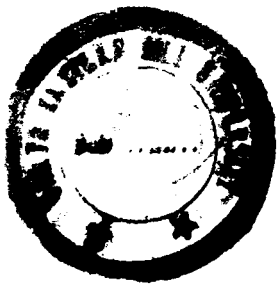
A COMPARATIVE STUDY OF VARIOUS NAGA TRIBAL PUPILS IN RELATION TO THEIR SELF-PERCEPTION, SOCIO-ECONOMIC STATUS, VOCATIONAL AND EDUCATIONAL ASPIRATIONS AND ACADEMIC ACHIEVEMENT

THESIS
SUBMITTED FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY IN EDUCATION

BY

JAGDISH CHAND



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D E C L A R A T I O N

I hereby declare that the Thesis entitled 'A Comparative Study of Various Naga Tribal Pupils in Relation to their Self-Perception, Socio-Economic Status, Vocational and Educational Aspirations and Academic Achievement' has not been submitted by me for the award of a Degree, Diploma, Title or Recognition, before.

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C E R T I F I C A T E

I hereby certify that the Thesis entitled 'A Comparative Study of Various Naga Tribal Pupils in Relation to their Self-Perception, Socio-Economic Status, Vocational and Educational Aspirations and Academic Achievement' is a record of bonafied study and research carried out by Shri Jagdish Chand under my supervision and guidance.

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I wish to express my appreciation to many authors whose works have been consulted and often quoted in this research work.

The area of the present work has received much attention of scholars in the past. My attempt does not claim to be final. I hope many other aspects would be given attention to in the future.

Thanks are also due to Mr. Godfrey for typing the present thesis neatly.

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CHAPTER - I

INTRODUCTION

Actions and achievements of an individual are largely determined by what he feels and thinks of himself. In the realm of human abilities, the conception of 'self' is an important factor. It is equally important in the learning process. Proper appraisal of one's own capabilities thus is essential to success in life. The concept of self is now accepted as the one related to perception and as a variable in motivation. Research evidence indicates that persons with good self-concept are less anxious, are judged to be better adjusted, are more effective in groups and are more honest in themselves and less defensive. Again, human behaviour is generally goal-directed. It is influenced by a striving for self-actualization and by one's levels of hopes and aspirations. It may be presumed, therefore, that human behaviour, in a given context is largely determined besides other things by one's perception of self.

In the context of the modern societies which are undergoing rapid changes, it is expected to prepare an individual for future life, so that he can find and adopt modes and behaviour suitable to the changing situation. Again, in a given society the child has to follow certain beliefs and values. It is also to be noted that his personality develops in a continuous process of interaction with the environment.

Self-concept plays significant role toward the total achievement of an individual. Sinha (1966)[1] compared high and low achievers in respect of their examination results. He found that low achievers were more dissatisfied with themselves. Brookover, Thomas and Paterson (1964)[2], in their study on the Seventh grade children, established the causal role on self concept in determining the grades at school.

The values, goals and ends which an individual holds guides and directs his behaviour. Individuals and groups tend to promote, protect and maintain their primary goals and values. However, an individual aspires in many directions including those motivated by educational and vocational ends, but his vision is, at the same time, circumscribed by the conception that he has of himself.

1.10 Significance of the Study and Statement of the Problem

In recent decades psychological researches have revealed that the concept of self is an useful construct in understanding the dynamics of personality and behaviour. The self is the sum

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1 D.N. Sinha, 'Some Factors Associated with Success and Failures in University Education', Indian Educational Review, Vol. 1, 1966, pp.34-37.

2 W.B. Brookover, S. Thomas, and A. Paterson, 'Self-Concept of Ability and School Achievement', Social Edu., 1964, 37, pp.271-278.

total of a person's ideas and attitudes about who and what he is. It comprises all the experiences that constitute a person's awareness of his existence. Several theories of personality employ 'self' as the central orienting concept designed to explain human behaviour and experience. The reasons are various and manifold. The 'self' gives to personality its dynamic and unique character. It is involved in one's most intense motives and purposes, one's most poignant frustrations, and one's most consistent attitudes and values. The self determines in a large measure the goals for which one strives, the likes and dislikes one has, and the satisfaction one obtains. In short, much of what an individual says and does, centres around, or derives from, an awareness of the self.

Some theorists have placed the self in the centre of their theoretical schemes and have examined its influence on behaviour patterns and experience. Sarbin (1968) formulated a theory regarding the origin and development of the self. He looked upon self as "... cognitive structure, whose origin occurs in early childhood as a result of interactions between the child and his world"[3]. This gave rise to investigations on various dimensions of the self.

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3 T.R. Sarbin, 'A Preface to a Psychological Analysis of the Self'. In D.M. Wegner and R.R. Vallacher 'The Self in Social Psychology', (N.Y. : Oxford University Press, 1980), p.109.

The core of the individual's perceptual field is his self concept. Behaviour of the individual is influenced to a great extent by his self perception. The self concept is a system of attitudes, feelings and perceptions that the individual has about himself. All attitudes are important determinants of behaviour, but attitudes concerning the self are considered basic in determining the behaviour. The self concept is, therefore, of great importance to the classroom teacher in understanding the child's behaviour.

Backward sections of Indian society constitutionally referred to as Scheduled Castes and Scheduled Tribes have been denied their rights and basic human dignity for several centuries. With the spread of education the youth among the Scheduled Castes and Scheduled Tribes are getting aware of the widening gap between the scheduled and non-scheduled classes and the social barriers and handicaps in their enjoying civic rights freely. This means that their self-perception is also undergoing a change.

Since independence, the nature and dimension of social inequality have undergone a radical change. One of the developments is the legal abolition of inequality. In the Constitution of India, the people of our country have been guaranteed social, economic and political justice, liberty of thought and expression, equality of status and opportunity and fraternity among all individuals and groups. In pursuance of the directives

of the Constitution of India and the special provisions made therein for the Scheduled Tribes, the Government of India have been implementing special programmes for their socio-economic development.

As per the latest census, India had a tribal population of 5.16 crores in 1981. This comprises hundreds of groups listed as Scheduled Tribes. Anthropologically, it is difficult to develop a set of precise indices to set off tribals from non-tribals. But, broadly speaking, the term refers to territorial communities, the bulk of whom live in the relative isolation of hills and forests. Their partial isolation has kept them apart from the mainstream of Indian society and culture. Their low technological development and general economic backwardness has made them a special concern for the nation. Education has a great role to play in the integration of the scheduled tribes and rest of the population. As the progress of education varies from tribe to tribe, it would be seen that many of the comparatively backward tribes have suffered badly including those in Nagaland. There are fourteen major tribes in the State of Nagaland. But the rate of development has been varying from tribe to tribe. Education Commission (1964-66)[4] rightly pointed out in this regard saying

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4 Education and National Development, Report of the Education Commission 1964-66, (Delhi: NCERT), pp.248-249.

that 'the different tribal people are at varying stages of economic and cultural development. There is much difference in the skills they have attained and in the technology they employ. Therefore, in predominantly tribal areas, each group and the area in which it lives, should be studied closely, and appropriate patterns of development worked out in close cooperation with the people. It is in terms of such a design of development that educational programmes, institutions and priorities should be proposed'.

Naga tribals are quite distinct from the other tribal groups of India. The occupational patterns of Naga society are much different from those of the other tribes or plainsmen. As such there is a need to study their vocational aspirations and choices. The educational and vocational aspirations of the Naga tribal children at the school stage itself need to be studied so as to prepare them for socially useful employment in their future life.

The relation of self-concept to vocational choices of an individual is explained by Super (1953). 'In choosing an occupation one is, in effect, choosing a means of implementing self concept. ... The choice of an occupation is one of the points in life at which a young person is called upon to state rather explicitly his concept of himself to say definitely, I

am this or that type of person'[5]. With this self-understanding the individual then seeks out and explores various occupations which are perceived as allowing him to lead a role commensurate with his self-concept.

Occupation is believed to correlate highly with class, status, income and education. It also permeates the lives of those engaged in it and colours their attitudes, values and goals. It also determines to a certain extent the social relations existing among various members of the society.

Academic achievement is of paramount importance particularly in the socio-economic and cultural contexts. Obviously, in the school, great emphasis is laid on achievement right from the beginning of formal education. But the studies conducted on tribals reveal that the performance of children at school is not up to the mark. The Naga students in particular are reported to find mathematics and science subjects difficult. They often fail in these subjects and consequently lose interest in studies and become reluctant to continue schooling. It has also been observed that students who fail once or twice also become victims of various psychological problems.

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5 D.E. Super, 'A Theory of Vocational Development', American Psychologist, 1953, 8: 185-190 as quoted in William C. Morse and G. Max Wingo, 'Readings in Educational Psychology' (Bombay: Taraporevala Sons & Com. Pvt. Ltd. 1970), pp.7-12.

The research evidence based on various studies conducted on tribal children in India, and abroad, and on pupils coming from different cultural, ethnic, religious, and social groups is almost conclusive that pupils with favourable environment are more likely to get high academic achievement than those from unfavourable environment.

From the above discussion, it can be seen that the study of the variables like self-concept, educational and vocational aspirations, socio-economic status and academic achievement forms a significant area of research in respect of the Naga tribal pupils.

Further, though some researches have been conducted on tribals in India in respect of their general conditions, literacy level and programmes of upliftment, hardly any reference is available on the self-concept of tribals and especially of Naga tribal pupils. It prompted the investigator to take up the present study so as to compare the self concept, socio-economic status, vocational and educational aspirations and academic achievement of pupils of standard IX of the three different Naga tribes namely Angami, Ao and Sema. The study is entitled: "A Comparative Study of Various Naga Tribal Pupils in Relation to their Self-Perception, Socio-Economic Status, Vocational and Educational Aspirations and Academic Achievement".

1.20 Objectives of the Study

The study was aimed at finding out the self-perception, vocational and educational aspirations, and academic achievement of the pupils belonging to Angami, Ao and Sema tribes. The specific objectives sought to be realised are given below:

1. To find out the differences in the self-perception of the pupils belonging to the Angami, Ao and Sema tribes.

2. To find out the differences in self-perception among pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

3. To study the differences in vocational choices of the pupils belonging to the Angami, Ao and Sema tribes.

4. To study the differences in vocational choices of the pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

5. To find out the reasons for vocational choices of pupils belonging to the Angami, Ao and Sema tribes.

6. To find out the educational aspirations of pupils belonging to the Angami, Ao and Sema tribes.

7. To find out the educational aspirations of pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

8. To find out the differential academic achievement of pupils belonging to the Angami, Ao and Sema tribes.

9. To find out the differential academic achievement of pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

10. To construct (a) Vocational Aspiration Scale; and (b) Vocational Prestige Value Scale for measuring vocational choices of pupils in Nagaland.

11. To construct an Achievement Test in General Science and Mathematics for pupils of Class IX in Nagaland.

1.30 Hypotheses Formulated

The hypotheses formulated for the study are as follows:

H: 1 There is statistically no difference in self-perception of pupils belonging to the Angami, Ao and Sema tribes.

H: 2 There is statistically no difference in the vocational choices of pupils belonging to the Angami, Ao, and Sema tribes.

H: 3 There is no significant difference in the educational aspirations of pupils belonging to the Angami, Ao and Sema tribes.

H:4 There is no significant difference in the academic achievement of pupils belonging to the Angami, Ao and Sema tribes.

H:5 There is statistically no difference in self-perception of pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

H:6 There is statistically no difference in the vocational choices of pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

H:7 There is no significant difference in the educational aspirations of pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

H:8 There is no significant difference in the academic achievement of pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

1.40 Tools Employed

A number of tools were employed in order to get data relevant to the variables in the study. They included Deo-Jogawar Self Concept Personality Inventory, Kuppuswamy's Socio-economic Status Scale, and Kamat's Educational Aspiration Scale. The three instruments viz.,

Vocational Aspiration Scale, Vocational Prestige Value Scale, and Achievement Test in General Science and Mathematics were prepared by the investigator.

A brief description of the variables measured together with necessary information about the tools is given below.

