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REVIEW OF RELATED LITERATURE
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3.0 INTRODUCTION

Every researcher must know what sources are available in the field of inquiry and how many of them are worthy to be used, and where to be used.

In the field of education, the research worker needs up-to-date information regarding his/her problem i.e. what has been thought and done so far in this particular area.

A survey solves the problem of a starting trouble for the research scholar. Such a review brings new insights and helps the development of the research procedure. We could rightly eliminate duplication of what has already been worked out. A comprehensive study of the past working would offer the scholar the right background against which the present research study can be fore grounded. Past knowledge includes the methods and instruments through which the themes were analysed. This ultimately gives the research scholars a firm foundation upon which he combines the strong evidences of the past with the new findings of the present and above all this lineage of tradition, the past combined with the present in a seed for further research.

To have better understanding of the problem scholastic achievement in the context of various variables of talent search scholars of Gujarat, the investigator has gone through the bulk of related research studies and gathered information with this valuable information. She hopes to lay a strong foundation for the empirical study of the chosen problem.
Good, Barr and Scates analyse the purpose of research review as:

§ to suggest the method of research appropriate to the problem.
§ to locate the data useful in the interpretation of results.
§ to show whether the evidence already available solves the problem adequately without further investigation and thus to avoid the risk of duplication.
§ to provide ideas, theories, explanations of hypothesis valuable in formulating the problem.
§ to contribute to the general scholarship of the investigator.

The educational researches have paid special attention to the needs and problems of the exceptional children, including the gifted, the mentally subnormal or retarded as well as physically handicapped children. The central focus of all formal educational efforts is academic achievement on the part of the students. Researchers have studied a large number of personality characteristics of the learners exploring their possible relationships with the academic achievement, creativity, adjustment, attitude and values are other psychological characteristics that have been explored. Socio-economic status, directly or indirectly is one variable that finds a place in the largest numbers of studies.

In modern societies education performs the function of selection of persons for different social and occupational statuses. As a result, the study of the educational achievement of various socio-economic groups become important. It also necessitates the study of the social origin and background of non-student youth as well as teacher's and controllers of the educational system of different levels.
3.1.0.0 CLASSIFICATION

Always we turn to future casting a glance at the past and present, with a determination to do what is still undone or to leave out what has been done in the field of research also. It is axiomatic that one should have a fair understanding of the past and present studies related to his problem. Therefore, in this case to demonstrate and show where the present study stands, the investigator has gone through so many related works and has also noted down major findings of the past ones. These studies can be categorized into two major areas, § the
§ studies regarding talented and gifted students.
§ studies regarding other variables.

3.1.1.0 Studies Regarding Talented and Gifted Students

The investigator, in this section, has referred to the research work done in abroad as well as researches found in India. The studies regarding gifted are found but very few studies have referred to talented students as described in the present study. They are again classified into two sections as follows:

§ Related studies from abroad
§ Related studies as found in India.

3.1.1.1 RELATED STUDIES FROM ABROAD

I Kesgen, Edward Johan (1982)

The effect of an environmental awareness experience on the creative thinking ability of gifted and talented sixth grade pupils.

Design

The research design incorporated experimental and control groups each taking a pretest and post test.
Tool

The Torrance's Tests of Creative Thinking Figural Forms A and B were the measuring instruments.

Statistical Techniques

The t statistic was used to assess mean score changes between each group from pretest to post test.

Findings

The findings were:

1) Creative thinking was improved significantly in the experimental group as assessed by the average overall scores of the separate scales comprising the measuring instrument.

2) The average overall scores are considered the most representative indicators of the process being investigated.

3) The environmental education strategies stressing cognitive affective integration can result in improvement in certain dimensions of creative thinking ability among gifted and talented children.

II  Almashhadany, Skreen (1987)

Statistical analysis of the relationship between learning style preferences and creativity gifted and talented students

Objectives

1) To investigate differences in preferred learning styles between gifted/talented students and students of the general population.

2) To examine factors which influence learning style preferences: creativity grade level and sex.
Sample

The subjects were 54 sixth and seventh grade gifted-talented students as well as 86 sixth and seventh grade students from the general population.

Tools

1) The learning styles inventory by Renzulli and Smith (1978) was used.

2) The interest inventory by Rinum and Davis (1980) was used.

Statistical Techniques

To analyse the data, a multivariate analysis of variance was employed.

Findings

1) The gifted students and students of general population differ over with respect to learning styles. Independent study and drill and reaction strategies contributed to that difference between the two groups.

2) Creativity was found to be an influential factor affecting learning style preferences.

3) A significant interaction was found between creativity and gifted/non-gifted group membership in their preference for peer teaching.

4) The highly creative gifted students more strongly preferred peer teaching.

