CHAPTER II

REVIEW OF RELATED LITERATURE
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REVIEW OF RELATED LITERATURE

2.0.0. Introduction

In the previous chapter an attempt has been made to give the theoretical background of the study along with definition of the basic concepts. The present chapter is devoted to review of related literature. The review has been done under three sections: (i) Indian and Foreign Studies on Creative Thinking; (ii) Indian Studies on Vocational Preferences; and (iii) Foreign Studies on Vocational Preferences. The sections are again divided into a number of sub-sections.

The main objectives of this review are to identify the problem and its significance, establish an empirical foundation, find out trends and identify gaps in researches on creative thinking and vocational preferences, and use them for generating hypotheses to be tested and for interpretation of the findings of the present study.

2.1.0. Studies on Creative Thinking - India and Abroad

The reports of the Indian studies on creative thinking under present review are collected from different research journals, masters and Ph.D. dissertations, first, second and third survey of Research in Education in India by Buch.
(1974, 1979 and 1983). In the same way, studies on creative thinking abroad are also collected from research journals and various other sources. In these studies creative thinking was studied in relation to different variables which promote and demote creative thinking in children. For the sake of convenience as well as for finding relevance to the present study, the available studies are reviewed under the sub-headings like sex and creative thinking, locality and creative thinking, value and creative thinking, academic subjects and creative thinking, personality and creative thinking. It may be noted here that since these variables are not directly relevant to the study, their review was done by adopting the generalisation method.

2.1.1. Creative Thinking and Sex

Quite a few Indian and foreign studies have been reviewed in this section. Passi (1971), Bedi (1974), Rawat and Garg (1977), Arora (1978) and Jarial (1981) found that girl students were significantly superior to boys on verbal creative thinking. They were also significantly superior on non-verbal creative thinking as reported by Bedi (1974) and Jarial (1981). Raina (1971) and Goyal (1973) found that girls were significantly superior only on fluency and flexibility dimensions of creative thinking. Singh (1978) reported that girl students were superior to boys in fluency and origi-
nality dimensions of creative thinking. Hussain and Hussain (1975) and Jarial and Sharma (1981) also found girls students to be superior to boys in originality dimension of creative thinking. Chadha and Ghose (1985) reported females scored higher than the males on all the 4 components of creative thinking.

On the other hand, in studies conducted by Gagneja (1972), Jain (1972), Rawat and Agrawal (1977), Badrinath and Satyanarayan (1979) and Sharma (1979) found boys significantly superior to girls on verbal creative thinking. On the non-verbal creative thinking too, boys were significantly higher than the girls (Passi, 1971). Raina (1971), Dhir (1973), Awarthes (1979), Badrinath and Satyanarayan (1979) and Pandey (1980) have reported that boys were significantly superior to girls on originality.

Again in some studies conducted by Raina (1970), Gakhar (1974), Dutt, et al. (1977), Lal, Singh and Thorat (1977), Singh (1978), Gupta (1979) and Pandey (1980) have found no significant difference between boys and girls with respect to verbal creative thinking. No significant difference was found between boys and girls on non-verbal creative thinking (Vohra, 1975).

Kelley (1965) on a sample of fourth grade students found that boys were observed significantly more creative
than girls on non-verbal creative thinking measures. Strauss and Strauss (1968) conducting a wider cross-cultural study observed clear cut sex differences in American and Indian student populations. In both the societies boys were significantly high creative than girls.

The American boys had been found significantly higher on most of the measures of verbal originality (Torrance, 1962, 1965; Torrance and Aliotti, 1964) as well as semantic flexibility (Guilford, 1964) and total flexibility (Harlow, 1967) than what girls had scored.

Again, there are many studies where females' creative thinking is reported higher than the males. Yamamoto (1960) found that girls were high on creative thinking than boys in spite of boys being higher on their IQ scores than girls. Neufeld (1964), Dauw (1966), Littlejohn (1967) and Fletcher (1968) reported girls creative thinking higher than boys. Bowers (1971) studied 36 males and 35 female undergraduates and found that women showed higher scores on creative thinking than men. Certain studies which took up different indicators (dimensions) of creative thinking to see the sex differences, and found results in favour of females (Torrance and Aliotti (1960), Guilford (1964), MacGregor and Smith (1965), Torrance (1965).
On the other hand, certain studies by Pogue (1964), Olshin (1964), Castle (1965), Mayhon (1966), Kartsen (1968), Jackson (1968), Burns (1969), Helson (1970), Torrance and Phillips (1971), Kloss (1972) and Ward and Cox (1974) have shown that there is no sex difference with respect either to creative thinking in total or most of the creative thinking abilities.

In the light of the reviewed discussion which supported either boys or girls superiority in both Indian and foreign studies, it may be concluded that sex acts as an important correlate of creative thinking. But at this juncture it may not be proper to conclude that which particular sex is superior to the other in creative thinking. The topics may be still opened to comprehensive research.

2.1.2. Creative Thinking and Locality

Sharma (1972, 1974) reported rural students are more creative than their urban counterparts. Azmi (1974) again confirmed the superiority of rural children to urban children by utilizing Mehdi's tests.