1.41 Indices of Self-Concept : The Self-Concept was measured along 3 dimensions namely: Perceived Self, Ideal Self and Social Self by employing Deo-Jogawar Self Concept Personality Inventory (word-list).

1.42 Socio-Economic Status Indices : The notion of status or class in society usually refers to an individual's general standing in hierarchy of positions. This hierarchy is believed to have two dimensions: a productive dimension and a consumptive dimension. The former involves the degree to which an individual possesses wealth, knowledge and power. It is most commonly represented by an individuals' income, education and occupation. The consumptive dimension of social class involves expression of a particular style of life and is measured by how a person spends his money, where his children are educated, and what values he espouses. The index of social class as employed in the present study is a measure of a person's general educational, occupational and economic status.

A suitably modified version of the Kuppuswamy's Socio-Economic Status Scale was employed to obtain socio-economic status (SES) index of each pupil in the sample. The pupils were divided into three groups, namely High SES group, Middle SES group and low SES group, based on their scores on the 'Scale'.

1.43 Indices of Vocational and Educational Aspirations : To determine the indices of educational aspirations, an eight-point 'Scale' developed by Vasudha Kamat was used.

For determining the vocational choices of pupils, a list of 164 different vocations was prepared. The pupils were asked to write the name of one vocation which they wished to choose as their career in future. They were also asked to tick-mark 5 reasons for selecting a particular vocation out of a list of 19 reasons as given in Vasudha Kamat's 'Scale'. The investigator further interpreted the vocational choices of pupils in terms of their social prestige value. Both the Vocational Choice list as well as the Vocational Prestige Value Scale were developed locally by the investigator.

1.44 Indices of Academic Achievement : In order to maintain uniformity, the academic achievement scores were obtained by administering Achievement Test in General Science and Mathematics, for standard IX prepared by the investigator.

1.50 Design of the Study

The hypotheses were tested on the response patterns of 674 pupils belonging to Angami, Ao and Sema tribes studying in standard IX drawn randomly from 10 High Schools of three district headquarters in Nagaland. The boys and girls of each tribe were divided into three groups as belonging to high SES, middle SES and low SES. In order to determine the social prestige values of different vocations, a separate purposive sample of 94 adults belonging to various prefessional, skilled and non-skilled occupations was drawn. The data were collected for various aspects of self concept (perceived self, ideal self and social self), vocational and educational aspirations, and academic achievement with the help of appropriate tools described above. The type of general data about the subjects regarding sex, age, place of residence, tribal group, school category, parents education, occupation and income where ever necessary were collected on specified places meant for this purpose on different tools.

The data collected were analysed variable-wise for each group of pupils at the three levels of socio-economic status. Following statistical techniques were used in the analysis of the data:

all categories, i.e., professional, skilled and non-skilled of different tribes under consideration were included. The study was delimited as follows:

1. The comparison of self-perception was restricted to the pupils of three major tribes, namely - Angami, Ao and Sema.

2. Only three aspects of self concept, i.e., perceived self, ideal self and social self, and those traits or qualities which are included in Deo-Jogawar Self Concept Personality Inventory were studied.

3. The sample was chosen from the high schools of three district headquarters, namely, Kohima, Mokokchung and Zunheboto of the State of Nagaland.

1.70 Terms Defined

Self-perception is taken as the sum total of a person's ideas and attitudes about who and what he is. The terms self-perception and self concept have, however, been used interchangeably.

By educational aspiration is meant the aspiration set by an individual for academic attainments which range from Matric to Doctorate Degree.

By vocational aspiration is meant what the individual considers to be the ideal vocation for him. It is the individual's expression of his best liked occupation.

The term Socio-Economic Status refers to occupation, income, and education of parents/guardian supporting the pupil in his study at the school level.

Academic Achievement refers to the level of accomplishment, or proficiency, or performance in the given school subjects.

1.80 Organization of the Report

The present study has been reported in six chapters. The first chapter is concerned mainly with the significance, objectives and hypotheses of the study. Theoretical and conceptual framework of variables are given in Chapter-II. Chapter-III deals with the review of related literature which throws light on the work done in this area. Chapter-IV is concerned with the tools and methods followed in the study. Description of the detailed analysis of the data collected has been given under three sections in Chapter-V. Summary, conclusions, recommendations and suggestions for further research are reported in Chapter-VI.

CHAPTER - II

THEORETICAL AND CONCEPTUAL FRAMEWORK OF VARIABLES IN THE STUDY

Introduction

The present chapter has been devoted to a brief discussion on the theoretical and conceptual framework in respect of the variables - self concept, vocational and educational aspirations and academic achievement.

Interest in the self can be traced back to early writings of Aristotle and other Greek philosophers. An individual's conception of himself is often considered to be an important determinant of his performance in the cognitive effective or physical domain. The interest of psychologists in the self, as an area of empirical study, has greatly increased over the past several years.

Of the various recent theories, the theory of 'self' occupies an important place for understanding, explaining an predicting the human behaviour. A person's behaviour in any situation mostly depends upon the way he perceives the situation, his self being the part of that perceived situati Some researchers are of the opinion that a large part of behaviour that constitutes personality is self-oriented behaviour. What a person does or how he behaves is thus,

determined by his self-concept. They maintain that not only the behaviour and self-concept go together and mutually interact, but all behaviour is motivated and caused by the self-concept. The self gives to the personality its dynamic and unique character. In fact, much of what we say and do, centres around or derives from an awareness of the self. Therefore, without proper understanding of self, the understanding of human behaviour may be incomplete. The self determines in a large measure the goals for which one strives, the likes and dislikes one has and satisfaction one obtains. This suggests that to understand behaviour, the study of self-concept is essential for unfolding the unique characteristics of human nature.

2.10 Self-Concept Defined

To begin with it may be worthwhile to see how self-concept has been defined by various scholars and the way it helps in unfolding and understanding the personality characteristics of man. Psychologists believe that the core of the individual's perceptual field is his self-concept and that a person's life experiences result in relatively complex set of expectancies. This includes certain aspects of the inner world of his own feelings, wishes and thoughts. As a by-product of his experiences,

especially his experiences with people he develops a perception of himself in the sense of 'who he is' and what sort of a person he is. The self is one's inner world which results from the evaluational interactions with others, becoming the consistent personal perceptttion of 'I' or 'Me'.

The self-concept is a system of attitudes, feelings and perceptions that the individual has about himself. All attitudes are important determinants of behaviour, but attitudes concerning the self are much more basic than those in which the individual is less ego-involved and are therefore, more potent in determining the behaviour. The patterns of stimulation which produce feelings of well-being, hope, mastery and control mediate recognizable patterns of perceptions, variously called the self-structure or the self-concept. The self-structure is the individual's perception of his general habits of thinking and acting, whereas the self-concept is perhaps better reserved to mean the individual's way of looking at himself in an evaluative sense. So self-concept means simply an individual's view of himself or herself.

In one of the earliest considerations of self-concept, James (1950) observed that "a man's self is the sum total of all that he can call his, not only his body and his psychic powers, but his clothes and his horse, his wife and children,

his ancestors and friends, his reputation and works, his lands and horses, and yacht and bank account"[1]. It is believed that the term 'self-concept' was originally proposed by Lecky (1945)[2] and adopted by Rogers (1961)[3]. In Lecky's basic structure, all of an individual's values are organized into a single system nucleus of which is his evaluation of himself. As he undergoes new experiences, he accepts or rejects them in terms of their compatibility with his personal evaluation of himself. Thus, the self-concept is best conceived as a system of attitudes towards oneself.

Self-concept is further defined by Jersild (1963)[4] as the sum total of all that he can call his. The self, to him includes among other things, a system of ideas, attitudes, values and commitments. The self is thus, a person's total sujective environment, it is the distinctive centre of experience and significance.

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1 W. James, 'Principles of Psychology', (Holt Rinehart and Winston, 1950), p.291.

2 P. Lecky, Self-Consistency : A Theory of Personality, (N.Y. : Island Press, 1945).

3 C.R. Rogers, On Becoming a Person : A Therapisist's View of Psychotherapy, (Boston : Houghton Mifflin, 1961)

4 A.T. Jersild, The Psychology of Adolescence, (London: The Macmillan Company, 1963), pp.7-13.

Human behaviour has been explained in a quite distinctive way by Snygg and Combs (1949)[5]. According to them, we must observe and explain behaviour from the point of view of the individual himself. People do not behave according to the facts as observed by others but as they view them. This unique perceptions of the individual helps him in formulation of his decision. Behaviour is always relevant, purposeful, and pertinent because it has some meaning for the particular individual in a particular situation as he sees it. The situation as it appears to the behaviour is referred to as 'phenomenal field'. Since the behaviour of an individual is reasonable and necessary result of this phenomenal field, it is important to understand the pehnomenal field or the field of operation of an individual and its inter-relationships. The phenomenal field which governs behaviour, is the more personal part of the total physical environment in which the individual finds himself. This is his total universe of experiences and so it is the individual's real world - his reality. The subjectively apprehended world is known as the phenomenal field. The phenomenal field is, in consequence both fluid - constantly changing - and organized differently for different individuals. Some what more close is the 'Phenomenal Self' which

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5 A.W. Combs, and D. Snygg, Individual Behaviour, (N.Y.: Harper and Row, 1949), p.112.

includes those aspects of the pehnomenal field to which we refer when we say 'I'. The phenomenal self includes the physical self, evaluation of self and definition of self. All behaviour is a function of the phenomenal field, but not all parts of this field are equally important in determining the behaviour. Those parts of the phenomenal field which are part of or characteristic of the individual himself make up the self-concept. Thus, according to them, the self-concept 'includes those parts of the pehnomenal field which the individual has differentiated as definite and fairly stable characteristics of himself'.

According to Rogers (1951)[6], an organism always wants to satisfy itself and it always functions with a view to maintain, enhance and actualise itself. In his view self-concept is 'what I am'. The self-concept develops out of one's interaction with environment. "It is composed of such elements as the perceptions of one's characteristics and abilities, the percepts and the concepts of the self in relation to the others and to the environment, the value qualities which are perceived as having positive or negative values". Donald Felker (1974) has defined self-concept as 'the sum total of the view one has of one's self, a unique

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6 C.R. Rogers, 'Client-Centred Therapy'. In F.A. Fredenburgh The Psychology of Personality and Adjustment, (California: Cummings Publishing Corn. Inc., 1971), pp.382-397.

set of perceptions, ideas, and attitudes that differ to varying degrees from the view that other people have of the individual'[7].

More recent literature on self-concept has been reviewed by Jersild, Telford and Sawrey (1975)[8]. They consider self-concept as a very important 'determinant' of an individual's social interactions and personality adjustment. An individual's self-concept embodies many components - cognitive as well as affective. Cognitive component includes 'his perception of his physical attributes and his conception of himself, of his qualities as a person, his abilities, the purposes, beliefs, moral commitments and values.' His conception of himself incorporates not only his present situation but also views its roots in the past and is able to project himself into the future. Affective components of self-concept include 'the full range of human feelings, sentiments and moods.' These cognitive and affective aspects develop in the self a capacity for self evaluation, a capacity for viewing oneself, or a facet of oneself with approval or disapproval.

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7 Donald Felker (1974), 'Building Positive Self-Concept': Minneapolis. In S.U. Owen, H.P. Blount, and H. Moscow. Educational Psychology : An Introduction, (Boston: Little, Brown and Company, 1978), p.106.

8 A.T. Jusild, C.W. Telford, and J.M. Sawrey, Child Psychology, (New Delhi: PHI, 1975), pp.171-190.

2.11 Dimensions of Self : Screening of literature yields a number of terms in the context of self-concept. They include terms such as dimensions of self, aspects of self, characteristics of self, components of self, constituents of self and so on. Very often these terms are used interchangeably. Jersild (1963)[9] mentioned three main dimensions of Self: (i) ideal self, (ii) real self; and (iii) social self. Smith (1961)[10], however, classified dimensions of self into 'ideal', 'perceived' and 'real self'. James (1950) enumerated what he described as material self, social self, spiritual self and pure ego. There is also a mention of 'basic self-concept', 'transitory perception of self', 'conscious self', and 'unconscious self' available in the literature.