III Greene, Debra Blatt 4 (1987)

An analysis of the peer relationship of gifted and gifted creative primary students.
Objectives

To compare the peer relationship of highly gifted and highly creative primary students in a gifted classroom of a public school.

Sample

Thirty one highly gifted first, second and third graders, who had scored better on the Wisc-R, WPPSI, or Otis Lennor.

Tools

The creativity assessment packet was administered to the class. The CAP and sociogram were administered to each student.

Statistical Techniques

1) A bivariate correlation co-efficient was used.

Findings

1) The gifted creative students, as a group, ranked higher on a class sociogram on measures of friendship and choice of academic work partners than did the gifted group.

2) The gifted students did exhibit more isolated behaviour, especially during academic tasks, than did their gifted creative counterparts.

3) The gifted creative group displayed much more verbal and physical aggression than the gifted group.

4) The gifted classroom under investigation, gifted creative and gifted pupils differ in their peer relationships.

3.1.1.2 RELATED STUDIES AS FOUND IN INDIA

Research in the area of the gifted children is a recent phenomenon in India because the first study was carried out in 1966. It may be due to the fact that the importance was given to the quantitative aspects of education because of the
demands of universalisation of education. It is only in these years that special areas received attention of researchers.

The national policy of education 1986 itself has stressed the fact that we cannot neglect the studies of talented and gifted students for securing a reasonable quality of life when the huge amount is invested in education.

Bhatt (1966) identified the gifted children by employing inexpensive procedures and studied their personality traits by employing 39 traits validated against the criteria of known groups and contrasted groups and for which test-re-test method reliability was also ascertained. Identification of the gifted was also accomplished by Deo (1969) by using verbal-non-verbal tests. The gifted and non-gifted groups of adolescents were studied for differences on the self concept inventory. Shah (1969) conducted a survey of superior children in the state of Gujarat in respect of socio-economic status, occupational interest and anthropometric characteristics. Walia (1973) too, studied the self concepts of gifted adolescents. A self concept inventory for measuring perceived, ideal and real self concepts was standardized and comparisons were made between the gifted and the non-gifted groups. Pandit (1973) studied adjustment problems of the gifted children and frustration reaction. Gnanambai (1982) tried to identify the gifted by using I.Q. test, creativity test, anxiety scale and SES scale. The relationship of giftedness to social quality, sex and socio-economic status was also explored. Singh (1983) studied need patterns, need achievement and adjustment of gifted children in five areas, namely social, emotional, health, education and home. The study reports positive relationship between need patterns and need achievement. Arya (1984) studied emotional maturity and value of superior children in the family.

The detailed reviews are given in the following captions.
I. Bhatt (1966)

Title

A study of gifted children.

Objectives

1) To develop simple and inexpensive procedures for identifying the gifted children (children with superior intellectual ability and high academic achievement based on teacher's observation and academic record).

2) To study the personality traits of gifted children.

Sample

A sample of 180 pupils - 106 on the basis of I.Q. scores, 45 on the basis of achievement record and 29 on the basis of teachers' ratings was selected for the study.

Tools

A list of traits was developed, which included especially those traits which were normally found among the intellectually gifted. Out of the 59 traits, 39 traits were selected on the basis of a tryout for inclusion in the final list. The list was validated against the traits actually possessed by a known group of intellectually gifted children selected on the basis of I.Q scores alone.

At the second stage of the work, personality traits of 20 gifted and 20 non-gifted children were studied by interview technique.

Findings

The gifted were found to be distinctly superior to the non-gifted in intellectual pursuits, regularity in studies, leadership qualities, originality, understanding, self-confidence, politeness and in choice of companions.
II Deo P. 6 (1969)

Title

Identification of gifted adolescents and a study of their characteristics.

Objectives

1) Developing a better procedure for identifying the gifted and non-gifted groups by using verbal and non-verbal tests.

2) Comparing the two groups on certain characteristics.

Sample

200 adolescent in the age group 14 to 18 were selected from different schools and colleges in and around Chandigarh after administering the intelligence test. 100 were gifted and 100 average with an equal number of boys and girls.

Tools

The Bernreuter’s personality inventory. Bell’s adjustment inventory and questionnaires.

Findings

1) The gifted boys were more self-accepting and the average boys were more self-rejecting.

2) The gifted girls showed a lower positive self-concept and higher negative self-concept as compared to the average girls, who were more self-accepting.

3) The gifted boys scored higher on self-concept about social adjustment, emotional adjustment, intelligence and character than the average boys.

4) The gifted girls were more self-rejecting than the average girls.
5) On the personality inventory, gifted boys scored higher on extraversion, dominance, self-confidence and sociability than the average boys but differences on the dimension of self-sufficiency were not significant.