But studies conducted by Passi (1971), Singh (1977), Srivastava (1978), Singh (1978), Singh (1979), Singh (1980) and Pandey (1981) reported the superiority of urban students to rural students in their creative thinking.
Pandey and Rai (1988) found urban students' superiority over rural students in their creative thinking.

On the contrary, Aaron, Malatesha and Marighal (1969) study among rural and urban students arrived at the conclusion that there is no significant difference between the two groups of students. Sehgal (1978) also reported to have found no difference between the two groups.

Though, it is obvious from these few studies about influence of locality upon the creative thinking of rural and urban students, yet it is still difficult to conclude, which of the two groups of students, is more creative than the others.

2.1.3. Creative Thinking and Values

Misra (1978), Kumar (1978) and Pandey (1980) reported from their respective studies that various value patterns which were more prominent in high creative students were social service, independence, variety, knowledge and aesthetic sense. Singh (1977) and Singh (1978) reported that economic values were more prominent in high creatives, whereas, Parmesh (1970) and Misra (1978) reported that this value was more prominent in average and low creatives. Kumar (1978) found theoretical values were more prominent in high creatives, but they were found rather more prominent among low creatives.
(Singh, 1977 and Singh, 1978). Misra (1978) also found power being more dominant among low creatives. On the other hand, Singh and Gupta (1977) found no relationship between traditional values and creative thinking, and no significant difference was found between creative and non-creative pupil—teachers value patterns (Pandey, 1980).

From the review of these available studies, it may be concluded that values possessed by high creatives differs from that of average and low creatives. However, it is still difficult to say what values specifically possessed by high creatives, average creatives and low creatives, for which extensive research is needed.

2.1.4. Creative Thinking and Academic Subjects

So far some attempts have been made through some studies to find out whether or not the students from different academic streams viz. science, arts, home science and commerce differ among themselves with respect to creative thinking. It was reported from the studies conducted by Srivastava and Jha (1977) and Srivastava (1978) that science students were superior to arts and commerce students as far as their achievement in creative thinking is concerned. Awasthy (1979) also found science students significantly higher than arts students in fluency and flexibility components of creative thinking. Jarial (1981) reported that the science students
were superior to arts students in non-verbal creative thinking but in verbal creative thinking arts students were significantly superior to science students. Commerce students were significantly superior to science and home science students in verbal creative thinking, while science students scored significantly higher than the home science students in verbal creative thinking.

But in certain studies, it was reported that there was no significant difference in verbal creative thinking between the groups of arts and science (Rawat and Garg, 1977), between arts and commerce students (Srivastava and Jha, 1977) and between science and commerce students (Jarial and Sausanwal, 1979). From these studies it may be pointed out that there is difference in creative thinking among arts, science, home science and commerce students. However, it may not be very timely to conclude regarding superiority of one course upon another.

2.2.0. Indian Studies on Vocational Preferences
Quite a few studies on vocational preferences have been conducted in India. Some of the relevant (indirectly) studies are reviewed under different headings in this section.

2.2.1. Determinant Factors of Vocational Preferences
Under this sub-section findings of five studies have been reported.
Singh and Prasad (1962) in a study on occupational stereotypes reported that occupational stereotypes to be the most potent determinants of occupational choice, a considerable number of students showed absence of knowledge about occupations, and teaching was reported to have the most prestige and came out as the most preferred occupation.

Syed (1967) in another study on occupational determinants of 200 doctors, engineers, lawyers and teachers found that none of the groups such as medicine, engineering, law, teaching etc. were influenced by father's occupation. A large portion of all the groups were reported that they were being influenced by their teachers in making an occupational choice.

Sharma (1970) in his study on 'occupational prestige and vocational choices' found differences in prestige ranking of rural and urban boys. Ten most prestigious occupations popular with urban boys in order of prestige were - physician, scientist, army captain, mathematician, collector, college teacher, chemist, bank manager, engineer and surgeon. Ten most prestigious occupations popular with rural boys were pilot officer, physician, scientist, army captain, surgeon, mathematician, collector, college teacher, nuclear physicist and lawyer. Most of these occupations were common except that jobs of chemist and bank manager are more popular with urban boys while that of pilot officer and lawyer are most alluring to rural boys.
Yadav (1979) in his study on "Motives for Vocational Preferences of Adolescents" discovered that (i) intelligence and socio-economic status were two factors which start influencing the vocational preferences of the adolescents much earlier at the time of choosing their study. Intellectually brighter and economically well-off students went to science and commerce streams and poorer ones to arts, and in turn their vocational preferences were, by and large in tune with their courses of studies; and (ii) intellectually and academically superior adolescents were more definite and specific in their occupational choices than their opposites. Kanungo (1960) found prestige of the occupation as one of the important factors of vocational choice among the students.

From these few available studies on determinant factors of vocational aspirations, it may be stated that vocational preferences of students may be influenced by many factors like intelligence, SES, teachers and prestige of the occupations.