From among the above, three aspects of self were taken in the present investigation viz., Perceived Self (what a person thinks he is), Ideal Self (what a person wants to be), and Social Self (what a person thinks others perceive him). Self-Perception is taken to include all the three aspects.

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9. A.T. Jersild, Op. cit., pp. 7-13.

10 H.C. Smith, Personality Adjustment, (N.Y.: McGraw-Hill Comp. Inc. 1961).

Perceived Self : Perceived self is the way one perceives and describes oneself or what one may think about oneself. It refers to that trait and characteristics which an individual perceives to be a part of himself. It may be influenced by his physical self, his appearance, his dress, his abilities and dispositions, his values, beliefs and aspirations.

Ideal Self : The ideal self is the image a person has of the kind of person he would like to be. It may be defined as the organised conceptual pattern of characteristics and emotional states which an individual consciously holds desirable (or undesirable) for himself. The ideal self refers to the ideological plan and its aim is to know what an individual wants to be irrespective of what he really is. Scholars regard Ideal Self as the highest level of self which provides a standard against which the rest of the self may be judged (Smith, 1961; Jersild, 1963).

Social Self : The social self is what a person thinks how others perceive him, i.e., it is a person's idea of his impression by others. Although the degree of impression may not correspond with their actual perceptions, yet it leaves an important effect on a person's behaviour.

Real Self : The real self is what we actually are. It includes both what an individual is aware of and what he is

not aware of. An individual attempting to describe his own self, can at any given moment provide only an approximation of his 'Real Self' because only a part of the real self is visible to the individual. Real self, therefore, is the perceived self plus the unconscious self (Smith, 1961; Jersild and Sawrey, 1975)[11]. Though, no attempt is made to measure real self in the present study, the above description does indicate that some sort of distinction exists between what an individual feels he actually is (Real Self), what he feels ought to be or he would like to be (Ideal Self), and what a person thinks he is (Perceived Self).

2.12 Determinants of Self-Concept : It is difficult to say in precise terms as to how the self-concept begins. 'Is the self-concept influenced by heredity and fixed for all time, or is it learned?' Actually, it is acquired both ways, but the part of it that is learned is what concerns us most.

There are three major determinants of the self-concept, viz., genetic inheritance, family, and the external environment.

Although one's genetic inheritance is largely fixed, its effects may be altered to some extent in specific cases.

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11 A.T. Jersild, C.W. Telford, and J.M. Sawrey, Op. cit., 1975, pp.171-190.

For example, nutritional factors may sometimes significantly alter the growth patterns of individuals. Medical or therapeutic treatment may sometimes offset the effects of certain kinds of physical handicaps, and the self-concept could be seriously eroded by a temporary crisis involving physical development.

A child's closest family members - his primary group - are the first who usually extend the greatest influence on his self-concept. The way parents and others in the family regard the child, is largely responsible for his attitudes toward himself.

As the child grows and interacts with the environment, his teachers, friends and neighbours become contributors to the development of his self-concept. Later, in his adolescence, he comes into contact with individuals and social groups whose influence contributes to his personality development through the setting of competitive standards and especiall the inculcation of social values and attitudes.

2.13 Development of Self-Concept : Psychologists believe that self-concept is something which develops and which is not present on or immediately after birth. Every infant is born without the knowledge of himself or the world around him. At first, his world is totally undifferentiated. As he experience

hunger, dampness and pain and as he gains control over physiological functions, he begins to differentiate between 'me' and 'not me'. As he becomes more a person and less a mere organism, the process of living itself becomes as important to him as the actual satisfaction of his needs.

Frikson (1963)[12] postulated that, if an infant's needs are met fully and dependably, he becomes aware of the world as a good, stable, and encouraging place to be trusted. But when his needs are not met, the world for him becomes a frustrating, threatening place where no trust is possible. Thus, the infant's basic attitudes of trust or distrust are formed and these in turn, determine how he would regard others and view events of life.

It is, however, difficult to draw a definite line as to when the child first becomes aware of himself as distinct from objects or from others. Psychologists like Nash believe that the awareness of self begins at about fifteen months of age. It is commonly observed that a two-year old child often misuses the first, second and third person pronouns. But to Murphy (1947)[13], culmination of all the children's experiences

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12 E.H. Erikson, Childhood and Society (2nd edn.) (N.Y.: W.W. Norton, 1963), pp.248-268.

13 G. Murphy, Personality, (N.Y.: Harper and Brothers, 1947).

before two years marks the emergence of the awareness of the self. In late infancy period, the child's self-concept starts becoming much more precise as he learns to speak and understand the meaning of 'mine'. Eventually, the child is able to differentiate things of special meaning to him. For the three year old, increased awareness of himself is developed into an integrated self-concept. This is a very important stage, because he is now capable of a wide variety of behaviour, including some that must be corrected by his parents. Although what he does, may often be a 'no - no', he himself is loved and accepted no matter what his actions are.

The transition from infancy to childhood is not a sign of crystalization of self-concept. The process of the development of self, which is considered to be continuous, enables the vague image of "I" to be sharpened, out-lined and modified. Any break in this continuous process i.e., a sudden loss of self-awareness results in what Hilgard would describe as 'depersonalisation'. As a child develops a picture of himself, he also strives to maintain and protect it by ordering his behaviour accordingly.

The 'middle' years' in the process of growing up are the period that most of us appear to understand least. One reason is that frequently the adolescent turns his back on adult and actively shuts them out from his world. Even if the child

wishes to communicate his feelings and perceptions, he often does not have enough command ofthe language to do so. He is more likely to 'act out' his emotions in ways that are hard for adults to understand and accept.

The physiological changes experienced by the adolescent stimulate self-doubts about his appearance, behaviour, morality and relationship with others, and therefore, directly or indirectly, may affect the development of self-concept in him. Investigators have often singled out adolescence as the period when the problem of identity is most acute. It is typically a period in which old labels are no longer applicable. Because of the learned need to conceptualise and accompanying fear at no longer having applicable labels, adolescence may well be a time in which an 'identity crisis' occurs.

Adolescence is the stage at which the effects of a positive or negative self-concept can become more noticeable. How the adolescent views himself influence his behaviour in quite obvious ways. It is now that the self-concept functions as a 'self-fulfilling prophecy'. His expectations, which are so much related to his positive feelings about himself, help him over the rough moments in class. Combs (1962)[14] commented upon

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14 A.W. Combs, A Perceptual View of the Adequate Personality (1962). In A.W. Combs (ed), Perceiving, behaving, becoming: A New Focus. (Washington, D.C. : Association for Supervision and Curriculum Development, National Education Association), p.53.

the positive self-concept as under:

> Having a positive view of self is much like having money in the bank. It provides a kind of security that permits the owner a freedom he could not have otherwise. With a positive view of self one can risk taking chances; one does not have to be afraid of what is new and different. A sturdy ship can venture farther from port. Just so, an adequate person can launch himself without fear into the new and the untried, and the unknown. This permits him to be creative, original, and spontaneous. What is more, he can afford to be generous, to give of himself freely or to become personally involved in events.

Conversely, the child with a negative self-concept half-expects to do poorly and therefore may work at his responsibilities with little enthusiasm.

2.20 Vocational and Educational Aspirations

Aspirations refer to goals and ambitions which an individual strives to attain. These goals range from trivial to significant things in an individual's life. The importance and value attached to them vary from one goal to another which further affects the pursuance of goals. The goals set by an individual are related to the normative structure and value system of the society in which he lives. These values, norms and standards are internalised in the process of socialization which influence the level of aspiration.

To study the aspirations in the present work, two areas have been selected which are considered to be significant for the pupils studying at secondary school stages, namely - Vocational Aspirations and Educational Aspirations.

2.21 Vocational Aspiration : By Vocational Aspiration is usually meant what an individual considers to be the ideal vocation for him. The individual gives expression to his vocational aspiration through his best liked occupation. Occupations may be defined as relatively continuous patterns of activities that provide individuals a livelihood. Functional specialisations within the family, tribe, and other units that are mediated primarily as ascribed relationships are not generally regarded as occupations. Occupation is defined by the American College Dictionary as 'one's habitual employment, business, trade or calling'. The term vocation indicates one's occupation, business or work in which one is regularly employed or engaged.

More occupations emerge whenever division of labour is associated with a monetary considerations. In modern societies, the type and number of specializations are increasing constantly. The demand of such

specialization requires formal training in knowledge and skills. Education thus, becomes an important condition for getting occupational opportunities.

Occupational structure may be thought of as a series of more or less permanently related occupational families that are hierarchically ranked according to complexity of skills. Typical classifications used today include professional, technical, managerial, clerical, sales, skilled, semi-skilled and unskilled. These, in turn, may be endlessly subdivided into particular vocations. The industrial structure on the other hand, represents broad economic activities or areas, such as agriculture, manufacturing, transportation, communication, government, trade and services of various kinds.

For every young child, the world of work is remote and without immediate meaning. But about the age of 14 or 15 years a young person, with a growing perception of the world around him, becomes aware that school life is in many ways a preparation for his future life. One very important aspect of this is his future career. It is not desirable that he should at this stage select a particular job. Indeed, it may very well be unwise to be too specific. However, what does matter is that he is thinking about the future and therefore, provided that proper use is made of vocational motive, a strong education force is available on which to plan his future course.

Researchers have long been concerned with the question of occupational choice but the development of an understanding as to how a career should be choosen is the real problem they face. By the wise choice of an occupation one may find a large share of life's pleasures and satisfaction in one's work. The choice of an occupation influences every other aspect of life. It determines where the family will live, the type of school where the children will go, and so on[15]. In the words of Morris Ginsberg (1963) 'an individual's occupation is generally a fair index of his mode of life and educational attainments, the sort of people whom he would meet on equal terms, the range of individuals from among whom he would normally choose his or her partner in marriage, and so forth'[16].

In the modern society every individual has to choose an occupation. Thus, both males and females engage themselves in some or the other type of occupations to earn a living. Therefore, occupation distinguishes one person from another. It gives a feeling of independence and at the same time unites equal men and women of different origin and background. In the present set-up occupations are specific functions with a social division of labour. "Occupations now are not hereditarily

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15 Encyclopedia of Social Sciences, Vol. 1, XI-XII, p.424.

16 M. Ginsberg, 'Occupational Choice', (N.Y. and London: Columbia University Press, 1963), pp.3-5.

determined but they depend upon individuals's choice and interest and changes of occupations are a frequent occurance of the day"[17].

Social Prestige of Vocations : Social prestige is an important consideration for making vocational choice. Every society has some reservations towards the occupational structure obtaining in it. Certain occupations are prevalent in one society and certain others in another society. Likewise, certain occupations are liked by most people and certain others by a few people in the society. This means that in any society vocations are rated as having high and low prestige values. Sociologists have attempted to classify occupations according to their general standing or prestige. Counts (1925)[18], was the first person who worked in the direction of demonstrating the social prestige of occupations. He selected 25 occupations representing different occupational groups and asked his subjects to rank them according to their preferences.

Deeg and Paterson (1946)[19] replicated the Count's study on four groups of subjects. The ranking of both the studies correlated to the extent of (Rho).97, indicating that there was

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17 Encyclopedia of Social Sciences, Vol. XI-XII, p.423.

18 G.S. Counts, 'The Social Status of Occupations : A Problem in Vocational Guidance', School Review, 1925, 33 pp.16-27.

19 Deeg and Paterson (1946), 'Social Prestige of Occupations', Jr. of Vocational and Educational Guidance, Vol.3, No.1, 1956-57, pp.18-23.

almost no change in the social prestige of occupations in the intervening years. Undoubtedly, different segments of population value the income and education associated with various occupations differently, and, therefore, rank certain occupations differently. The studies made in this field show that there exists a social status hierarchy in the occupational realm. "Greatest prestige is usually associated with the professional and 'higher', business occupations. Skilled trades, technical and distributive occupations occupy an intermediate position followed by the semi-skilled and unskilled occupation ranked at the bottom of the hierarchy" (Brayfield et al., 1954)[20].

