense.

**Problem Solving Ability**

The skill of the students in understanding and analyzing a problem and applying the scientific knowledge and method to solve them is designated as problem solving ability in the present study, and is measured by a Problem Solving Ability Test (PSAT).

**SAMPLE**

The sample for the study consisted of 600 students (286 males and 314 females) selected at random from Pre-university classes of seven colleges in Mizoram.

**TOOLS**

2. 16 PF Questionnaire (Cattell and Cattell, 1979).
3. Creativity Test (Khiangte, 1987).
5. Socio-economic Status Index (Lalrinkimi, 1988).

6. Biographical Inventory devised by the investigator for the study. The inventory contains items to elicit information on personal and social characteristics such as students age, sex, course of study, locale, parents education, parents occupation and income, birth order, the students social and cultural participation and their creative talents.

COLLECTION OF DATA

For the present study the investigator collected the data from students of seven colleges of Mizoram during October-December, 1995. The investigator personally visited the colleges selected for the study. The tests were administered to the pre-university students after obtaining permission from the college authority. After establishing rapport with the students, the investigator obtained the responses in general data sheet. After that the 16 PF test was administered followed by Problem Solving Ability Test (PSAT). The students were given some rest and refreshments were provided. Then the creativity test was administered followed by the Standard Progressive Matrices (SPM) Test. The time taken to complete all the tests was about five hours. In all, these tests were administered to 600 P.U. students from the seven colleges from the three districts of Mizoram.
ANALYSIS OF DATA

The data collected from the 600 students were tabulated after scoring the responses on intelligence, creativity, personality and problem solving ability tests using the standard scoring procedures. Each student was assigned a serial number and their details regarding sex, age, parental education, parental occupation etc. were entered in the tabulation sheet. The socio-economic status of the students was found out following the socio-economic status index (Lalrinkimi, 1988).

The identification of the gifted and creative students were done following a standard criterion. The students who have the score above the 75th percentile in the ascending order in the intelligence and creativity tests were classified as the gifted and the creative. A 't' test was employed to compare the mean scores of the groups based on intelligence, creativity, sex, SES and locale. Pearson Product Moment method was applied to compute intercorrelations between the test scores of students in various groups. The coefficients of correlation were tested for significance by comparing the value with the table values for corresponding degrees of freedom and were interpreted following the scheme suggested by Garrett (1981).
The following are the main findings of the study.

1. From 600 students, 81 students were identified as gifted (G), 93 students were identified as creatives (C). It was also found that there are 48 students who were gifted-creative (GC). This type of overlapping has also been observed by other researchers (Gakhar and Kaura, 1976; Getzels and Jackson, 1966). There are 45 gifted males and 36 gifted females, 53 creative males and 40 creative females and 29 gifted-creative males and 19 gifted-creative females. There were 12 science, 28 commerce and 41 arts gifted students, 18 science, 36 commerce and 39 arts creative students, and 20 science, 24 commerce and 4 arts gifted-creative students. There were also 44 low and 37 high socio-economic status (SES) gifted students, 71 low and 22 high SES creative students and 26 low and 22 high SES gifted-creative students.

2. The personality and the problem solving ability scores of the gifted and the creative students were compared applying the 't' test. The results revealed that the creatives had significantly higher mean scores than the gifted groups on personality factors F, H, and M at .05 level, and on factor Q₁, at .01 level of significance. However, on factor B, the
mean personality score of the gifted is higher than the mean scores of the creative group, and were found significant at .05 level. Also, the gifted had significantly higher mean score than the creative group in the Problem Solving Ability Test (PSAT) at .05 level.

On the basis of the above findings, it may be concluded that the above five personality factors differentiated between the gifted and the creative students with regard to their personality characteristics. The creative students were found to be cheerful, active, talkative, frank, expressive, happy go lucky, and impulsive. They were also found to be socially bold, ready to try new things, spontaneous, uninhibited and venturesome. They were also unconcerned over everyday matters, self motivated, imaginatively creative and careless of practical matters. They are also skeptical and inquiring regarding ideas, either old or new and are inclined to experiment in life generally and more tolerant of inconvenience and change. The gifted students on the other hand, were found to be more intelligent, quick to grasp ideas, abstract in thinking and bright. The analysis of data on the problem solving ability test revealed that the gifted students were also superior in problem solving ability as compared to the creative students.

3. Personality scores and problem solving ability scores of the gifted and gifted-creative (GC) were compared and it was
found that the gifted-creative (GC) group differed significantly from the gifted group on personality factors H, and M and on the problem solving ability test at .01 level indicating the gifted-creative to be venturesome, and imaginative than the gifted (G) group. They were also found to be better problem solvers than the gifted group.

4. Personality scores and problem solving ability scores of the creative (C) and gifted-creative (GC) were compared. It was found that the two groups differed significantly on personality factors B and F and also on the problem solving ability test at .01 level, indicating that the gifted-creative (GC) students to be more intelligent, while the creative (C) groups are more serious as compared to their counterparts. It also reveals that the gifted-creative (GC) students have better problem solving ability than the creative (C) groups.