2.2.2. Vocational Preferences

Many students aspired after different types of vocations though it is difficult to say what type of vocations they basically preferred. However, the review of the following few studies has thrown some light on the topic in question.
Bardhan (1965) studied the development of interests among the boys of secondary schools in Calcutta with reference to four elective courses viz. Humanities, Science, Technology, and Commerce. The findings of the study revealed that a good amount of prediction of success could be made on the basis of interest measurement of school boys of Class VIII, and the boys' interests were remarkably stable from Class VIII onwards.

Patel (1967) made a comparative study on recreational, socio-cultural, intellectual and occupational interests of high school pupils in Gujarat. The main objective of the study was to identify various type of interests among school population, and also to find out the difference in interests, if any due to age, sex, rural-urban origin and cultural habitats. The findings showed that travel and sports activities received first and second preference among recreational activities. Among the professions - medicine and engineering had maximum preference while clerical works had minimum appeal. On a comparative analysis it was found that the differences in interests on the basis of age and sex were significant.

Singh (1967) investigated the pattern of vocational and educational interests of adolescents. The main purpose of the study was to test the hypothesis regarding the differences in interests on account of sex and rural-urban origin,
and the relationship between the educational interests and vocational interests in the courses of study. The findings revealed that, the educational and vocational interests were not in agreement and thus they were found not directly related, and urban and rural girls differed significantly with regard to vocational interests in literary, constructive, aesthetic, agricultural, social service, and household vocations but interests in scientific, commercial and persuasive areas was equal. The same is the case with boys.

Bose (1970) also conducted a study on "Interest Patterns of Students of Science, Humanities and Commerce Stream at the Higher Secondary Level." The study attempted to develop typical interest patterns for the three different areas of studies. The study concluded that the interest pattern for all the groups were not identical and pair-wise comparison indicated that there was a wide variation between the groups in this respect. However, the similarities and dissimilarities in the interest patterns for different groups could provide adequate aid in a guidance situation.

Grewal (1971) studied the educational choices and vocational preferences of secondary school students in relation to environmental process variables. The sample consisted of 127 boys and 26 girls from the urban schools and 126 boys and 50 girls from the rural schools, all in the age group
of 14 to 21, was randomly drawn from the higher secondary schools of Bhopal and Indore. The findings revealed that 
(i) rural and urban students studying humanities and science differed significantly; (ii) boys differed significantly from girls in their levels of vocational preferences; and (iii) significant relationships were found to exist between vocational environments of home, community and level of vocational preferences, etc.

Rai (1971) conducted a study on vocational preferences of students of Class X in the State of Haryana. The study revealed that all the students under study have given their first preferences for nine different vocations after which they want to plan for their professional careers, were Medicine, Teaching, Law, Military, Engineering, Business Management, Politics, Agriculture and Science.

Urmila (1976) in another study of vocational preferences of urban and rural students reported that urban students preferred Engineering, Medicine, Law and Military services whereas majority of rural students preferred Agriculture and Teaching.

Chadha (1979) conducted a study on some psychological and sociological factors related to vocational preferences of rural and urban high school pupils. The study concluded
that the urban boys aspired for Engineering, Protective and Health occupations whereas the rural boys aspired for Teaching, Welfare and Engineering vocations.

Yadav (1980) in his attempt to find out relationship between values and vocational preferences of adolescents, reported the following as findings: (i) significant relationship has been observed for the jobs related to the area of physical science. The students having higher theoretical values have shown their preferences for becoming physicists, inventors, engineers etc.; (ii) Positive relationship between economic values with their preferences to become accountants, bank managers, auditors, cashiers, tax-specialists etc.; and (iii) all the students under the study have shown political value as the highest and aesthetic value as the lowest.

Raina (1987) launched a study on vocational preferences of secondary school pupils of Kashmir valley with the objectives: (i) to find out most preferred vocations of Class X students; (ii) to study whether there is any difference in the vocational preferences of economically well-off and backward students; and (iii) to find out the differences in the vocational preferences of rural and urban boys. The sample consisted of 400 students of Class X of 12 selected schools (i.e. 200 rural and 200 urban). The findings revealed that (i) there was no significant difference between rural
and urban boys of Kashmir valley in their preference of 25 vocations; (ii) the higher income group students preferred mostly the vocations like Engineering, Medicine, Tourism, Hotel Management, Police, Business, Announcing and Composing while boys belonging to the low income group preferred Teaching, Agriculture, Typewriting, Forestry, Arts and Crafts, Diary Farming. On the other hand, the middle income groups boys preferred the vocations of Fishery, Police Service, Medicine, Typewriting, Tourism, Hotel Management, Announcing and Composing and Radio, Television Mechanic; and (iii) the vocational choices of Class X students in rank order showed that professions of Engineering and Medicine with the means of 6.04 and 5.58 respectively, were more preferred. The least preferred vocations were Library Science, Diary Farming and Spinning and Weaving.