Occupation correlates highly with class, status, income and education. It so permeates the lives of those engaged in it and colours their attitudes, values and goals. Degree of prestige of an occupation plays an important role in the choice of an occupation by an individual and adult members of society. The knowledge of social prestige values of different occupations prevailing in a particular society is useful from the standpoint of vocational counsellors and personnel workers.

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20 Arthur H. Brayfield et al., 'Social Status of Industries', Journal of Applied Psychology, Vol. 38, No. 4, pp.213, 1954 (August).

2.22 Educational Aspirations : Educational aspiration may be defined as an expression of the level of academic qualification an individual wants to attain. By the time pupils enter secondary school stage, they begin to aspire for certain vocations and consequently show preference for certain related courses of studies. An important aim of education is achieved if it prepares an individual for the type of job he is most suited.

Many factors such as socio-economic conditions of the parents, their occupation and occupational attractiveness are found to influence the vocational and educational interests of the subjects. The parents of the children belonging to low socio-economic status in most cases have little education, may even wonder whether or not a high school education is worthwhile. Thus, they tend to feel that their children might as well quit school and obtain jobs as soon as possible. The children belonging to low socio-economic strata of society may themselves often not like to attend school. The parents of the children belonging to high strata of society give due importance to the education and career making of their children whereas people belonging to backward classes and scheduled tribes generally show little interest in this regard. Their traditional

occupations which needed no formal training do not exist any more. Rapid developments made in the field of science and technology, and industrialization have brought about changes in the educational aspirations of the people, and therefore, have consequently affected the vocational aspirations too.

Boys and girls differ in vocational and educational aspirations. Most adolescent girls choose vocations and offer courses which will give them security, and at the same time prepare them for managing the household effectively. But the boys prefer practical and technical vocations and therefore, it becomes imperative for them to enter into some relevant academic programmes suiting their future vocations. Hence the educational system plays a significant role in affecting the vocational and educational aspirations of the individual both through formal and informal means.

2.30 Academic Achievement

Academic achievement refers to the knowledge acquired and the skills developed at school through subjects of study. In other words, academic achievement may be as the competence they actually show in the school or college subjects in which they have received instructions. Academic achievement plays a very significant and vital role in the attainment of the ideals

of harmonious development of the child. In this rapidly changing world and with the growing advancement in science and technology, the place of education has become so vital that every parent today sets high goals to educate his children. Good academic record speaks for the individual. At the time of admission, for entrance to any kind of jobs, for scholarships, for future studies and so on, the academic record is the main testimonial. It portrays the individual. An individual is mere organism without any academic worth.

Modern researches in this area accept the view point that the criterion of learning and learning itself are very complex processes involving many factors and depending on many conditions. However, these principles are neither rigid nor universally applicable. The concept of learning has of late been enlarged to include acquisition of knowledge and skills, habits and attitudes, ideas and values. Recently the interest of the researchers has been focussed in finding out the relationship between scholastic achievement and factors responsible for it. The success or failure at school depends upon various factors. It will be of immense interest and importance to know these factors.

Self-concept - Determining Factor for Academic Achievement, Vocational and Educational Aspirations

There is considerable interest in the relationship between self-concept and academic achievement. Self-concept

is found to play a significant role towards adjustment, estimation, intelligence, etc. These in turn, affect academic achievement of pupils. Sinha (1966) reported that low achievers were more dissatisfied with themselves. The low achievers tended to perceive themselves in a more favourable light. High achievers, on the average tended to under-estimate their qualities.

In expressing vocational preference, a person puts into occupational terminology his idea of the kind of person he is; in entering an occupation, he seeks to implement his concept of himself; in getting established in an occupation he achieves self-actualization. The occupation thus, makes possible the playing of role appropriate to the self-concept. This conceptualization of the vocational development process was stimulated by the theory of the development of vocational attitudes which Carter (1940)[21] derived from his research on interests in adolescence. Leona Tyler (1951)[22] studied the relationships of aptitudes and interest in young children in which she made use of self-concept theory to explain her findings. She followed up the same study (1955) with more data on the development of interest in the same children as they grow older, building her theory of vocational development

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21 H.D. Carter, 'Resources for the Consultant : the development of vocational attiudes'. Jr. Consult. Psych., 1941, 4, pp.185-187.

22 E. Leona Tyler, 'The Relationship of Interests to abilities and reputation among first grade children'. Edu. Psych. Measurement, 1951, 11, pp.255-264.

around the concept of identity. Super (1953) identified 'self-concept development' and 'vocational self-actualization' as the essential elements of the theory of vocational development. He suggested the following for the process of vocational choice : "In choosing an occupation one is, in effect, choosing a means of implementing self-concept. ... The choice of an occupation is one of the points in life at which a young person is called upon to state rather explicitly his concept of himself to say definitely I am this or that type of person."[23]

An exploratory study conducted by Dillon (1949)[24] gave further support to Super's concept of vocational choice from somewhat different frame of reference. She concluded that 'the profession which an individual selects is one that, according to his concept of it and as he sees himself in it, seems to him to satisfy most adequately the needs that he feels the strongest pressure to fulfil.'

Ginzberg and his co-workers suggested that the process of decision-making of occupational choice seems to have three periods: (i) a fantasy period; (ii) a tentative period; and

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23 D.E. Super 'A theory of vocational development', American Psychologist, 1953, 8 : pp.185-190.

24 Frances H. Dillon, 'The Relationship between Basic Motivation and Choice of Teaching as Profession'. (Unpublished doctoral diss. University of Chicago, 1949) as quoted in William C. Morse & G. Max Wingo. 'Readings in Educational Psychology' pp.7-12.

(iii) the final period of realistic choice. These periods are marked off by the way in which the individual 'translates' his impulses and needs into an occupational choice. In fantasy period, the child perceives an occupation simply in terms of his wish to be an adult; he shall be whatever he wants to be. But in the tentative period, the individual begins to see the problem as one of choosing a specific occupation, although he has little in the way of reality to temper his subjective estimates. The reality period apparently permits the individual to compromise with all that has gone before in his thinking.[25]

Choice of an occupation also depends upon interest. According to Strong (1954) interest is an aspect of behaviour, a response to a liking. Since interests involve reactions to specific things, they must be learned. Vocational interest is defined as not a single choice but as a sum total of many interests that bear in any way upon the occupational career. Occupational interests mean that we have some original feeling for certain jobs. Interest is indispensable, it is an accomplishment of those movements which lead to a choice. ..., a choice that is the expression of life and expression of life is growth.[26]

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25 John G. Darley & Theda Hagenah, Vocational Interest Measurement Theory and Practice, (The University of Minnesota Press, Minneapolis, 1955), p.162.

26 Edward K. Strong, Vocational Interests for Men and Women, (Stanford University Press, 1954), p.21.

Thus vocational choice is the result of a process happening over a period of time, perhaps several years during which a series of factors affect the decision of an individual towards the choice of certain types of vocations and restrict his choice of others.

Human behaviour is motivated towards attainment of aims and goals which an individual sets for himself. The goals aimed at by the individual are related to the normative structure and value system of the society in which he lives. The goals which an individual selects for himself are related to self-conception. An individual who perceives himself highly will set a high level of aspiration while a person who has a low self-conception will be satisfied with mediocre achievements. In specific conditions, however, this relationship is modified. Research evidence gives support that level of aspiration does not appear unless an individual develops an awareness of 'self'. Aspirations emerge when the child has acquired some conception of himself and a sense of pride that must be maintained and enhanced through his efforts.

Since vocational and educational aspirations play an important role in crystalization of human potentialities, it is worthwhile to study these aspirations in respect of pupils in schools as a necessary condition for their future career.

C H A P T E R - III

REVIEW OF RELATED LITERATURE

Introduction

In recent years attention of the researchers has been focussed on the importance of personality variables such as self-concept as a motivating force for academic achievement at school and pupils' choices of vocations as career in future. The studies vary in methods, samples, tools and techniques. A review of the related sutdies conducted abroad as well as in India has been attempted in this chapter. Studies on educational and vocational aspirations and socio-economic status have first been briefly reviewed followed by a detailed studies on self-concept, academic achievement and educational aspirations.

Educational and vocational aspirations of males and females differ in many ways. While studying the influence of social attitudes on behaviour patterns of students, Govil (1967)[1], found that: (i) higher education is gaining popularity with the object of better job facilities; (ii) selection of a post-graduate course of study largely rests on the

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1 M. Govil, 'Changing Social Attitudes and Behaviour Patterns among the Post-Graduate Students, in U.P.' In A Survey of Research in Education, M.B. Buch (ed.) (Baroda: CASE, M.S. University, 1974), p.110.

probability of its job potency; and (iii) professions considered suitable for women are those of teachers, physicians, surgeons, nursers, clerks, stenographers and administrators.

A study aimed at examining the relationship of socio-economic status, and academic performance to educational aspirations was attempted by Shah and Sewell (1971)[2]. The study was conducted on students enrolled in high schools of Ahmedabad. It revealed that 87 percent of the students aspired for higher education. It further indicated that a majority of the aspirants for higher education were found to have in mind factors wuch as a high rate of unemployment difficulties in finding a suitable white collar job etc. Further, the independent influence of socio-economic status was found to be much greater than that of academic performance on their educational aspirations.

The difference between vocational preferences of secondary school students was studied by Grewal (1971)[3]. The tools used were the 'Vocational Environment Scales', the

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2 V.P. Shah and W.H. Sewell, 'Social Class and Educational Aspirations in an Indian Metropolis', Guj. University, 1971, in A Survey of Research in Education, M.B. Buch (ed). (Baroda: CASE, M.S. University, 1974), p.126.

3 J.S. Grewal, 'A Study of Educational Choice and Vocational Preferences of Secondary School Students in Relation to Environmental Process Variables', (Unpublished Doctoral Dissertation, VIK. University, 1971).

'Vocational Preference Inventory' (VPI) adopted from Haller and Miller's Occupational Aspiration Scale, the 'Educational Vocational Plans Questionnaire' and the 'Joshi's General Mental Ability Test'. He found that the boys differed significantly from girls in their levels of vocational preference.

Yet another investigation was made to study the patterns of educational and vocational interests of adolescent boys and girls from rural and urban areas by Singh (1967)[4]. He found that educational and vocational interests of adolescents were not in agreement with each other. Urban males were most interested in literary vocations while the rural males preferred aesthetic vocations. Both groups were however least interested in household vocations. Again, the urban girls were most interested in persuasive vocations and the rural girls in household vocations, both groups of girls being least interested in agricultural vocations.

Singh (1969)[5] attempted to study empirically as to how the boys felt about various occupations in different parts of the country, the type of possible attributes they found in workers and the kind of judgements they made about

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4 L. Singh, 'Patterns of Educational and Vocational Interests of Adolescents', (Unpublished Doctoral Dissertation, Agra University, 1967).

5 L.C. Singh, 'A Comparative Study of Meaning of Occupational Titles Between and Within Two Language Groups in India', (Unpublished Doctoral Dissertation, Delhi University, 1969).

them. The major findings were: (i) most pupils categorised occupations into two groups, viz., (a) occupations which are highly professional, and which have high earnings and high prestige level; and (b) service occupations usually involving manual work having low prestige level; and (ii) high prestige occupations ranked higher on efficiency, work, morality and appearance than the low prestige occupations.

Syed (1967)[6] conducted a study to assess the relative strength and importance of various factors influencing the occupational choice. The study was done on a sample of 275 doctors, engineers, lawyers and teachers working in the district of Aligarh and Agra. It was found that none of the subjects belonging to the medicine, engineering, law and teaching professions were influenced by parental occupations. A vast majority of subjects in each group showed an agreement between the courses of study opted for at the school stage and the profession adopted in their future career.

Feeling the acute shortage of instruments for measuring vocational choices of pupils, Gopalan (1972)[7] standardised an

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6 M.A. Syed, 'Factors Influenceing the Vocational and Educational Choice : A Social, Psychological Study of an Indian Sample', (Unpublished Doctoral Dissertation, A.M. University, 1967).