6) The gifted came from parents higher in profession, income, education and other activities.

7) Gifted adolescents were higher in birth order, showed better educational development, had played more games, preferred intellectual work and had better educational facilities at home.

8) Parents of gifted children showed higher professional aspirations for their children.

III. Pandit K.M.7 (1973)

The adjustment problem of the gifted children and their reaction to frustration,

Objectives

1) To investigate the adjustment problem of the gifted children.

2) To find out the different areas where their problems were located.

3) To compare the problems of the gifted children with the non-gifted so as to know whether they reacted differently to experimentally produced frustration.

4) To find out whether the reactions to frustration would be more stereotyped in case of non-gifted and individualistic and spontaneous in case of gifted or not.

Tools

1) Desai-Bhatt group test of intelligence.
2) Raven's standard progressive matrices.

3) The problem checklist for selecting the adjustment problem.

4) Self concept test, frustration test.

Findings

1) The gifted had less adjustment problems than the non-gifted.

2) Girls of both the groups had less problems of adjustment than their corresponding counterparts.

3) The gifted and non-gifted children did not differ in their level of adjustment almost in all the areas except school adjustment.

4) Gifted boys were more problematic than gifted girls in their overall adjustment.

5) Gifted girls were found to be significantly superior in their adjustment to gifted boys in all the areas except social adjustment.

6) Non-gifted girls showed superior adjustment to boys except for emotional area.

IV Joshi R.J.8 (1974)

Title

A study of creativity and some personality traits of intellectually gifted high school students.

Objectives

1) To locate intellectually gifted children from the secondary schools.

2) To study sex difference in creativity and personality traits of the gifted children with respect to their age.

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3) To study the difference in creativity and personality traits of the gifted children with respect to their age.

4) To study the creative ability of these gifted students by relating creativity with intelligence, achievement and personality traits.

5) To offer some suggestions based on these findings.

Sample

The sample was drawn from six districts of Gujarat State. The pupils were randomly drawn from standards VII to XII of 23 secondary schools. Out of the available population of 8216 pupils, only 1002 pupil were taken as gifted students.

Tools

1) Desai-Bhatt group test of intelligence
2) The Torrance's creativity test
3) Cattell's 16 personality factor test.

Statistical Techniques

T scores, t test, r and F test were used.

Findings

1) Giftedness was the most effective contributor to all types of creative scores.

2) Giftedness, sex and age did not contribute significantly to surgency.

3) There was low positive significant correlation between intelligence and all types of creativity scores.

4) There was no significant correlation between different creativity scores and different personality traits except in factor B, G, I, L, Q₂, Q₃, Q₄.
The gifted adolescent and their self-concepts.

Objectives

1) To suggest an approach to identify the gifted adolescent with the help of verbal and non-verbal intelligence tests.

2) To standardise a self-concept list for measuring perceived ideal and real self-concept.

3) To compare the perceived, ideal and real self-concept of the gifted adolescent with those of the average.

4) To compare the self ideal discrepancies of the gifted adolescent with the average adolescents and of the males with the females.

5) To compare the self real discrepancies of the gifted adolescents with the average adolescents and of males with those of the females.

Sample

100 gifted and 100 average pupils whose age range was between 14 and 18 years.

Tools

1) The Jalota's group test of general mental ability in Hindi.

2) Singh's group test of general mental ability.

3) Raven's standard progressive matrices.

4) Self-concept list.

Findings

1) The factor of intelligence had a significant effect on the self-perception of the individuals and on the different dimensions of self.
2) Sex had a significant effect upon the self rating of the gifted and the average males and females.

3) The interaction of intelligence and sex, intelligence and age, brought about significant variations in the self rating of the subjects.

4) Gifted female had a higher ideal self than the gifted male and average female, but their level of aspiration was unrealistic and stood in their way of adjustment.

5) The correlation for the perceived and real self concept rating showed that the gifted females were not judged either by themselves or by others.

6) The gifted and the average females did not differ significantly on their real self, though the differences were in favour of the average group.

VI Vasantha A.A. 10 (1978)

Title

A study of science talent and its correlates

Objective

To study the family background personality aspects and school experience.

Sample

70 boys and girls drawn from 24 schools of Delhi, who are qualified in the NCERT science talent search tests.

Tools

A questionnaire, Allport Vernon Lindzey scale of values, Strong's vocational interest Blank Mooney problem checklist and interview schedules.
Statistical Techniques

Product moment coefficient of correlation and simple percentage were used.

Findings

1) Only 50 per cent of the fathers had a science background. The parents of talented students were from educated families.

2) The economic status of the families was satisfactory.

3) The birth order of the subjects indicated that nearly one third were first born.

4) Very few students knew a scientist.

5) 59 percent of the students had friends who desired to be scientists.