Sharma and Verma (1987) investigated on vocational interests of pre-adolescent boys and girls with the objective to find out their future vocational career interests. The findings of the study revealed that the girls were significantly more interested in Literature, Scientific, Transport and Communication, Commerce, Agriculture and Professional fields of vocational interests than their counterparts. However, no significant difference was observed between the two groups with reference to the field of defence.
It can be stated from the reviewed studies in this section that most of the high school pupils have their preferences for different vocations. Another trend that could be seen is also that boys and girls; rural and urban pupils seem to have difference in their vocational preferences. However, confirmation of the matter can be a gap of further research interest.

2.2.3. Vocational Preferences and Creative Thinking

Quite a good number of studies have been conducted on the pattern of vocational aspirations of creative adolescents. A few of them are reviewed and reported here under this heading.

Tripathi (1969) in a study under this heading concluded that the creative children more often chose vocations which were rather unusual and which provide greater scope for the expression of creative talent like the work of an inventor, dancer, actor, musician, writer, adventurer and explorer. The high IQ group more often chose the traditionally respectable occupations like doctor, engineer, lawyer etc.

Paramesh and Narayan (1976) conducted a study on 'Creativity, Intelligence and Vocational Interests'. The main purpose of the study was to compare the vocational interests of high and low creative college students. The study concluded
that high creatives were significantly higher than the low creatives with respect to their interest in persuasive, linguistic, artistic and musical interests areas. Pandey (1976) in another study on Adjustment, Values and Vocational Interests of the Supernormal and Normal Adolescents found that the supernormal adolescents develop better vocational interests than normal adolescents. The study also found that increase in age, education and intelligence brings betterment to vocational interests of adolescents.

Bardwaj (1978) in a study on vocational interest as function of creativity found that creativity had a high influence on students interest of different vocational pursuits.

Ghosh and Gordon (1979) in their study on self-concept and vocational preferences among girls found that pupils of high self concept having high vocational aspiration and conversely pupils with low self concept having low vocational aspiration.

Bhadauria (1980) reported that gifted and non-gifted students differed significantly in the criteria, procedures and model of success. However, the difference in accepting the general means for achieving success was not significant.

Tiwari and associates (1980) investigated on self-concept and level of aspiration of school going children
They concluded that there was high positive significant relationship between self-concept and level of aspiration of boys and girls.

Mehta and Singh (1981) from their study on verbal creative thinking related to educational and vocational aspiration reported that high creatives preferred unconventional occupation as air-hostess, lawyers and scientists whereas low creatives preferred conventional occupations as teaching. The creative children more often chose vocations which were rather unusual and which provide greater scope for the expression of creative talent like the work of an inventor, dancer, actor, musician, writer, adventurer and explorer. The intelligent children more often chose the traditionally respectable occupations like doctor, engineer, lawyer etc.

Again, in studies conducted by Rawat and Garg (1977) and Singh (1981) have shown that there is no significant relationship between creative thinking and vocational aspiration. The main objective of Singh's study was to find out the nature and extent of relationship between creativity and level of aspiration, and also to find out the difference in the aspiration level of high and low creatives. The findings showed that no significant relationship existed between creative thinking and level of aspiration. Further, high and low creatives did not differ in respect of their levels of aspiration.
It may be stated from this section of the review that creative thinking and vocational aspiration have a fairly high degree of relationship though certain studies findings have shown reversely.

2.2.4. Vocational Preferences and Miscellaneous Factors

Mehta (1960) reported the findings of the employment pattern survey of the Alumni of Delhi University conducted in 1958. The main findings were that about 30 per cent entered a career without any vocational aim, and 28 per cent completed their entire career without developing any aim. An examination of the reported studies on occupational aims of students of our country (India) by Grewal (1980) has shown 'an utter lack of realism (aims) on the part of students'.

Some of these studies also throw light on the fact that many of the youth go through their studies without a realistic approach to their vocational preferences.

Another important factor which has an important impact on the vocational aspiration of students is culture. In many cases, vocational aspirations of the students confined within the bound of the culture concerned. For example, the ancient Indian culture gave a definite classification of occupation of occupation based upon the caste system. We know that there is a mention of the occupations of all Varnas in the Hindu
scriptures. According to the Law of Manu (Max Muller, 1964), functions of the four castes, viz., Brahmins, Kshatriyas, Vaishyas and Sudras were definitely specified.

To Brahmins he assigned teaching and studying, sacrificing for their own benefit and for others, giving and accepting (of alms).

The Kshatriyas he commanded to protect the people, to bestow gifts, to offer sacrifices to study and to abstain from attaching himself to sexual pleasures.

The Vaishyas to tend cattle, to bestow gifts, to offer sacrifices, to study, to trade, to lend money and to cultivate land.

One occupation only the Lord prescribed to the Sudras was to serve meekly even these three (other) castes.

Sharma (1968) from his study on Indian culture and occupational classification, remarked:

"Having developed from varna system the occupations in caste system are definite. In Hindu society even today, in most cases the son of a blacksmith pursued the occupation of his father, the son of a carpenter becomes carpenter while the son of a shoe-maker becomes a shoe-maker."