7 N.P. Gopalan, 'Construction and Standardisation of a Vocational Interest Inventory for the Secondary School Pupils of Kerala', (Unpublished Doctoral Dissertation, Kerala University, 1972).

inventory to determine educational and vocational choices of secondary school pupils. Kuder Format was followed in developing the inventory. The final inventory included 132 trades which were found to be significant as a result of item analysis. Patel (1967)[8] attempted to find out occupational Interests of school pupils and reported that while the professions of medicine and engineering had the maximum appeal, that of the clerical work the minimum appeal. On a comparative analysis it was found that the differences in interests on the basis of age and sex were significant. The differences on the basis of urban, semi-urban and rural samples were also found singificant in a few cases.

Mathur (1970)[9] conducted a study whose main objective was to study the relationship between frustration on one hand and the level of educational and vocational aspirations on the other hand. (Seven hundred seventy two adolescents of Class IX formed the sample). It was revealed that pupils were found to have a higher level of educational and vocational aspirations than their socio-economic conditions would normally permit.

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8 R.P. Patel, 'A Critical Study of Recreational, Socio-Cultural, Intellectual and Occupational Interests of High School Pupils in Gujarat'; (Unpublished Doctoral Dissertation, MSU, 1967).

9 T.B. Mathur, 'Causes of Frsutration in Adolescents and Its Relation with the Level of Aspiration', (Unpublished Doctoral Dissertation, Agra Uni., 1970).

Similarly Gorwaney (1974)[10] found that the level of self esteem did not significantly influence the level of aspiration in case of girls.

The educational aspirations of adolescents were found to be clearly consonant with those of their peers in a study conducted by Haller and Butterworth (1960)[11]. Concordance between the aspirations of adolescents and parents was found to be greater than that for peers generally. Kandel and Lesser (1969)[12] revealed that far from supporting the notion that adolescents are influenced by their peers more than by their parents these data suggested the opposite; namely, that parents are more influential than peers as regards future life goals.

The study conducted by Morgan (1979)[13] demonstrated social class as powerful predictor of school achievement along with other socio-economic measures and ability scores.

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10 N. Gorwaney, 'Role Structure and Social Change : A Sociological Study of Female Students' (Unpublished Doctoral Dissertation, Raj. University, 1974).

11 A.O. Haller, and C.E. Butterworth, 'Peer Influences on Levels of Occupational and Educational Aspiration', Social Forces, 1960, 38, 289-295.

12 D.B. Kandel and G.S. Lesser, 'Parental and Peer Influences on Educational Plans of Adolescent', Amer. Socio. Review, 1969, 34, pp.213-223.

13 Bruce Blake Morgan, 'The Relationship of Social Class to School Achievement in Kansas City, Missouri, 1950-1970, as in Diss. Abs. Int. Vol. 40, No. 10, 1980, p.5255-A.

Bisht (1972)[14] found that size of the family and educational facilities to be influencing educational aspiration. Parents education and income were found to have significant influence on educational aspirations. A positive relationship was also found to exist between attainment and the level of educational aspiration. Boys studying in English medium schools had a higher educational aspirations than those studying in the other medium schools.

While surveying the conditions of scheduled caste/ scheduled tribe high school students, Rajagopalan (1974)[15] found that economic condition of these students was uncomfortable. They were inspired mostly by national leaders. The educational aspirations of scheduled tribe students were higher as compared to scheduled caste students. Both scheduled caste and scheduled tribe students felt that though there was some improvement in their status it continued to be inferior on the whole.

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14 G.S. Bisht, 'A Study of the Level of Educational Aspiration in Relation to Socio-Economic Condition and Educational Attainment', (Unpublished Doctoral Dissertation, Agra University, 1972).

15 C. Rajagopalan, 'Educational Progress and Problems of Scheduled Castes and Scheduled Tribes Students in Karnataka (High Schools)' in Second Survey of Research in Education, M.B. Buch (ed.) (Baroda: CASE M.S. University, 1979), p.120.

Sachchidananada (1974)[16] conducted two parallel studies on education among the scheduled caste/scheduled tribe students at school/college students in Bihar. He found that most of the college students had high academic and occupational aspirations. A large number of students felt that their status had improved but not as much as that of the caste Hindu. Educational aspirations of both male and female students were neearly the same as also their patterns of social interaction.

Socio-economic conditions of pupils have been found to influence their achievement in general. Many researchers have concluded their findings with established positive correlation between socio-economic conditions and the school grades of the pupils. A project was undertaken to find out the relationship between the socio-economic conditions and educational achievements of the pupils by Manuel, Feroze and Rao (1960)[17]. The study revealed that the educational status of the average rural family is markedly below that of the urban family and academic help obtained from parents and relatives was markedly higher for urban group. Again, students from educated families tended to score higher. Comparison of the percentage of boys and girls

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16 Sachchidananada, 'Education Among the Scheduled Castes and Scheduled Tribes in Bihar (School/College Students), A.N.S. Institute of Social Studies, Patna 1974.

17 N.V. Manuel, M. Feroze and S. Rao, 'The Socio-economic Conditions of High School Pupils in Coimbatore District', Sri R.K. Mission Vidyalaya, Coimbatore, 1960, in A Survey of Research in Education, M.B. Buch (ed.)(Baroda: CASE M.S. University, 1974), p.114.

belonging to various occupational categories indicated that there was reluctance on the part of agriculturists of the lower income group and unskilled labourers to send their girls to schools. Children of professional parents were reported to have scored the highest and those from unskilled families the lowest. The only occupation where the children preferred the same job as of the family members was teaching. A good number of cases revealed horizontal conservatism combined with vertical mobility, i.e. children of mechanics or blacksmiths wanting to become engineers, or the children of clerks wanting to become officers. More than half of the total sample preferred white collared jobs. The job preference for urban pupils was found to be more varied.

Chopra (1964)[18] attempted to study the relationship between socio-economic factors and academic achievement measured intelligence being held constant. The study reported that (i) none of the sons of fathers engaged in professional, administrative, executive and managerial jobs expected to discontinue education, the corresponding figures for the agriculturist and unskilled worker groups being as high as sixty four and sixty six per cent respectively; (ii) the percentage of failures among

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18 G.P. Chopra, 'A Study of the Socio-Economic Factors with Achievement of the Students in the Secondary Schools', (Unpublished Doctoral Dissertation, Luc. University, 1964).

the students from the professional, administrative, executive and managerial groups was only twentyseven, while that for the other groups ranged between fiftynine and sixtyone whereas the percentage of students securing first class marks were twentyeight and seven respectively for the two groups. It further showed that the father's education and occupation yielded significantly higher mean achievement for pupils coming from high strata of society than those coming from poor families.

Jain (1965)[19], however, found no relationship between socio-economic conditions and school achievment. Nonetheless the influence of home environment on achievement was found to be positive and significant. Similarly Rao (1965)[20] and Jha (1970)[21] found no relationship between achievement in science and socio-economic status.

A study carried out to know the effects of socio-economic status on the Achievement and Behaviour of students by Mathur

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19 S. Jain, 'An Experimental Study of the Relationship Between Home Environment and Scholastic Achievement', (Unpublished Doctoral Dissertation, Agra University, 1965).

20 D.G. Rao, 'A Study of Some Factors Related to Scholastic Achievement', (Unpublished Doctoral Dissertation, Delhi University, 1965).

21 V. Jha, 'An Investigation into Some Factors Related to Achievement in Science by Students in Secondary Schools', (Unpublished Doctoral Dissertation, Patna University, 1970).

(1963)[22] revealed that the socio-economic status (SES) did contribute to the differences in the ratings about the conduct of students. The phi-coefficient between achievement and SES was 0.70.

Pathak's study (1972)[23] aimed at studying factors which would differentiate high achievers from low achievers in Science. The sample consisted of 105 high and 100 low achievers selected on the basis of two criteria, viz., (i) the school examination marks and (ii) the scores on achievement test. The top ten per cent who scored high on achievement test were reported to be high achievers. The study reported that 84 per cent of the low achievers frequently expressed fear of failure in examination and lack of interest in studies whereas the high achievers were more optimistic about academic future. They also aspired to achieve high standards. Again, the high achievers were mostly from the top three occupational categories, i.e. professional, semi-professional and clerical. Occupations like farming, business, clerical jobs were preferred by equal percentage of high and low achievers. The educational background as well as the financial conditions of parents were found better in case of high achieve

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22 K. Mathur, 'Effects of Socio-Economic Status on the Achievement and Behaviour of Higher Secondary School Students', (Unpublished Doctoral Dissertation, Agra University, 1963).

23 A.B. Pathak, 'Factors Differentiating High and Low Achievers in Science', (Unpublished Doctoral Dissertation, Udai. University, 1972).

Singh (1965)[24] reported that academic achievement had singificant positive correlation with father's education and occupation whereas the relationship between the achievement and family income though positive, was not found to be statistically significant.

Anand (1973)[25] found out that socio-economic environment influences the academic achievement of children.

The study of Mani (1980)[26] revealed that the variables most strongly associated with higher educational aspirations among all ninth grade youth were academic ability and performance at school examinations.

Caples-Osorio (1979)[27] conducted a study on educational aspirations of school children. An instrument titled 'The Aspiration Preference Test (APT)' was constructed. The test allowed students to rank their aspirational preferences with

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24 B.N. Singh, 'Some Non-Intellectual Correlates of Academic Achievements', (Unpublished Doctoral Dissertation, Patna University, 1965).

25 C.L. Anand, 'A Study of the Effect of Socio-Economic Environment and Medium of Instruction on the Mental Abilities and the Academic Achievement of Children in Mysore State', (Unpublished Doctoral Dissertation, Mys. University, 1971).

26 A. Mani, "Determinants of Educational Aspirations Among Indonesian Youth", (Doctoral Diss., the University of Wisconsin-Madison, 1980), as in Diss. Abs. Int. Vol. 42. No.1, 1981, p.405-A.

27 Ronald W. Caples-Osorio, 'Educational Aspirations of Selected Mexican American School Children Enrolled in Bilingual Education', (A Doctoral Diss. Texas A & I University, 1979, as in Diss. Abs. Int. Vol. 41, No.11, 1981, p.4626-A.

reference to (1) education, (2) work, (3) social wishes, (4) play, and (5) material possessions. These contextual areas were then cross-referenced with a series of key persons who could be perceived as important in respect of aspiration. These were designated as social factors and consisted of (1) self, (2) family, (3) friends, (4) peers, (5) teachers, and (6) others. Findings indicated that higher levels of educational aspiration existed for both groups than any other continual area. The significance of self and family were dominant positive effects, and a negative influence between educational aspiration and peer influence appeared for the overall population.

Mafra (1979)[28] revealed that: (1) student's aspirations were anticipated in the predicted direction, (2) occupational status and day schools were found to be the first and second most consistent sources of differential levels of educational and occupational aspirations for higher education.

A number of studies revealed a positive relation between self-concept, academic achievement and level of

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28 Leila De Alvarenga, Mafra, 'Occupational Status and Aspirations for Higher Education', (A doctoral diss. University of Pittsburgh, 1979), as in Diss. Abs International, Vol. 40, No.1, 1980, p.126A.

aspiration of pupils. Deo (1967)[29] compared the disciplined and the indisciplined students on their self-concepts. The main purpose was to find out if those two groups revealed different patterns of their self-concepts which could be related to their disciplined or indisciplined behaviour. In the development of the tool for objectively identifying disciplined and indisciplined students, two main factors were taken into account, viz., social desirability variable and the chances of the subject faking and maligning the responses. For studying the self-concept, Deo's personality word list was used. The study revealed that the indisciplined group generally exhibited a high tendency to mark more words for their self-description as compared with the disciplined group which marked fewer words, the differences being statistically significant. On the percent differences fortythree adjectives significantly discriminated between the two groups.

Bhalla (1970)[30] conducted a similar comparative study of the self-concept of disciplined and indisciplined students

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29 P. Deo, 'Self-Concept of Disciplined and Indisciplined Students', Department of Education, Punjab University, 1967, in A Survey of Research in Education, M.B. Buch (ed.) Baroda: CASE, M.S. University, 1974, p.146.

30 S.K. Bhalla, 'A Comparative Study of the Self-Concepts of Disciplined and Indisciplined Students', (Unpublished Doctoral Dissertation, Punjab University, 1970).

and found out that disciplined students scored much higher on composite self-concept measure as compared to their counterparts.