6) The personality classification on values showed predominantly theoretical man or woman.

7) The subject preferences showed preference for physics and mathematics, while boys' leisure time activities reflected scientific interests, girls wanted a change as indicated by their non-science activities.

8) Both boys and girls showed preferences for occupations with science bias. Again occupations demanding creative activity were preferred.

VII D'Lima, C.D. (1979)

Title

Differential study of high and low achievement syndromes of a selected group of creatively gifted and intellectually gifted children in the city of Bombay.
Objectives

1) To make a comparative study of the different types of achievers amongst the different types of gifted pupils, namely creativity gifted and intellectually gifted.

2) To find out the variables that significantly distinguish between the different pairs of groups of gifted pupils.

3) To predict the achievement of gifted pupils with the help of the data gathered on psycho-social factors.

Sample

The sample consisted of students of standard IX from 25 English medium schools in Bombay.

Tools

The tools used for data collection were Passi's test of creativity, Nafde's non-verbal test of intelligence and various psychological tests to collect data on psycho-social variables.

Findings

1) The different types of gifted groups formed on the basis of intelligence and creativity seemed to be highly similar in academic motivation and independence stability.

2) The different types of gifted groups formed on the basis of intelligence and creativity differed in general intelligence, general talent and self-reliance dominance.

3) There was significant difference between the low and the high achievers amongst the different types of gifted pupils.
Title
Academic achievement and socio-economic status as predictors of creative talent.

Objective
To find out the extent to which academic achievement and socio-economic status served as predictors of the creative talent.

Sample
The sample comprised 425 pupils attending 6 selected secondary schools from the urban and rural areas of a district in Kerala.

Tools
The tools used were Nair's Kerala University test of creative thinking and Nair's socio-economic scale data sheet. Academic achievement was measured average of the marks obtained by the pupils in different school subjects in the first and the second terminal examinations.

Findings
1) There was significant difference between the high creatives and low creatives in academic achievement.
2) There was significant difference between the high creatives and the low creatives in socio-economic status.
3) The average academic achievement of the high creatives was more than the average academic achievement of the low creatives.
4) Socio-economic status had a facilitating effect on the creative ability of the pupils.
Identification of selection criteria for national talents.

Objectives

1) To study the differential pattern of variables related to selected National Talent Search (NTS) examination.

2) To study the relationship of intellectual, personality and motivational variables as identified potential for discriminating awardees and non-awardees with performance on NTS procedures so as to ascertain the validity of these variables.

3) To give suggestions as to which of the variables might be taken care of in the NTS examinations so as to increase the reliability and validity of NTS examinations.

Sample

The sample of the study consisted of four groups, namely awardees (N = 43) who qualified written test but were rejected in interview (N = 43), who could not qualify written test (N = 54) and who did not appear for the test (N = 45).

Tools

§ Test of general mental ability by Jalota.
§ Standard progressive matrices by Raven.
§ Torrance test of creative thinking.
§ Test of attitude towards science by Michael.
§ NCERT interest inventory.
§ Test of achievement motivation and anxiety inventory.
§ Eysenck personality inventory.
§ Dev Mohan's socio-economic scale.
Statistical Technique

One way analysis of variance and correlational technique were used.

Findings

1) Awardees were more reflective, intellectually and physically fastidious, self-assertive and over active traits which probably helped them to get through the interview successfully.

2) The educational status of the family had significant positive correlation with SAT and interview score.

3) Attitude towards science had low positive or negative correlations with the NTS scores.

4) The positive correlations between traits self assertive and interview and reflective trait with interview and SAT.

5) Verbal and non-verbal intelligence had very low positive or negative correlations with G.M.A. and S.A.T. scores but with interview verbal intelligence was significantly positively correlated and non-verbal intelligence significantly negatively correlated.

Title

Identification of gifted children.

Objectives

1) To find out the fact which were related to giftedness of children.

2) To find out the effectiveness of teachers' opinion and standardized test in identifying the gifted children.

3) To study the relationship of giftedness to social qualities.
4) To study sex difference as related to giftedness.

5) To study whether socio-economic status and any relationship with giftedness.

Tools

1) Group intelligence test - AH$_2$ and AH$_3$ by Hem, Watts and Simmods.

2) Creativity test modelled on Minesota creativity thinking tests of Paul Torrance and his colleagues.

3) Anxiety test - Taylor's manifest anxiety scale.

4) Socio-economic scale -(Urban)Kuppy Swamy.

Sample

1555 students (920 girls and 635 boys) of 2 Boys and 2 Girls Schools.

Statistical Techniques

Descriptive statistics. Chi-square test, t-test and principal component analysis were used for data analysis and hypothesis verification.