From this study also it may be pointed out that the culture concerned has a strong influence on the vocational
interest of the students. The same is still true to some extent that there are certain vocations which are considered more prestigious even in Naga culture such as Missionary, Pastor, Gaonbura, Pianist (Church) etc. although they are not so prestigious in other cultures.

Thus, sectionally, it may be concluded that in India, the vocational preferences of students have been influenced to some extent by the factors like intelligence, creative thinking, culture, vocational prestige and persons (teachers etc.).

2.3.0. Vocational Preferences and Creative Thinking Among the Tribals

So far, a few studies have been conducted on vocational preferences among the tribals in North East India. Among them only 9 studies are found indirectly relevant to the present study. In the same way, among the few studies conducted on 'tribal creativity' only 5 studies could be reviewed (this is also due to non-availability of research literature). They are given in this section of the review.

2.3.1. Vocational Preferences

2.3.1.1. Tali (1977) conducted a study on vocational aspiration of Class X pupils in some schools at Mokokchung Town, Nagaland. The chief objective of the study was to find out
pupils' vocational aspiration along with factors influencing it and to compare them on the basis of sex, SES and to suggest measures in the light of the findings.

The sample of the study consisted of 230 pupils drawn from three co-educational schools. The major findings revealed that (i) the vocations most aspired after clustered around few common vocations like Medicine, Engineering, Teaching. While non-aspired after were Agriculture and self-employment oriented vocations; (ii) vocational aspirations between boys and girls was found significantly different. Girls show considerably greater interest than boys in professions like Doctor, Nurse and Teaching, Law and Office work while boys have more interest than the girls in vocations based on a study of science and technology, All India Services, Defence, Commerce, out of door and Politicians; (iii) urban pupils were found aspiring after prestigious vocations whereas rural pupils were aspiring after both high and low status jobs.

2.3.1.2. Pariat (1982) launched a study on vocational aspirations of Class IX pupils of some schools in Shillong. The sample consisted of 270 pupils drawn from nine schools. The main objective of the study was to identify pupils' vocational aspiration and sources of information and factors influencing their choice.
The findings showed that (i) majority of the pupils had made vocational choice with vocations of Medicine and Engineering scoring highest while very few preferred for politics and agriculture; (ii) pupils from educated and well-off families, who went to private schools, aspired for more prestigious jobs than pupils from government and aided schools; and (iii) pupils vocational choice was unrealistic as the parents and teachers gave no proper guidance and information and as the choice was made early.

2.3.1.3. Rawat (1982) conducted a study on factors affecting the career choice of adolescents in some high schools of Shillong. The main purpose of the study was to find out factors influencing and guiding pupil's career choice and the type of vocations they prefer and compare them in terms of sex. The sample consisted of 200 Class X pupils drawn from seven English medium schools.

The major findings revealed that (i) The factors that influenced pupils choice were family socio-economic status, school and teacher; (ii) Pupils showed a tendency for choosing better occupations than the occupations of their parents; (iii) Boys were found interested in Engineering, Science and Technology, whereas girls had greater interest in Administrative Services, Medicine, Teaching and household work; and (iv) Teachers were found to give more occupational guidance
to boys, while parents, on the other hand, guided girls more than boys. But most of the girls wanted to settle down as housewives whereas boys were determined to take up a vocation in future.

2.3.1.4. Aithuama (1982) conducted another study on vocational aspirations of Class X boys and girls in Aizawl town, with the objective to find out and compare the vocational interest of boys and girls and also to find out the sources of information and factors influencing their vocational aspirations.

The major findings showed that (i) the most aspired vocations were Administration (boys) and Medicine (girls). Though they aspired after prestigious jobs, they were not well informed of the nature of the service and the qualification it requires. As they chose their vocations without the guidance of teachers, it further proves to be unrealistic vocational choice; (ii) pupils vocational choice was found influenced by their parents but not by their reading materials, hobbies, radio programme and optional subjects offered at schools; (iii) the main reason of choosing vocations was found for self-satisfaction and decent living.

2.3.1.5. Chakravorty (1983) investigated educational and vocational aspirations of high school adolescents in Shillong with the objective to find out their vocational interests
and reasons for selecting a particular vocation. The findings showed that most of the students aspired after non-traditional occupations such as Engineering, Physician, Professor, Mechanic, Electrician. With regard to reasons for vocational choice, about 5% of the adolescents think that they liked the particular vocation because of the work involved in the vocation. Other reasons given are, the vocation chosen will help to serve the nation, rapid progress in the vocation and fulfill parents wish.

2.3.1.6. Jagdishchand (1985) conducted a comparative study on self concept, SES, vocational and educational aspirations and academic achievement of pupils belonging to three Naga tribes (Angami, Ao and Sema). Some of the major objectives of the study are: (i) to find out the differences in vocational choices of the pupils belonging to the three tribes, and (ii) to find out reasons for their choice of the particular vocations. The sample of the study consisted of 674 pupils of Class IX belonging to the three tribes, drawn from 10 high schools of three districts namely, Kohima, Mokokchung and Zunheboto.