Mehta (1968)[31] and Bhatnagar (1968)[32] found self-concept as an influencing factor of academic achievement. Vasantha (1969)[33] also attempted to study the relationship between self-concept and achievement. The data were collected by using a self-concept measure, Nafde's Non-Verbal Test of Intelligence, and a Questionnaire and School Records. A positive relationship was noted between self-concept and achievement ($r = .43$). It was also revealed that high and low achievers could be differentiated on their self-concept scores.

Everett (1971)[34] found that groups of high, medium and low academic achievers differed from one another with regard to their self-concept.

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31. P.H. Mehta, 'The Self-Concept of Bright Under Achieving Male High School Students', Indian Educational Review, 3: 81-100, 1968.

32 R.P. Bhatanagar, 'A Study of Some Personality Factors as Predictors of Academic Achievement, CIE Studies in Education and Psychology, 63: 1968.

33 Vasantha Ramkumar, 'Self-Concept and Achievement in School Subjects of Prospective University Entrants', (Unpublished Doctoral Dissertation, Kerala University, 1969).

34 A.V. Everett, 'The Self-Concept of High, Medium and Low Academic Achievers', Australian Journal of Education, 15: 319-324, 1971.

Sharma (1968)[35] attempted to find the relationship of self-concept and general anxiety with school achievement. Both self-concept scores and self-ideal discrepancy scores were curvilinearly found to relate with school achievement, the beta-coefficients were being 0.18 and 0.20 respectively. The subjects with a very high self-concept (or with a very low self-ideal discrepancy) as well as those with a very low self-concept (or very high self-ideal discrepancy) were low achievers, as compared to those who came in the middle (i.e. those with adequate self-concept).

Gupta (1977)[36] tried to establish the relationship between creativity and self-concept among the school going children of the age groups 12+ in Jammu city. The Study revealed that (i) highly creative individuals were found to possess higher self-concept and high self-acceptance both of which were conducive to better adjustment and positive mental health; (ii) creativity and self-concept were found to be closely related.

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35 S. Sharma, 'Relationship of Self-Concept with Anxiety and School Achievement of Adolescents', (Unpublished Doctoral Dissertation, Punjab University, 1968).

36 A.K. Gupta, 'A Study of the Relationship of Creativity with Self-Concept Among the School Going Children of 12+ in Jammu City', (Unpublished Doctoral Dissertation, Punjab University, 1977).

Bross (1979)[37] examined the relationship of self-concept, creative thinking abilities, and academic achievement. The study revealed that there is a significance relationship between self-concept and academic achievement. A significant correlation of self-concept and creative thinking abilities was not established. The combined scores of self-concept and creative thinking abilities were found as significantly related to academic achievement.

Mohan (1975)[38] while conducting a study to trace the general growth of self-concept over years of adolescence, found that there was increasing trend of female perceived self and male social self and decline of male perceived self and female social self. Ideal self for both sexes indicated rapid increases. Discrepancies regarding the perceived and social self suggested varying patterns, while those related to ideal self revealed upward rising growth throughout. Further, in both general and differential growth analysis the best period of growth was found to be between sixteen and eighteen years, marking seventeenth years as the peak point in growth of self-concept. Females showed more stability on self than adolescent males.

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37 Theresa Jean, Bross, 'A Study of the Relationship of Self-Concept, Creative Thinking Abilities, and Academic Achievement', (A Doctoral Diss. Kansas State University, 1979), as in Diss. Abs. Int. Vol. 40, No. 1, 1980, p. 79-A.

38 A. Mohan, 'Development of Self-Concept in Relation to Intelligence, Learning Ability, Achievement and Achievement Motivation at Adolescent Level', (Unpublished Doctoral Dissertation, Pan. University, 1975).

Pereira (1974)[39] revealed that the maladjusted and the well adjusted differed with respect to self-concept. It was, however, found that the correlation coefficients between self-concept and scholastic achievement in case of both the groups were not significant statistically.

Jones (1980)[40] and Haynes (1978)[41] also found no significant relationships among the self-concept and achievement variables.

Jogawar (1976)[42] in a somewhat similar study established that the development curves of Perceived Self (PS) stood at a higher level at the beginning and the end stage of adolescence whereas at the middle stage of the adolescence period the same were found to be lower. Again, the development curve of the

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39 O. Pereira, 'A Study of Five Major Factors Contributing to Certain Psychological Problem of Pre-Adolescents' (Unpublished Doctoral Dissertation, Mys. University, 1974).

40 Lois Harrison, Jones, 'An Investigation of the Relationship Between Self-Concept and Academic Achievement of Pre-Middle School Students', (an Ed. D. Diss. Virginia Polytechnic Institure and State University, 1980), as in Diss. Abs. Int. Vol.42, No. 5, 1981, p.1948-A.

41 Norris Michael, Haynes, 'The Influence of the Self Fulfilling Prophecy on the Academic Achievement and Self-Concept of Black Marginal College Students', (A Doctoral Diss., Howard University, 1978), as in Diss. Abs. Int. Vol. 42, No.5, 1981, p.2031-A.

42 V.V. Jogawar, 'Development of Self-Concept in Relation to Some Family Factors at the Adolescence Level', (Unpublished Doctoral Dissertation, Nag. University, 1976).

Ideal Self (IS) fell steadily as the age advanced and at twenty it was statistically different from what it was at the beginning of the adolescence period. Further, the study revealed that males and females showed opposite trends in their development from thirteen to twenty in case of perceived self, social self and ideal self. Also the mean soore of the upper group differed significantly from that of the lower group in case of major dimensions of the self-concept (PS, SS and IS) meaning thereby that the favourable family conditions contributed towards better self-concept.

In a study of the development of vocational sense among Adolescents, Reddy (1974)[43] found that in case of urban subjects the percentage making occupational choices increased with grade level. Middle socio-economic group showed knowledge of distinctively higher number of occupations than those in high and low socio-economic group and this knowledge increased with increasing grade levels. Also, there appeared increasing integration between pupils' value orientation and their choice of occupation with increasing grade level and socio-economic status. It was also reported that the urban pupils chose occupations which were in agreement with their self-concept.

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43 R.K. Reddy, 'Development of Vocational Sense Among Adolescents - Socio-Economic and Rural Urban Variations in the Development of Vocational Sense among High School Boys' (Unpublished Doctoral Dissertation, OSM, University, 1974).

Walia (1973)[44] found that sex had a significant effect upon the self-ratings of the gifted and the average males and females, and that intelligence had a significant effect on the self-perception of the individuals and on the different dimensions of self. Again, the gifted males were found to have higher ideal self as compared to that of the average males. Likewise, the gifted females had a higher ideal self than the average females.

In a study aimed at finding out the relationship between self-concept and scholastic achievement of school going adolescents, Goswami (1978)[45] reported that the global self-concept of male adolescents was significantly different from that of female adolescents. Self-concept and intelligence had a significant positive correlation, while the self-concept mean scores of the urban and rural students had no significant difference. Global self-concept and scholastic achievement had a significant positive correlation. Also the study conducted

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44 D. Walia, 'The Gifted Adolescents and Their Self-Concept, (Unpublished Doctoral Dissertation, Panjab University, 1973, in Second Survey of Research in Education, Baroda: CASE, M.S. University, 1979), p.234.

45 P.K. Goswami, 'A Study of Self Concept of Adolescents and Its Relationship to Scholastic Achievement and Adjustment', (Unpublished Doctoral Dissertation, Agra University, 1978).

by Haworth (1980)[46] found no significant positive correlation between self-concept and achievement for the total group of students.

The relationship between self-concept and learning difficulties was studied by Walsh (1956)[47]. The study revealed that over-achievers made their own independent choices. They showed adequacy in their emotional expression and feeling of belongingness. On the other hand, under-achievers felt helpless and expressed exaggerated emotions.

Payne and Farquar (1962)[48]. Fink (1962)[49] and Bledsoc and Garrison (1962)[50] found a positive relation between self-concept and academic achievement.

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46 Caroline Elizabeth, Haworth, 'Global and Academic Self-Concept : The Influence of Achievement Change', (A Doctoral Diss., the University of North Carolina at Chapel Hill, 1980), as in Diss. Abs. Int. Vol.42, No. 2, 1981, p.612-A.

47 A.M. Walsh, 'Self Concepts of Bright Boys with Learning Difficulties', Contribution to Education (New York: Bureau Publication, Teachers College, Columbia University Press, 1956.

48 D.A. Payne and W.N. Farquar, 'The Dimension of an Objective Measure of Academic, Self-Concept', Journal of Educational Psychology, 53: 187, 1962.

49 M.B. Fink, 'Self-Concept as It Relates to Academic Under-Achievement', California Journal of Educational Research, 13: 57-62, 1962.

50 J.C. Bledsoc and K.C. Garrison, 'The Self-Concept of Elementary School Children in Relation to Their Academic Achievement, Intelligence, Interest and Manifest Anxiety', Final Report (Washington D.C. Co-operative Research Project, U.S. Department of Health, Education and Welfare, 1962).

Taylor (1964)[51] revealed that over-achievers in comparison with under-achieving peers, were more likely to be characterized by: (i) positive self-value (e.g., optimism, self-confidence, self-acceptance, high self-esteem); (ii) acceptance of authority (e.g., confirmity to expectations of teachers and parents, eagerness to please them); and (iii) positive interpersonal relationships (e.g., interest in, and responsiveness to the feeling of others).

Pang (1981)[52] while comparing self-concept of Japanese American and White American children found that the physical self-concept of the Japanese American children was not as positive as the physical self-concept of the White American sample. The physical self-concept of the Japanese American children may have been lower because as a visibly different ethnic minority group, they may have encountered prejudicial and negative attitudes about their ethnicity.

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51 R.G. Taylor, 'Personality Traits and Discrepant Achievement' : A Review Journal of Counselling Psychology, 1964, 11, 76-82 as quoted by J.J. Conger, Adolescence and Youth, (N. York: Harper & Row Publishers, 1964), pp.396-397.

52 Valerie Ooka Pang, 'The Self-Concept of Japanese American and White American Children in the Fourth through Sixth Grade', (A Doctoral Dissertation, University of Washington, 1981), Dissertation Abstracts International Vol.42, No.1, 1981, p.125-A.

Cargile (1979)[53] conducted a study with a purpose to investigate the effects of an elementary classroom guidance programme on the self-concpts of Kindergarten through eight grade children. There were four criterion variables (self-reliance, sense of personal worth, sense of personal freedom, and feeling of belonging) used as a measure of self-concept. No statisitical differences at the .05 level were found between the treatment and control groups on the criterion variables used as a measure of self-concept.

Hester (1979)[54] conducted a study with the major purpose to investigate sex differences in the development of self-concept during adolescence through an analysis of the factor structure of the Self-Observation Scale (SOS) Form C, Junior and Senior High Levels. The major conclusions were: (a) the SOS is valid for comparing the scale scores of students in grades 9, 10 and 11; (b) the SOS can be used to make valid inferences when comparing scale score differences between sex groups at grades 9, 10, and 11 combined; (c) the SOS is for

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53 Samuel David Cargile, 'A Study of the Effects of an Elementary Classroom Guidance Programme on Self-Concept of Kindergarten Through Eight Grade Children', (A Doctoral Dissertation, the Univ. of Wisconsin-Milwaukee, 1979), Diss. Abs. International Vol. 40, No. 10, 1980, p.5318-A.

54 Julia Glenn, Hester, 'Sex Differences in the Structural Development of Self-Concept Across Grades Nine Through Eleven', (A Doctoral Dissertation, Duke University, 1979), Diss. Abs. International, Vol. 40, No. 10, 1980, p.5375-A.

comparing the scale scores of males and females at grades 9, 10 and 11 on six of the seven dimensions of the SOS, and (d) six dimensions of self-concept appear to crystalise before students enter grade nine.