Findings

1) The component analysis of four factors namely, I.Q., creativity, achievement and anxiety related positive correlation of the first principal component with creativity and negative correlation with other characteristics, accounting for 49.29 percent of the total variance. It further related positive correlation of the second component with all the four characteristics accounting for 33.33 percent of total variance.

2) The principal components using individual cut off scores identified about 10 percent of the population as gifted.
3) Giftedness was not found to be related to sex but was significantly related to the social qualities of the subjects and their socio-economic status.

4) The gifted students were found to be superior to the non-gifted students in their social qualities. The percentage of the gifted students was more in Classes I and II of the socio-economic status whereas the percentage of non-gifted was more in class IV and V.

Title

The relationship of creativity to intelligence and academic achievement of National Rural Talent scholarship awardees.

Objectives

1) To study the relationship among measures of creativity, intelligence, state level award selection test (AST) scale and subsequent achievement of the National Rural Talent Scholarship (NRTS) awardees.

2) To study the relationship between each of the measure of creativity and intelligence with the AST scores for mathematics and general science and subsequent achievement in English and Oriya and social studies, and mathematics and general science of the NRTS awardees of grade.

3) To compare the performance of the NRTS awardees of different years at the two state level award selection tests with their corresponding achievement in school subjects.

4) To study the difference in creativity, intelligence, score in award selection tests and total school achievement among the high creativity and high intelligence group of NRTS awardees.
5) To study the different problems in the implementation of NRTS scheme as perceived by teachers and heads of the schools.

Tools

§ Bassantic remote associates test (BRAT)
§ Raven's standard progressive matrices (SPM)
§ NRTS awardees information sheet.
§ Teachers' nomination of pupil creativity sheet.
§ NRTS school information sheet and examination scores.

Sample

National rural talent scholarship awardees (students) 43% of 17 High Schools of 3 districts of Orissa State.

Findings

1) There was a positive and statistically significant correlation between the creativity and intelligence of NRTS holders.

2) Creativity was found to relate itself to the subsequent total school achievements of the NRTS awardees.

3) Intelligence of the NRTS awardees was correlated with their award selection test performance and total school achievement.

4) The award selection test performance and the total school achievement of the highly intelligent awardees was better than that of highly creative scholars.

5) There was statistically significant disordinal creativity, intelligence interaction as it effected the performance of the NRTS awardees on the state level award selection tests.
The award selection test performance and the total school achievement of the NRTS awardees belonging to the general category of castes was better than that of other backward classes and scheduled caste/tribe awardees.

There was a tendency for first born national rural talent scholarship holders to score higher than the later born in the state level award selection lists.

XII Raina M.K. 16 (1984)

Title

Research and development in talent search: A study in the use of creativity tests.

Objectives

1) To study the relationship between creative thinking ability, creative perception and measures of talent.

2) To find out whether the candidates selected for national talent search award differed from those called for interview but rejected in their performance on Wallach-Kogan test of creativity.

3) To study the relationship between scores on tests of creativity and measures of talent.

4) To determine whether the two batteries of verbal and visual test of creativity defined separate dimensions of intellect as compared to what was measured by measures of talent.

Sample

The sample consisted of 48 students selected for the NTS scholarship out of 276 students of class X interviewed at two centres in 1977 and second batch of 50 students selected for National Talent Search scholarship out of 205 students of class XI and XII interviewed at the three centres in 1978.
Tools

1) Wallach-Kogaw test of creativity verbal and visual forms.

2) Myself test to measure creativity perception.

3) General mental ability test.

Findings

The major findings were:

1) There was significant difference between two groups of students, selected and rejected on the verbal dimensions of creativity but no significant difference in scores on visual creativity tests.

2) The selected and rejected groups of students did not differ significantly on measure of creativity perception.

3) There was no significant relationship between general mental ability test scores and scores on verbal and visual test of creativity.

4) There was low negative correlation between scholastic aptitude test scores and various dimensions of verbal and visual creativity. In some cases in the 1978 batch, the correlation was zero.

5) Modest correlation was found between measures of creative perception and general mental ability test.

6) There was negative correlation between measures of creative perception and scholastic aptitude test scores.

7) No association was noticed between the creative perception of the total group and that of selected or rejected group of candidates.
8) Scores on the various tasks of creativity were fairly cohesive.

9) Six verbal indices of creativity were found to be highly correlated with four visual indices.

10) Factor analysis indicated task specificity as well as verbal specificity in terms of creativity. Some of the factors that emerged were number factor, factor meanings, uniqueness, line meanings, scholastic ability and uniqueness.

3.1.2.0 Studies Regarding Other Variables

Several other research workers have felt the need for studying the correlates of scholastic achievement. Such studies have been reviewed by the investigator as follows.