The major findings showed that:

(i) While Sema pupils were found to be significantly different from Ao pupils as regards to their vocational choices, they were found similar to their Angami coun-
terparts. But the Angami and Ao pupils appeared similar on the same variable;

(ii) The boys belonging to the Angami and Sema tribes were found to have significantly different vocational choice than the girls in the respective tribes, whereas no such differences was noticed between boys and girls of Ao tribes;

(iii) The vocational choices of girls belonging to the three tribes were not found to differ significantly from one another; and

(iv) Out of the 19 possible reasons for vocational choice, 8 reasons were found playing significant role in determining vocational choice of pupils. Majority of the girls belonging to the three tribes reported that they would choose their vocations in accordance with the wish of their mothers. In case of Angami and Ao boys, fathers' advice was reported as playing a significant role in determining their vocational preferences, but for the Sema boys earning from a vocation appeared as an influencing factor in preferring the same.

2.3.1.7. Ramnghinglova (1986) investigated on educational and vocational preferences of college students with the objective revealed in the title. The sample of the study consisted of 200 Pre-University students from 4 colleges in Aizawl
town. The findings indicated that the arts students were taking more interest in the more responsible job as Principals of Colleges or Schools. The Commerce students were more influenced by their subjects as they opted for high income vocations and also preferred only the branches of Commerce subjects. The Science students, on the other hand, preferred to become Engineers and Scientists. Hence, they exhibited a preference for diverse vocations and even showed keen interest to take up teaching as a vocation.

2.3.1.8. Sungoh (1987) conducted a study on educational and vocational aspirations of Doordarshan-viewing Pre-University students in Shillong. The sample of the study consisted of 300 Pre-University students studying in different colleges of Shillong. The main objectives of the study was to find out the educational and vocational aspirations of the students who were exposed differentially (regular, occasional and rare) to Doordarshan. The findings revealed that students who were exposed differentially to Doordarshan have higher vocational aspiration when compared to their educational aspiration. The study further revealed that there was no significant difference in the vocational aspirations of regular, occasional and rare Doordarshan viewers among the students.

2.3.1.9. Recently, Vipralho (1987) launched a pilot study on vocational interest of students in four government high
schools of Kohima town. He found that most of the students were preferring for courses like medical, engineering, teaching, nursing, home science, technical and commerce.

From these nine studies among the tribals, it may be stated that many tribal pupils are also found aspiring after different modern occupations like their non-tribal counterparts. However, it is still difficult to conclude that what particular vocations tribal pupils normally go for and what are the basic reasons behind their choices. For this, comprehensive research is required.

2.3.2. Creative Thinking

2.3.2.1. Dutta (1978) conducted a study on Adjustment Problems of high creative and low creative adolescents studying in Class IX in some schools of Shillong. The sample consisted of 886 adolescents drawn from 18 English medium high schools. On the basis of the findings, the study concluded that there is no relationship between creative thinking and adjustment. That adjustment is dependent upon multiplicity of variables and upon the unique personality characteristics of an individual and not upon the creative thinking of the person alone. Thus, the relationship between creative thinking and adjustment may be positive or negative in case with a particular creative person, but when studied in groups, it gives contrary results.
2.3.2.2. Sreelatha and George (1981) studied effect of creative teaching on creative thinking of Class IX pupils in Shillong with the objective to find out the influence of creative teaching on developing creative thinking in adolescents. The sample consisted of 12 pupils drawn from one English medium school. The findings revealed that creative thinking (verbal & non-verbal) of the pupils could be enhanced by creative teaching technique.

2.3.2.3. Ahmed (1982) investigated the effect of teaching drawing creatively on non-verbal creative thinking of Class VII girls in Shillong. The sample consisted of 20 girls. The study concluded that creative teaching with appropriate use of instructional materials has a great effect on enhancing the creative thinking of girls, and has educational implications to make a creative teacher sensitive to the different ways of improving creative thinking of pupils in the classrooms.

2.3.2.4. Kumar and others (1986) concluded from their study on creative abilities of tribal children in relation to sex and socio-economic status that tribal girls are better than tribal boys on verbal creative thinking, while boys are better than girls on non-verbal creative thinking. The study also revealed that tribal children from low SES are found inferior to high SES group in their level of creative thinking.
2.3.2.5. Pathak (1988), in his study on value orientations of creative tribals found that high creative and low creative tribals are significantly differentiated on theoretical and aesthetic values, signifying that high creative tribals are of high theoretical and aesthetic values. But the high and low creative tribals are not significantly differentiated on economic, social, political and religious values, signifying that the high creative tribals are of low economic, social, political and religious values.

Although these five studies have thrown some light on creative thinking in relation to teaching method and values yet there is still quite a lot more to discover on creative thinking in relation to other correlates. Hence, it is still too early to say about the status of creative thinking among tribals, on the basis of these few studies. Still a more comprehensive study is needed.

2.4.0. Foreign Studies on Vocational Preferences

A number of studies have been conducted on vocational preferences abroad. However, only those studies which are related to the present study were reviewed under different headings in this section.