Rees (1979)[55] revealed that the clinic children had positive self-concepts, slightly but significantly higher than those of the normative population. Self-concept was not found to be related to amount of retardation in reading, even when adjustments were made for differences in race, sex, age, intelligence, and SES. Race and intelligence were found to be weakly related to self-concept with higher intelligence associated with higher self-regard, while lower SES and black children reported slightly higher self-concept. But a low self-concept has been cited as one of the major characteristics of the disdadvantaged (Gordon 1965[56]; and Havighurst 1967[57]). Several investiators have postulated a low self-concept based on ethnic, caste as well as socio-economic class (Ausubel

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55 Majorie E. Rees, 'Factors Related to the Self-Concept of Children Enrolled in Reading Clinic' (A Doctoral Diss., Uni. of Missouri Kansas City, 1979), Diss. Abs. Int. Vol.40, No.10, 1980, p,53-85-A.

56 E.W. Gordon, 'Characteristics of Socially Disadvantaged Children', Rev. Edu. Res., 1965, 35, pp.377-388.

57 R.J. Havighurst, & T.E. Moorefield. In P.A. Witty (Ed.), The Sixty-Sixth Yearbook of the National Society for the Study of Education. Part-I, 'The Educationally Retarded and Disadvantaged'. Chicago: University Chicago Press, 1967.

1963[58]; Clark 1963[59]; Kvaraceus 1965[60]; and Pettigrew 1964[61]).

Robinson (1980)[62] conducted a study to analyse factors contributing to self-concept of ability in ten-year old subjects. The relationship between self-concept (dependent variable) and nine independent variables was examined. Variables included were parent feed-back, teacher feed-back and Peer feed-back concerning ability, discrepancies between parent feed-back and achievement, teacher feed-back and achievement, peer feed-back and achievement, grade average of peer comparison group and actual achievement. A moderate correlation was found to exist between self-concept and achievement. The significance of this relationship has been cited by others (Brookover, Patterson and Thomas, 1962; Brookover and Thomas 1964; Busk,

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58 D.R. Ausubel, 'Ego Development Among Segregated Negro Children'. In H.A. Passow (Ed.), Education in Depressed Areas, (N.Y. Bur. Publ., Teachers Coll., Collumbia University, 1963).

59 K.B. Clark, 'Educational Stimulation of Racially Disadvantaged Child'. In H.A. Passow (Ed.), Education in Dipressed Areas (N.Y.: Bur. Publ., Teachers College, Collumbia University, 1963).

60 W.D. Kvaraceus et al., 'Negro Self-Concept : Implications for School and Citizenship. (N.Y.: McGraw Hill, 1965).

61 T.F. Pettigrew, 'A Profile of the Negros American' (Princeton, N.J.: Van Nostrand, 1964).

62 Debra Ann Greear, Robinson, 'The Self-Concept of Ability in Grade School Children', (A Doctoral Diss., University of Illinois at Urbanachampaign, 1980), as in Diss. Abs. International Vol. 41, No.11, 1981, p.4589-A.

Ford, and Schulman, 1973; Caplin, 1969; Epps, 1969; Jones, 1974 and Jones and Strowig, 1968). Significant differences were found to exist between children from different social class groups. They observed positive relationship between social class and self-concept of ability is supported by previous research (Hare, 1976, 1977, 1978, 1979; Rosenberg, 1965; and Schwartz, 1971). No significant differences were found to result from sex or from race.

Velilla (1980)[63] showed a significant effect of socio-economic status on self-concept of children aged 9 - 11, whereas sex and ethnic group variably had no effect on self-concept.

Moyer (1979)[64] tried to establish causal relationship between the affective and cognitive domains. In particular, the research tested the causal associations between self-concept and academic achievement. The study revealed general support for the causal impact of self-concept on academic

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63 Sylvia, Velilla, 'Self-Concept of Inner City Puerto Rican Elementary School Children), (Doctoral Diss. The University of Connecticut, 1980), as in Diss. Abs. International Vol. 41 No.11, 1981, p.4681-A.

64 David Calkin Moyer, 'Academic Achievement, Self Concept, Locus of Control : A Causal Analysis of the National Longitudinal Study', (A Doctoral Diss., the University of Connecticut, 1979), as in Diss. Abs. International, Vol. 40 No.8, 1980, p.4496-A.

achievement. It was also revealed that the causal relations between self-concept, and academic achievement were most consistently observed among the subjects belonging to the middle and upper socio-economic classes. There were generally non-significant causal relations in the low SES groups.

Zumbrunnen (1979)[65] examined the extent students reported involvement in career education activities and their attitudes toward these activities. Possible relationships between their attitudes and factors such as type of career education activity, self-concept, and academic achievement were explored. Significant differences were found in the students' reported liking of career education activities related to the factors of type of career education activities, age, and sex. Also certain Self-Concept Scales appeared to be positively related to the students' liking of the three types of career education activities.

Cantrell (1979)[66] revealed that ninth grade students with a positive self-concept were found to have significantly

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65 Carol Brevik Zumbrunnen, 'Relationships Between Perceptions of Career Education Activities, Self-Concept, and Academic Achievement of Fifth, Eight and Eleventh Graders', (A Doctoral Diss., The Ohio State University, 1979), as in Diss. Abs. Int. Vol. 40, No. 8, 1981, p.4420-A.

66 Robert John, Cantrell, 'School Achievement as Related to Self-Concept, Attitude toward School, Athletic Participation, and Race of Ninth Grade Students', (A Doctoral Diss. Purdue University, 1970), as in Diss. Abs. Int. Vol. 41, No. 1, 1980, p.34-A.

higher academic achievement than those of the ninth grade students with a negative self-concept. It is also found that white ninth grade students have significantly higher academic achievement than non-white ninth grade students.

The above survey indicates the nature of work done in the area of self-perception, vocational and educational aspirations and academic achievement. It is evident that self-concept relates generally to desire to learn. Students who take a dim view of themselves are likely to reflect that view in their attitudes toward academic programmes at school. Further, the vocational and educational aspirations are found to be influenced by factors such as socio-economic status, sex, ethnicity and so on. Also good academic performance of the individual not only makes his aspirations unambiguous but motivates him to aspire high. Further, the literature reveals that though a number of studies with varying tools and techniques are conducted taking into consideration such background variables, yet this study on Naga tribals is in its nature a pioneering one.

It is in this context that the study of these variables is of utmost significance in educational setting.

Accordingly the hypotheses for the study were formulated. The method and procedures for carrying out the investigation are discussed in the following chapter.

C H A P T E R - IV

METHODOLOGY

Introduction

In this chapter, the investigator is mainly concerned with describing the selection of the instruments for measuring self-perception, socio-economic status, vocational choices, and educational aspirations. In addition, various steps have been discussed to construct an achievement test in general science and mathematics for Standard IX for measuring academic achievement on the selected sample in the study. The method adopted in selecting the sample and for determining the social prestige values of different vocations and the statistical techniques adopted are also discussed briefly.

4.10 Measuring Self-Concept

The self-concept of the pupils was measured by Self-Concept Inventory (Word list). This inventory was prepared and standardised by V.V. Jogawar.

(a) Description of the Inventory:

The inventory consisted of 63 adjectives which were classified into two groups:

(i) Socially desirable adjectives (Positive aspect)

(ii) Socially undesirable adjectives (Negative aspect)

For each of these adjectives a four-point rating scale was attached for obtaining the responses as shown in Appendix I.

These 63 adjectives with a four-point rating scale against each of them formed the 'Self-Concept Inventory' for the measurement of the three aspects of the self, viz. Perceived Self (PS), Ideal Self (IS) and Social Self (SS).

Perceived Self (PS) was tested by asking the student to mark "what he thinks of himself?"

Ideal Self (IS) was tested by asking the student to mark "How he wants himself to be?"

Social Self (SS) was tested by asking him "what others think of him?"

(b) Validity and Reliability of the Inventory

1. The validity of the test was established by V.V. Jogawar (1975). However, no predictive and concurrent validity appear to have been established in the absence of an external criterion. To determine the content validity,

thorough discussion with five teachers of Psychology has been reported by the author. The points of discussion were:

(i) Whether the adjectives selected covered the wide range of human personality?

(ii) Whether the procedure of administration and the instructions were satisfactory?

(iii) Did the responses of the individual to this test reveal self-concept?

All the judges were reported good agreement who had expressed their satisfaction about the above mentioned points.

2. The test-retest reliability of this inventory was also found out by V.V. Jogawar. The relevant coefficients were as follows:

	Aspects of Self Concept		
	PS	IS	SS
Coefficient of Stability	.78	.76	.73

The coefficients of correlation are considerably high leaving no doubt about the reliability of the Inventory.

(c) Scoring Procedure

For each adjective a four-point rating scale was provided with each aspect of self-concept, i.e. Perceived Self, Ideal Self and Social Self. The four points of the rating scale in descending order were: very much, much, little and very little. Scores 4, 3, 2 and 1 were respectively given to these four points in case of a socially desirable adjective. In case of socially undesirable adjective the scores were reveresed for these four points as shown below:

Socially desirable adjectives:

Rating :	very much	much	little	very little
Scores :	4	3	2	1

Socially undesirable adjectives:

Rating :	very much	much	little	very little
Scores :	1	2	3	4

The differential scoring system led to the fact that higher the score the individual got on this inventory, the more socially desirable he thought of himself which indicated higher self-concept, a lower score showed lower self-concept of the individual, i.e. the individual did not think high of himself and reject himself.

4.20 Measuring Socio-Economic Status

The Socio-Economic Status Scale developed by Kuppuswamy is widely used by the researchers in India in the field of education. The scale was standardised on a sample of 623 high school pupils from the Mysore state primarily for use in socio-economic investigations in urban parts of India. It was prepared mainly "to provide a simple instrument which could be used without spending much time and effort and to obtain a correct measure of socio-economic status of a person".

(a) Description of the Socio-Economic Status Scale

In the process of standardisation of this scale, an attempt was made to determine the extent to which each variable contributes to class affiliation. This was found to be 64 per cent from occupation, 14 per cent from education and 22 per cent from income. Next, an attempt was made to find out if there will be a significant loss in forecasting efficiency if information regarding education, which contributes the least, is eliminated. It was found out that when all the three variables are used, the multiple biserial 'R' is .885 while it is .733 when income is eliminated, .742 when education is eliminated and .667 when occupation is eliminated. The partial

correlations substantiated the above conclusion ($r_{1.22} = .534$, $r_{2.13} = .478$ and $r_{3.12} = .488$). This scale was, therefore, choosen and used to secure socio-economic indices of pupils in the sample studied.

The final form of the SES scale contains seven items in each of the three variables viz. education, occupation and income. The merit of the present Scale appears to be its objectivity. Social prestige is now defined in an operational manner and the variables selected are capable of being objectively ascertained. The scale can be used with utmost simplicity by collecting information about an individual's socio-economic background in a specially devised, 'Information Inventory' in the form of personal information sheet which was used for collecting the general information of the subjects. The Personal Information Sheet is given as Appendix II.

The scale on the basis of the total score is as follows:

16 - 29	...	I (High SES group)
11 - 15	...	II (Middle SES group)
1 - 10	...	III (Low SES group)

(b) Revision of the Scale (1981)

The steep increase in salaries and wages as a result of inflation during 1970's necessitates the revision of the

Table 1 : STATEMENT OF THE FINAL WEIGHTS ASSIGNED TO VARIOUS ITEMS IN THE SOCIO-ECONOMIC STATUS SCALE

Variable	Items	Weightage
A: Education	1. Professional Degree or M.A.; and above	7
	2. B.A. or B.Sc. Degree	6
	3. Intermediate or post High School Diploma	5
	4. High School Certificate	4
	5. Completion of Middle School	3
	6. Primary School	2
	7. Literate	1
B: Occupation	1. Professional	10
	2. Semi-Professional	6
	3. Clerical, Shop-Keeper, Firm owner	5
	4. Skilled workers	4
	5. Semi-skilled workers	3
	6. Unskilled workers	2
	7. Unemployed	1
C: Income (per month)	1. Above Rs. 2,000	12
	2. Between Rs. 1,000 & Rs. 1,999	10
	3. Between Rs. 750 & Rs. 999	6
	4. Between Rs. 500 & Rs. 749	4
	5. Between Rs. 300 & Rs. 499	3
	6. Between Rs. 101 & Rs. 299	2
	7. Below Rs. 100	1

scale especially of the income categories and weightages. It is obvious that the income categories valied in 1960's have no relevance to the income categories in 1970's. This change was made according to Boothlam Committee Report (1977).