**Intelligence and Scholastic Achievement**

Intelligence is the most studied variable in the measurement tradition. Shukle (1958), Mehrotra (1958), Ghosh (1960) have found significant relation between intelligence and scholastic achievement. Rao (1965) has studied that intelligence, study habits and attitude towards school accounted for sixty six percent of the predictability of scholastic achievement. Sinha's study (1967) revealed that intelligence and achievement at school were correlated significantly. Science students scored significantly higher on the intelligence test than their counter parts in the arts subjects. Bhatnagar (1969), Gupta (1970), Jha (1970), Dave P.N. and Anand (1971), Thakur (1972), Mohan and Nehru (1972), Hundal and Agrawal (1972) have found significant relationship between intelligence and scholastic achievement. Reddy (1973) factor analysed the scores on the Cattell culture Fair test of intelligence, the Mukerjee sentence completion test and university marks in various courses of students in respect of arts and science under graduates and found that intelligence was significantly associated with achievement in one subject or the other. Makhiya (1973) and
and Dhami (1974) have revealed that intelligence had a significantly positive influence on scholastic achievement. Lalithamma (1975) has studied that the achievement in mathematics was positively related to intelligence. Bayli (1975) has found that above average intelligent boys of the experimental group improved their academic achievement with the help of the knowledge of the results. Sharma (1976) correlated the measure of achievement with intelligence test scores and found correlation co-efficients to range from 0.26 to 0.46. Kakkar (1977) found significant relation between intelligence and scholastic achievement. Srivastava N. (1980) and Patel (1981) found that the general ability variable influenced the achievement of the pupils of standard II through standard IV in all subjects and in their total achievement. Studies cited above have emphasized positive relationship between intelligence and academic achievement.

Creativity and Scholastic Achievement

Creativity is one of the important correlates of scholastic achievement. It has importance from practising teachers' point of view as it is a belief of the teachers that the high achievers are high intellect and high creatives also. But Thurston (1953) had given variety of reasons why creativity and achievement may not be related. On the contrary, he hinted at the possibility of detrimental effect of creativity on scholastic achievement. Torrance (1960) did not find any significant difference in the academic achievement of highly creative and highly intelligent students. Yamamoto (1964) concluded from his study that there is distinct relationship between creative ability and success in school learning. Raina (1968) has studied that the high creative students scored significantly higher than the low creative with respect to academic achievement. Khire (1971) has found that creativity has lower correlation with mechanical comprehension and higher with scholastic performance. Passi (1972) has observed the low relationship between creativity and achievement. Joshi (1974) has studied that almost all creativity scores had low positive correlation with achievement scores in all school subjects except English.
Acharyulu (1978) showed that the achievement of the high intelligence and high verbal creativity group in different school subjects was significantly higher than that of the high intelligence and high verbal creativity groups. Menon (1980) found that creativity correlated highest with language, the next being achievement (0.45), followed by intelligence (0.29). Intelligence correlated highest with language, creativity and achievement. Vijayalakshmi (1980) revealed that there was significant difference between the high creatives and the low creatives in academic achievement. The average academic achievement of the high creative was more than the average academic achievement of low creatives. Basu (1980) has found that academic performance of secondary students could effectively be predicted on the base of intelligence and creativity measures. Singh (1982) found that the verbal, non-verbal and total creative thinking variables had positive and significant relationship with the academic achievement of the high school boys and girls. Vora I.A. (1984) has studied that students with high level of achievement could also be of high level of creative potential.

**Personality Traits and Scholastic Achievement**

It has been asserted that apart from minimum academic requirement, the quality of scholastic performance depends upon certain personality factors. Though the factors that influence the level of scholastic achievement of a child are varied and many, personality attributes play a vital role in the ultimate scholastic outcome of a child. Warburton (1961) has found that personality factors are related to achievement. Lawrence Oneda (1976) has investigated that high achievers described themselves as having significantly more positive personality characteristics. Orpan (1976) has reported the relationship between personality and academic achievement. The study analysed the 'age effect' hypothesis and found that academic success at primary school is linked to stable extroversion while success at university level is associated with introversion.
In India, Rao (1963) has stressed on academic background and Mishra (1962) on non-academic. They have reported that high and low achievers do not show significant difference in general mental ability excepting in traits such as anxiety, judgement, neuroticism, morale and sense of responsibility. Bhatnagar (1967) has reported that need for autonomy, intraception, succourance, dominance, nuturance, endurance and aggression correlate positively and need deference, affiliation and abasement correlate negatively with academic achievement of students. Sinha's study (1967) revealed that high and low achievers were significantly discriminated on intelligence, achievement, motivation, manifest anxiety, extraversion - introversion and neuroticism and emotionality. Menon S.K. (1972) has found that overachieving groups of superior and general ability and of boys and girls were less extrovert and less maladjusted than under-achievers and showed greater academic interest and endurance. Overachieving girls of general ability showed strongest interest in aesthetic, social and mechanical activities. Banerji (1972) has stressed the superiority of basic school students in their achievement in the mother tongue, studies of environment and speed of hand writing. The difference between the groups in respect of their personality development has not been found to be significant.