5. Sex differences in personality, problem solving ability, intelligence and creativity of the total sample were compared. It was found that the male students differed significantly from the females on personality factors A, C, E, F, H, I, M, N, O, Q₁ and Q₄ at .01 level. The male possessed higher mean score on factors C, E, F, H, M, and Q₁, while the females scored higher than the males on factors A, I, N, O, and Q₄. It was also found that the two
sexes differed significantly in problem solving ability test at .05 level and in creativity test at .01 level. However, there was no significant difference in the mean score of the standard progressive matrices between the two sexes. The results revealed that the males are more emotionally stable, assertive, happy go lucky, venturesome, imaginative and experimenting while the females are more outgoing, tender-minded, shrewd, apprehensive and controlled. The males are better problem solvers and are more creative than the females. However, there is no significant difference in the intelligence score of both the sexes.

6. Scores on personality, problem solving ability test (PSAT), standard progressive matrices (SPM) and creativity test of the science and commerce students were compared and it was found that there was significant difference in the personality factor B and I at .05 and .01 level respectively. There was also a significant difference in the mean score of the problem solving ability test, and creativity test at .05 level and in the standard progressive matrices score at .05 level indicating that the science students are more intelligent and tender-minded in their personality as compared to the commerce students. They were also found to possess better problem solving ability, higher intelligence and are more creative as compared to their counterparts (the commerce students).
7. The science and arts students were compared in their scores in personality, problem solving ability test (PSAT), standard progressive matrices (SPM) and creativity test. It was found that there was significant difference between the two groups in the personality factors A and N at .05 level and in the factors B, C, E, G, H, M, O, Q₂ and Q₄ at .01 level. There was also a significant difference between the two groups at .01 level in the problem solving ability test, standard progressive matrices and creativity scores. The findings indicate that the science students are more intelligent, emotionally mature, assertive, venturesome, imaginative, apprehensive and self-sufficient than the arts students, while the arts students are more outgoing, conscientious, shrewd, and tense as compared to the science students. The findings also reveal that the science students have better problem solving ability, and are more intelligent and more creative as compared to the arts students.

8. Commerce and arts students were compared in their scores in personality, problem solving ability test (PSAT), standard progressive matrices (SPM) and creativity test. It was found that there was significant difference in personality factors C, E, G, H, I, M, N, O, Q₂ and Q₄ at .01 level and in the factor Q₁ at .05 level between the two groups. It was also found that there was significant differences at .01 level
between the two groups in the problem solving ability test, standard progressive matrices and creativity test scores. The findings reveal that the commerce students are emotionally stable, assertive, venturesome, imaginative, apprehensive, experimenting, self-sufficient, while the arts students are conscientious, tender-minded, shrewd and tense. The findings also reveal that the commerce students are superior in problem solving ability, intelligence and creativity than the arts students.

9. The high socio-economic status (SES) group and the low socio-economic status (SES) group of the gifted students were compared in their personality and problem solving ability test (PSAT) scores. It was found that there was significant difference in the personality factor G and I at .01 level indicating that the low socio-economic status (SES) group were more conscientious and that the high socio-economic status (SES) group were more tender-minded as compared to their counterparts. The difference in the mean score of the problem solving ability test (PSAT) was not significant indicating there was no difference in the problem solving ability between these two groups.

10. Personality score and problem solving ability scores of students belonging to low and high socio-economic status groups among the creative students were compared. It was
found that they differed significantly in personality factor A and I at .05 level. Also, they differed significantly in their mean score of problem solving ability test (PSAT) at .05 level. This indicates that the high socio-economic status (SES) group were more outgoing and tender-minded as compared to the low socio-economic status (SES) group. They were also found to have better problem solving ability as compared to their counterparts (the low SES group).

11. The high and the low socio-economic status (SES) group of the gifted-creative (GC) were compared in their scores on personality and problem solving ability test (PSAT). It was found that there is no significant difference in the personality factors between these two groups. But the mean difference in the problem solving ability test (PSAT) scores were found to be significant at .01 level. This indicates the high socio-economic status (SES) group were better problem solvers as compared to the low socio-economic status (SES) group among the gifted-creative (GC) students.

12. The intercorrelation of the scores of the gifted students on variables intelligence, creativity, problem solving ability and 16 personality factors were worked out and it was found that there was low but positive correlation on variable intelligence and creativity, intelligence and problem solving ability, intelligence and personality factors A, E,
H, L, M, Q_2 and Q_4. However, the correlations were low but negative for intelligence and personality factor B, C, F, G, I, N, O, Q_1 and Q_3.

13. The intercorrelation of the scores on variable intelligence, creativity, problem solving ability and the 16 personality factors of the creative students were calculated. It was found that there was low but positive correlation between creativity and intelligence, creativity and problem solving ability, and creativity and personality factors such as B, C, E, F, H, O, and Q_1, while other personality factors such as A, G, I, L, M, N, Q_2, Q_3 and Q_4 were found to have low but negative correlation with creativity.