2.4.1. Vocational Preferences and Self-Concept

Haller (1963) thinks that the person's level of occupational aspiration is determined, in part, by his conception
of himself in relation to the style of life ascribed to that occupational level. Seffire (1966) hypothesizes that the person's job choice is an implementation of only one aspect of the individual's self concept, 'the occupational person'. He suggests that the work aspect of an individual's life can vary from central to peripheral.

Holland (1959) in his study relates the self-concept more directly to the level of occupational aspiration. He suggests that the level of occupational choice within a class of occupations is in part a function of self-evaluations. From this, one may see that the self-concept probably helps determine not only the type of occupation but also individual's level of aspiration within that occupational group.

Theorists like Field, Kehas and Tiedeman (1963) elaborate the role of the self-concept in vocational choice by naming aspects of the self and situation which are considered in making such a choice. They then relate them to vocational aspiration and implementation. They point out: Individuals choose actions which fit their current notions of (i) what they are like, (ii) what they can be like, (iii) what they want to be like, (iv) what their situation is like, (v) what their situation might become, (vi) the way they see these aspects of self and situation being related.
Rosenberg (1965) conducted a study concerning relationship of self-esteem to occupational aspiration of 1300 high school pupils. He explored that, in general, pupils with low self-esteem tended to see their occupational future as one of frustrations.

It may be concluded that self-concept acts as one of the main factors behind the choice of any vocation by a student. It is also seen from this review that the kind of vocation chosen by a student often came out as the satisfactory answer to the question of his self or self-concept.

2.4.2. Vocational Preferences and Work Values

Byers (1945), and Deeg and Paterson (1947) conducted researches which gave the conclusions that prestige (value) is one of the most important factors which pull people towards occupations. The passage of time and addition of new experiences appear to make little difference in prestige - value of an occupation.

Thomson (1966) in his study found that girls placed more emphasis on job that would permit an expression of one's own ideas, and one where an individual could help others. Students whose fathers were in low prestige occupations tended to select security positions. This was also true of students whose mothers worked outside the home.
Quite a few studies have conducted on job-value and preferences of men (Centres, 1949), boys (Singer and Steffire, 1954a), boys and girls (Singer and Steffire, 1954b) and college males and females (Wogman, 1965). Centres (1949) found social class difference in occupational values while Singer and Steffire found differences in values held by adolescent and adult males. Each of these studies seems to indicate a difference in job values by sex. Women prefer job values of social service while men prefer job-values of profit, power and independence.

Lohnes and Gibbons (1968) investigated shifts in adolescents' vocational values. The inferred values and hierarchies were judged from interviews conducted on 111 boys and girls in 8th, 10th and 12th grades. The results showed that boys gave high rank to personal contacts and social service values. Girls' were people oriented, in that they like to meet people and help them whereas, boys were career or extrinsic reward oriented because they were most concerned with salary, security and prestige. However, the similarities for the two sexes were more predominant than the distance. Both boys and girls were concerned with satisfaction and opportunity to satisfy their interests.

From the review discussion of the studies, it may be stated that value (prestige) of the vocation concerned has strong influence on the vocational preference of pupils,
although it is still difficult to determine the trend toward which value either boys or girls go most.

2.4.3. Vocational Preferences and Pupils Background

Empey (1956) investigated the effects of American cultural ideals upon vocational preferences by comparing the absolute and relative preferences of 12th grade students from different social classes (backgrounds). He has found that the absolute occupational status preferences of male students from middle and upper classes were significantly higher than those of students from the lower classes. He also had found that the relative occupational status preferences of lower class students indicate that they prefer and anticipate having significantly higher occupational status than their fathers.

Thomas (1963) in a study concluded that most of the students prefer for an occupation that has more prestige than the one followed by their fathers. Almost all the students prefer for an occupation which, from the standpoint of training is appropriate to the kind of high school education they are currently following or to one which at least, people with their background would be allowed to enter.

Krippner's (1963) investigation of the association between the levels of junior high school pupils' vocational preferences and the occupational levels of their parents,
revealed that although boys and girls may prefer different vocations than those suggested by their parents, it is likely that these preferences will reflect the family’s occupational level, and therefore, the pupil’s socio-economic milieu.

In another study by Lee and King (1964) found a number of statistically significant differences between parents occupational levels and their daughters vocational preferences. The mean level of the girls’ occupational choices was higher than the mean level of their parents actual occupational level.

Houson (1965) in another study investigated the relationship between 9th grade girls' vocational preferences and their parents' occupational level. The sample included 142, 9th grade girls of lower middle class status of rural areas. The findings showed that the girls' preferences were significantly higher than the fathers' occupations. Mowsesian, Heath and Rothney (1966) also reported to have found in the same direction: 'students showed preference for higher occupations than those of their parents'. From the review of these studies, it may be concluded that boys and girls prefer for higher level of occupations irrespective of their social backgrounds or parents actual occupational level.
2.4.4. Vocational Preferences and Age/Sex

Lehman and Witty (1930) studied occupational preferences of 26,878 school children aged 8 to 18, found that there were marked differences in the kinds of vocations they preferred. Both sex and all ages, however, made their choice for three reasons in the following order of preference: money, social approval and easy life.