Reddy V.L. (1973) has revealed that SES and personality factors $E$, $P$, $O$, $Q_s$ were not significantly related to achievement in any subject or group of subjects. Jayagopal (1974) in his study found high achievers to be reserved and toughminded in comparison with under-achievers whose personality profile revealed that they were characterised by spontaneity, vigour, spirit to associate with the group readily and uninhibited and zestful nature. Pandey (1974) concluded that academic achievement of adolescent students was significantly related to rural and urban background and that in the arts upper-achieving group the industrial background was favourable for high academic achievement than rural background. Rai (1974) has studied that anxiety as a personality trait had a changing role in scholastic achievement in as much low level of anxiety helped in achieving high whereas very high level of anxiety was detrimental to achievement.
Srivastava (1974) has reported that personality traits of reserve - outgoing and less intelligent - more intelligent were significantly correlated with academic achievement at 0.01 level of significance. Each personality trait contributed to the academic achievement along with academic motivation. Walaytiram (1974) has studied the effect of the different levels of three independent non-cognitive variables, viz., neuroticism, stability, extraversion - introversion and achievement motivation and of their interactions upon the academic achievement. Ghuman (1976) has reported that the male over-achievers scored significantly higher than the male under-achievers on factors G, H, I and Q3 of the H.S.P.Q., whereas the female over-achievers and under-achievers differed significantly on only factor C of personality on which the under-achievers scored higher than the over-achievers. Bhattacharya (1978) has found that the level of any of the fourteen personality factors did affect the achievement of class XI pupils. Dr. R.Ramaswamy (1990) has studied that personality was not significantly related to scholastic achievement among high achievers in boys. Personality was significantly related to scholastic achievement among low achievers in boys.

Socio-Economic Status and Scholastic Achievement

A set of potentially influential factors for pupil achievement are generally categorised as being associated either with home or school environment. Mathur (1963) and Chopra (1964) have studied that S.E.S. is significantly correlated to scholastic achievement. Satyanandam (1969) has yielded that the upper economic strata and lower economic strata differed very significantly. The upper and the middle economic groups differed significantly. The middle and the lower economic groups did not differ significantly. However, the middle economic group was better than the lower economic group. Bhaduri (1971), Menon (1973), Anand (1973), Abraham (1974), Dhami (1974), Agarwal (1975), Prakashchandra (1975) have found relationship between S.E.S. and scholastic achievement. Verma (1977) has identified that the socio-emotional climate of the classroom not only
predicted and influenced the pupils' achievement but also affected his classroom behavioural development. Ojha (1979), Salunke (1979), Srivastava (1980), Khanna (1980), Reddy (1981) and Chopra (1982) have revealed that the S.E.S. background was a very important determinant for contribution of education. Parents from higher socio-economic classes gave greater help and encouragement to their children.

But there are investigators who have found negative or no relationship between these two variables. Chatterji, Mukherjee and Banerjee (1971) have found that the economic conditions of the family seemed to have no effect upon the scholastic achievement in all intellectual ability groups. Reddy (1973), Sudame (1973) and Reddy I.V. (1978) have found that S.E.S. of the pupils' parents was not significantly related to scholastic performance at class VIII and class IX.

Study Habits and Scholastic Achievement

The recognition of the importance of study habits and attitudes in relation to academic achievement stimulated a wide variety of investigators. However there is much controversy regarding the value of study habits in the prediction of academic success. Improvement of study habits not only helps in promoting better work but also influence students' morale and sense of satisfaction. Alderman (1927) stressed the importance of interest and study habits in achievement. Young (1952) has studied that study habits play a significant part in scholastic achievement, which affects students' interest and motivation. Jamuar (1958) reported a correlation between study habits and achievement. Entwistle and Wilson (1970), Cowell and Entwistle (1971) have found good study habits related to stable introversion. Freeman (1929) reported low correlation between study habits and grades.

There are investigators who have found negative or no relationship between these two variables. Alexandar and Woodruff (1940) found that several specific factors like study time, study habits fail to show definite relationship with academic success.
In India, Rao (1965) and Sinha (1970) have studied that study habits were significantly related to the scholastic achievement. Bhaduri (1971) has found that over-achievement correlated significantly with study habits (the over-achievers showed higher scores on study habits). Kulwant Kaur (1974), Seeth (1975), Chaudhari (1975), Girija (1975), Bhadra (1975), Ameerjan (1975) and Nirmal Kanta (1979) have revealed that study habits were positively related to academic achievement. Nair (1978) has studied that the culture level was a differentiating factor in the relationship between study habits and achievement in pupils of secondary school except in the case of high cultured pupils. Chopra (1982) has found that study habits were positively related to academic achievement. Ramaswamy (1990) has studied that study habits are significantly related to academic achievement among high and low achievers in girls.