14. The scores of gifted-creative (GC) group of students on variable intelligence, creativity, problem solving ability and the 16 personality factors were intercorrelated and it was found that the group showed low positive correlation between intelligence and creativity. Problem solving ability was found positively and substantially correlated to both intelligence and creativity. There was low positive correlation between intelligence and personality factors B, C, E, I, M, N, Q_1 and Q_2, whereas it was negative for factors A, G, H, L, O, Q_3 and Q_4. There was positive but low correlation between creativity and personality factors B, E, G, H, I, L, M, N, O, Q_1 and Q_3 and correlations were
negative for factors A, C, F, Q₂ and Q₄. Positive correlations were observed between problem solving ability and personality factors B, E, G, H, I, L, N, O, Q₁ and Q₃. However, it was negative for factors A, C, F, M, Q₂ and Q₄.

15. The scores of 600 students on variable intelligence, creativity, problem solving ability and 16 personality factor were correlated. It was found that there was low positive correlation between intelligence and creativity. Problem solving ability was found positively and substantially correlated with intelligence and creativity. Intelligence was found positively correlated with personality factors B, C, E, H, L, Q₂ and negatively correlated with personality factors A, F, G, I, M, N, O, Q₁ Q₃ and Q₄. Creativity was found to be positively correlated with personality factors B, C, E, F, H, L, M, Q₁ and Q₂, but it was found very low. Low negative correlations were found for creativity and personality factors A, G, I, N, O, Q₃ and Q₄. Problem solving ability of the students were found to be low but positively correlated in the case of personality factors B, C, E, H, I, L, N, Q₁, Q₂ and Q₃. However, it was low and negatively correlated in the case of personality variables A, F, G, M, O and Q₄.
EXISTING PROVISION IN MIZORAM FOR THE EDUCATION OF THE GIFTED AND SOME SUGGESTIONS

In spite of the high literacy rate, Mizoram has failed to offer special education for the gifted. The state offers merit scholarship to students who perform well in primary, middle and high school leaving certificate examinations. The State Council of Educational Research and Training (SCERT) awards prize money and certificates to those outstanding students who do well in science and mathematics subjects in primary, middle and high school leaving certificate examinations.

A small amount of prize money is also granted to students of classes VIII and IX who has scored high marks in science and mathematics in their promotion examinations in the high schools in the state.

The Mizoram scholarship Board, under the Higher and technical Education Department also awards post matric merit scholarships to meritorious students in arts, commerce, science and technical streams for the pre-university, degree and post-graduate levels. Post matric merit science scholarship and book grants are awarded by the Mizoram Planning Department to selected B.Sc. and M.Sc. students.

Inspite of the fact that there are gifted students in the schools and colleges of Mizoram (the investigator has
identified a number of gifted college students). No special education for the gifted has been undertaken by the state of Mizoram. The gifted are not provided the opportunities for the realisation of their potentialities, as a result, their education remain neglected. This may be one of the main drawbacks of the educational system in Mizoram. Proper education arrangements for such students will have to be made. Few suggestions are offered by the investigator for special education schemes of the gifted in Mizoram.

1. A programme can be launch where the gifted students will be identified from the different schools/colleges of Mizoram so that suitable curriculum, method of teaching and evaluation techniques can be evolved for them under the common system of education.

2. Teachers should be oriented to know about the personality characteristic and problem solving ability of the gifted to help them in fostering the growth of their abstract thinking, intellectual potentiality and problem solving abilities.

3. The gifted child should be provided with all the necessary freedom and opportunities to develop their talents to the maximum.
4. The gifted can be provided with supplementary work and enriched curriculum which is superior and richer in content and practice than that for the average student.

5. Since the intellectually gifted tend to be more advanced in mental development and all round learning capacity, the gifted can be given double promotion or acceleration in their respective schools.

6. The gifted can be grouped together and put in one section or in a separate institution with special teachers and enriched curriculum.

7. The education of the gifted should guard against the development of cynicism, conceit, snobbery, defiance, introversion and other unhealthy and wasteful social habits in them.

8. The scholarship provided to meritorious students are too meagre to give them stimulation for advancement. Hence, they may be provided with substantial scholarship so that they can pursue on to higher learning of their interest.

9. The state should take initiatives in a number of activities for the college students such as competitions in literary, creative and scientific activities.
10. It is also proposed to establish higher educational institutions at the tertiary level on the lines of Navodaya Vidhyalaya at the secondary stage.

11. A special night known as "merit nite" can be arranged to honour the gifted students who have secured the top position in different board exams.

Suggestions for Further Research

Beyond the problem of incorporating the findings of the present research into policies and programmes for the gifted and creative college students in the state of Mizoram, certain other related issues seem to be significant and as such are recommended for further investigation.

1. Development of intelligence test for the students of higher secondary stage among tribals in North Eastern Regions.

2. Curriculum innovation and enrichment for fostering creative potential at the higher secondary stage.

3. Home environment as related to the development of giftedness and creativity among the tribal students.

4. Socio-cultural correlates of creativity and giftedness with special reference to tribal pupils.
5. Parental perception and child rearing practices as related to the development of creativity and giftedness among the tribal students.

6. A comparative study of the personality factor patterns and problem solving ability among the gifted and backward children.

7. A study of the personality patterns of the creative and non-creative college students in North Eastern Region.