Parker (1962) in another study of occupational preferences of 29,000 pupils of 7th grade, confirmed the theory of Ginzberg, Super and Hoppock that many plans and preferences are made at the early adolescent period. Peters (1960) also concluded in the same way stating that vocational interest patterns are rather stable during adolescent period and they become more clarified with age.

Gunn (1964) made a study to discover something about the way a child requires concepts of occupational prestige. The study has established that most people above the age of 14 are able to rank jobs according to what they believe are status gradation. Himelweit, Halsey and Oppen (Gunn, 1964) concluded that adolescents had acquired essentially an adult view of the prestiges of occupations they are interested.

The studies appear to point to the fact that pupils, by the time they enter adolescent period, have developed
a fairly clear concept of vocational preference which often helps them in having a realistic preference of vocations in life.

2.4.5. Vocational Preference and Creativity/Achievement/Intelligence

Byrons (1939) studied on Achievement, Intelligence and Vocational preferences and emphasized that different occupations tend to attract boys of different scholastic ability. He pointed out that occupational preferences have some relation to scholastic ability and there are great differences in average ability of pupils in the occupational groups attracting the brightest and those in the groups attracting the dullest. Terman (1942) also pointed out that intelligence may act as a factor in occupational planning and vocational success.

Getzels and Jackson (1962) studied the relationship between occupational choice and cognition as defined by performance on intellectual tasks. For the purpose, they made a study of the career aspirations of highly intelligent and highly creative students. Two experimental groups were formed. It is found that differences between the two groups appeared in both quantity and quality of occupational goals. The quantity and quality of occupational goals. The quantity of occupational possibilities mentioned was significantly greater
for high creatives than the high IQ's. The quality of the
different occupations mentioned as possibilities was also
significantly different.

Dauw (1966) in another study on career choices of
high and low creative students administered Torrance Minnesota
Tests of Creative Thinking and their choices were obtained.
In the study 23 careers were judged unconventional careers
while 21 of the 23 unconventional careers were chosen by
26 highly creative students. The proportion of high creatives
chose unconventional career was significantly higher than
the proportion of low creatives choosing them.

The findings Gribbons (1966) study on career develop­
ment and intelligence of boys and girls of 8th and 12th grades
clarified that many students stated their preferences for
occupations that were in agreement with their measured intel­
ligence. O'Hara (1966) also reported to have found relation­
ship between vocational preferences and achievement of stu­
dents.

In another interesting study on teacher's influence
on students vocational preference by Day (1966) found that
6 per cent of the students modelled a teacher in their voca­
tional preference. About 44 per cent were influenced by tea­
chers in their preferences. The boys were significantly more
influenced by their teachers than were girls.
Sectionally (for foreign studies), it may be concluded from the studies reviewed that vocational preferences of students have been positively influenced by factors like Creativity (Dauw, 1966), Intelligence (Gribbons, 1966), Self-concept (Haller, 1963), Prestige value (Thomas, 1963), Sex (Parker, 1962), Teacher (Day, 1966) and achievement (O'Hara, 1966).

2.5.0. Conclusion

From the review, it can be concluded that there is not much difference between the findings of Indian and foreign studies on creative thinking. In both the studies, it is reported that creative thinking of students has been found related to their sex (Sharma, 1981, Torrance and Aliotti, 1964), locality (Pandey and Rai, 1988) although some findings have shown reversely (Vohra, 1975, Rawat and Agrawal 1977, Guilford, 1955, Singh, 1977).

In the same way, the review of the available Indian and foreign studies on vocational preferences have shown that vocational preferences of students have been influenced by factors like creativity (Bardwaj, 1978, Mehta and Singh, 1981, Dauw, 1966), intelligence (Gribbons, 1966), self-concept (Tiwari and associates, 1980), Holland, 1956, Rosenberg, 1965), values (Sharma, 1970, Centres, 1949, Singer and Stef-fire, 1954, Gibbons, 1965), sex (Lehman and Witty, 1930),
culture and other background factors (Sharma, 1968, Ewpey, 1956, Krippner, 1965).

From the few studies conducted among the tribals on creative thinking and vocational preferences, Pathak (1988) reported that there is significant difference between high and low creative tribals in their perception for certain values (jobs). Other studies conducted by Tali (1977), Pariat (1982), Rawat (1982), Aithuama (1982), Chakravarty (1983), Jagdishchand (1985), Ramninglova (1986), Sungoh (1986) and Vipralho (1987) have shown that tribal pupils preferred for different modern vocations like their non-tribal counterparts. These studies have also shown that boys and girls differed in their preferences for vocations although some similarity could be seen on certain vocations.

However, so far no study has been found reported on vocational preferences and rural-urban creative pupils' comparative study of tribal and non-tribal pupils' creative thinking etc. which can be some of the gaps in research among the tribals – particularly in the North East. Hence, this study was undertaken.