**Birth Order and Scholastic Achievement**

Vurdien (1979) has studied that the first born child scored significantly higher than not-first born child on comprehension scaled scores.

In India, Desai (1971) stressed, boys in the first through seventh birth order did not differ in verbal intelligence. The first born girls had the highest verbal I.Q. significantly higher than the I.Q of the third-born, the fourth-born and fifth born girls. Lalithamma (1975) found that achievement of first-borns was better than that of last-borns. Reddy (1978) has studied that the order of birth and the size of the family were not related to scholastic performance. Khatri (1979) has studied that both types of reinforcement were effective for both types of birth order. The first-born improved more, under the positive reinforcement, whereas the last-born improved more under negative reinforcement. Patel (1983) has studied that birth order did not play any role in bringing about frustration.
Parents' Education and Scholastic Achievement

Parents' education is the factor which has been taken into consideration with a view to observe whether scholastic achievement has any relationship with parents' education.

Clark (1927) found that students whose parents had college education ranked higher in scholarship. Nemzek (1940) reported that education of parents and their profession have no influence over the academic success of their children. Kaufman (1989) has examined that mothers' education had definite impact on raising children's grade levels.

In India, Chopra (1964) found that fathers' education and occupation showed significantly higher mean achievement. Mukerjee (1967) stressed, fifty eight percent of talent came from the highly educated homes, forty percent from the semi-educated homes and 23.8 percent from not well-educated homes. Satyanandam (1969) yielded that the children of graduate parents performed far better than the children of matriculate parents. Chatterji, Mukherjee and Banerjee (1971) have yielded that parents' educational level was directly related to the achievement of their children. Menon S.K. (1972) has studied that higher occupational and educational level of father, educational level of mother, family income and parental attention were related to higher achievement. Bisht (1972) has studied that parental education and income were found to have significant influence on educational aspiration. Visves Varan (1975) has revealed that there was a significant correlation between test scores and the educational status of their parents. Srivastava (1977) has studied that children of highly educated parents scored significantly higher than the children of less educated parents on creativity test. Ohja (1979) stressed, parental education, occupation and income were also related with the educational achievement of both rural and urban boys of class XI. Khanna (1980) has found that the academic achievement of the children of educated parents, illiterate parents and educated mothers were significantly correlated with the S.E.S. of the
family. Nagalakshmi (1982) has studied that the ordinal position, fathers' education, mothers' education and parents' income did not influence student's academic motivations.

3.2.0.0 CONCLUSION

Following conclusions may be drawn from the review of research done in India in the field of talented students.

The research work reviewed in this chapter throws light on the fact that there are studies regarding gifted and talented students. But most of them have concentrated on the studies regarding the characteristics of gifted and their adjustment problems. Some of the studies have tried to compare gifted and non-gifted students, creatively gifted and intellectually gifted, gifted creatives and gifted pupils. Very few studies are carried out regarding the relationship of giftedness to social quality, sex and socio-economic status.

The studies regarding the talented students have drawn the attention of the research workers only recently. Hence a few studies are related to science talents and creative talents.

The main points of the discussion can be concluded as follows:

1) Not much research has been done in the area so as to arrive at any conclusive result.

2) None of the researches conducted so far has concentrated upon the various variables of talented students.

3) A variety of tools and techniques of measuring the variables has been used in these studies. Because of this reason, a state of confusion arises in comparing the results of different studies.

Very few studies have attempted to develop prediction equations for predicting scholastic achievement on the basis of intellectual ability, creativity and other factors. Specially no study to the best of the knowledge of the investigator, has attempted to predict students' academic achievement on the basis of such various factors.
This comprehensive review of the specific researches and emerging concepts in the field have provided background and guidelines for conducting the present study which deviates it from the cited studies in the following respects.

1) This study focuses upon the comparison of talented students and the top students as rated high by their teachers.

2) One of the main objectives of the study has been to find out the relationship among intellectual ability, creativity, personality traits, S.E.S. study habits and scholastic achievement of talent search scholars of Gujarat.

3) The sole aim of this investigation has been to predict various factors of the students on the basis of scholastic achievement.

4) The present study is comprised of correlated as well as differential studies.

On the basis of these characteristics which distinguish it from other studies, it may be put to an end that the present research is a novel attempt to explore the hidden corners of the reality.
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