However, the categories as well as weightages for education and occupation, the other two components of the scale were taken over as it is in the revised scale.

(c) Scoring

For the purpose of scoring i.e. to find out the total score of an individual, weightages were assigned for each variable included in the scale. The weightage given for the different items for each of the variables in the scale is reported in Table-1.

4.30 Determining the Vocational Choices

Vocational choice has often been defined as what the individual prefers to do (Crites, 1969). Given a number of vocational alternatives, an individual expresses his preference for one or the other and this constitutes his choice. More specifically, he indicates that he has ranked two or more occupations along some continum of desirability or favourability usually one of liking or disliking.

Holland (1966) in his work 'Vocational Psychology', however, gives a new turn to the meaning of vocational choice when he says that the choice of an occupation is an expression of personality. According to him 'Vocational Interest' is simply another aspect of personality of an individual. The choice of an occupation is an expressive act which reflect the persons motivation, knowledge, personality and ability. Vocational choice in the present study meant what an individual considers to be the ideal vocation for him out of the list of 164 vocations.

(a) Preparing the list of Vocations - For determining the vocational choices of the students, preparation of a list of vocations was the first requirement. It was considered that the list of vocations should suit every subject and should contain vocations having relevance to the Naga tribes.

The list was prepared in two stages. In the first stage as many as 21 major fields of vocations were taken into consideration. They included : Education, Engineering, Medicine, Agriculture, Banking, Law, Post Office, Police Department, Bus and Railway, Military, Art, Air-lines, Press, Politics, Film and Drama, Social Work, Forest Government Officials, Business, Village Council and others.

Thereafter vocations related to these major fields as well as those identified with the help of people such as employment officers, teachers and public men were listed. The list of vocations thus prepared and containing as many as 164 vocations is given at Appendeix III.

A list of 19 probable Reasons prepared by Vasudha Kamat for selecting a particular vocation was adopted which is also given in Appendix III.

Each pupil was asked to select only one vocation out of the list of 164 vocations which he wished to choose for his future career and give reasons for his choice. The choices were analysed in terms of the prestige value scores obtained on 'Vocational Presige Value Scale'.

4.40 Construction of Vocational Prestige Value Scale

Nagaland, the State mainly inhabited by the tribals, has a different social structure than the other states of India. The occupational structure of Nagas is also different. Although agriculture continues to be the main vocation with Naga tribals, in view of spread of education and overall development, Naga tribals in fact enter most vocations in the main stream of Indian society. For measuring the vocational choices of Naga tribals, Vocational Prestige Value Scale was constructed.

For determining the social prestige value of different vocations most desired among Naga tribes, the ratings of purposive sample of 94 adult Naga tribals were first obtained on Vocational Prestige Value Scale. A nine-point rating scale was attached with each vocation discussed in previous Section 4.30 for the collection of data to determine the social prestige values of the different vocations. The Vocational Prestige Value Scale is given as Appendix IV.

The list of 164 vocations along with the directions was printed. These copies of the Scale were administered to adults personally by the investigator where needed, instructions were made clear. After reading the whole list, they were requested to rate each vocation on a nine-point scale according to their social prestige in society. The point stressed was that the vocation having the highest prestige should be marked as 1 and that having the lowest prestige value should be rated 9. The adults were encouraged to think independently and mark the ratings.

Statistical Procedure Employed - The social prestige of the vocations was determined by computing the Median ranking for each vocation from the ratings given by adults. The formula used for finding the Median of series of ungrouped scores was

the one given by Guilford (1956)[1] and Ferguson (1959)[2]. This method of computing Median deviates from the usual methods of finding Median. The method used for calculating the median ranking for determining the social value of a vocation is discussed below.

Certain problems arise in calculating the median when some values of the variable occur more than one, as for instance, with the observations:

7, 7, 7, 8, 8, 8, 9, 9, 10, 10.

For these 10 observations it was required to locate a point such that 5 observations fell above it and 5 below. In ungrouped data each score or measurement was assumed to occupy a range of one unit. Here the three 8s might be assumed to occupy the interval 7.5 to 8.5. The median was obtained by interpolation. In this instance it must interpolate two-thirds of the way into the interval to obtain a point above or below which half the observations fall.

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1 J.P. Guilford, Fundamental Statistics in Psychology and Education (Tokyo: McGraw-Hill Kogakusha, Ltd., 1973), p.51.

2 George A. Ferguson, Statistical Analysis in Psychology and Education (Tokyo: McGraw-Hill Kogakusha, Ltd., 1976), p.51.

TABLE 2 : STATEMENT SHOWING THE PRESTIGE VALUES OF DIFFERENT VOCATIONS

Sl No	Vocation	Prestige value	Sl No	Vocation	Prestige value
1	2	3	4	5	6
1	Physician	3.18	2	Surgeon	2.90
3	Dentist	4.35	4	Nurse	4.32
5	Compounder	5.30	6	Vaccinator	6.11
7	Mid-wife	5.62	8	Vaterinary Doctor	4.34
9	Ward Boy	6.35	10	X-ray Technician	5.40
11	Pathologist	4.57	12	Engineer	3.05
13	Diploma Engineer	4.41	14	Overseer	4.90
15	Plumber	5.97	16	Mechanic	5.56
17	Technician	5.44	18	Blacksmith	6.50
19	Turner	6.71	20	Fitter	6.43
21	Electrician	5.97	22	Draftsman	6.11
23	Architect	5.28	24	Motor Mechanic	5.77
25	Vice-Chancellor	2.15	26	Principal	2.44
27	Professor	2.50	28	Headmaster	3.50
29	Primary Teacher	4.90	30	Assistant Teacher	5.07
31	Librarian	5.18	32	Laboratory Assistant	5.90
33	Peon	7.41	34	Agricultural Scientist	3.35
35	Scientist	2.30	36	Horticulturist	4.50
37	Farmer	5.42	38	Agricultural Inspector	5.06

Table-2 cont'd.

1	2	3	4	5	6
39	Gardener	6.64	40	Bank Manager	4.11
41	Cashier	5.21	42	Accountant	4.93
43	Steno-Typist	5.45	44	Chartered Accountant	4.64
45	Pastor	4.50	46	Deacon	4.75
47	Evangelist	4.56	48	Gaon Bora (GB)	5.15
49	Dubashi	6.36	50	Postman	6.67
51	Post Office Supervisor	5.50	52	Telegraphist	5.33
53	Magistrate	3.32	54	Judge	3.20
55	Lawyer	3.50	56	Clerk	5.30
57	High Court Clerk	5.17	58	Police Commissioner	3.96
59	Police Inspector	4.70	60	Policeman	6.20
61	Bus Driver	6.50	62	Conductor	6.50
63	Railway Driver	6.31	64	Railway guard	6.59
65	Station Master	5.30	66	Circle Officer (CO)	4.90
67	Ticket Checker	6.36	68	Watch Man	6.96
69	Booking Clerk	6.21	70	Coolie	8.54
71	Sweeper	8.70	72	Truck Driver	6.58
73	Army Officer	3.83	74	Navy Officer	3.50
75	C.I.D. Officer	3.93	76	Bank Officer	4.33
77	Builder	5.62	78	Carpenter	6.10

1	2	3	4	5	6
79	Postmaster	4.98	80	Ship Captain	3.95
81	Computer Operator	4.90	82	Air Hostess	4.65
83	Pilot	3.70	84	Flight Purser	4.94
85	Hotel Manager	5.09	86	Hotel proprietor	4.86
87	Prime Minister	0.81	88	President	0.83
89	Minister	1.75	90	Governor	1.98
91	Ambassador	1.91	92	M.L.A.	2.56
93	M.P.	2.97	94	Editor	3.90
95	Writer	4.17	96	Reporter	4.94
97	Journalist	4.41	98	Publisher	4.81
99	Canteen Contractor	5.74	100	Tourist Reception Officer	4.80
101	Tourist Guide	5.32	102	Tourist Agent	5.56
103	Television Announcer	4.90	104	Drama Actor	5.00
105	Film Actor	5.06	106	Music Director	4.41
107	Film Director	4.04	108	Singer	4.33
109	Classical Dancer	5.28	110	Radio Announcer	5.02
111	News Reader	5.11	112	Business-Man	5.32
113	Shop Keeper	6.06	114	Salesman	6.50
115	Social Worker	5.20	116	Sales Girl	6.43
117	Employment Officer	4.27	118	L.I.C. Officer	4.60
119	L.I.C. Clerk	5.38	120	Income Tax Officer	4.80

1	2	3	4	5	6
121	Excise Inspector	5.05	122	Photographer	5.77
123	Painter	5.83	124	Forest Officer	4.62
125	Ranger	4.86	126	Chemist	4.80
127	Telephone Operator	5.72	128	Contractor	5.27
129	Governess	4.61	130	Tailor	6.23
131	Beautician	5.62	132	Washerman	7.87
133	Fisherman	6.68	134	Fisheries Inspector	5.21
135	Ticket Collector	6.57	136	Poet	4.04
137	Primary School Head-master (Pandit)	5.12	138	Hotel Waiter	7.31
139	Labourer	7.80	140	Labour Officer	5.00
141	Dairy Farmer	6.41	142	Receptionist	5.46
143	Poultry Farmer	5.66	144	I.A.S. Officer	2.50
145	Sportsman	5.08	146	General Manager (Transport)	3.45
147	Cook	7.83	148	Block Development Officer	4.27
149	Deputy Secreatry	3.56	150	Under Secreatry	3.75
151	Director	3.23	152	Deputy Director	3.83
153	Superintendent	4.35	154	I.G.P.	2.90
155	S.P.	3.20	156	D.I.G.	3.17
157	D.S.P.	3.81	158	Sub-Divisional Officer	3.81
159	O.S.D. (Officer on Special Duty)	3.85	160	Chief Conservator of Forest	3.83
161	Divisional Forest Officer	4.22	162	Personal Secretary	4.80
163	District School Inspector	4.26	164	Secretary	3.12

The Median was then taken as :

$$\text{Median} = 7.5 + .67$$
$$= 8.17$$

or

$$\text{Median} = 8.5 - .33$$
$$= 8.17 \text{ again}$$

The same procedure was adopted in computing the Median rankings for different vocations. The social prestige values computed for all the 164 vocations are given in Table-2.

The social prestige values of the vocations definitely through some light on the hierarchy of the vocations in any society. Vocations such as becoming Prime Minister, President, Minister, Ambassador, Governor, Vice-Chancellor, Scientist, Principal, Professor, I.A.S. officer, M.L.A., Surgeon, I.G.P. and M.P. were very highly marked by the adults in Naga society. The vocations which require manual work were rated as having very low social status e.g. Gardener, Postman, Fisherman, Turner, Watchman, Hotel Waiter, Peon, Labourer, Cook, Washerman, Coolie and Sweeper. So every vocation has its own place in Naga society. But with the help of Nine-Point rating scale these vocations can broadly be divided into three categories as shown in Table-3.

TABLE 3 : STATEMENT SHOWING THE CLASSIFICATION OF VOCATIONS INTO THREE SOCIAL PRESTIGE CATEGORIES

Sl No	Class	Number of vocations	Prestige value
1	High	14	Below 3.00
2	Average	117	3.00 to 6.00
3	Low	33	6.00 and above

4.50 Measuring Educational Aspirations

The measurement of pupils' educational aspirations was done on an Eight-Point Scale. Weightages assigned to various qualifications are shown in Table-4. The Educational Aspiration Scale is given as Appendix-V.

4.60 Measuring Academic Achievement

Achievement is directly related to the pupil's growth and development in educational situations in so far as learning and teaching are concerned. Achievement tests constitute an important tool in school evaluation programme. In school settings various forms of teacher made achievement tests are used to measure the extent of learning. Any test that measures the attainments or accomplishments of an individual after a period of training or learning is called an achievement test[3]. The purpose of achievement tests is to measure progress in school upto a particular point of time.

Measuring pupil achievement in any area of curriculum is a difficult task. In order to know the academic achievement of pupils their annual examination

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3 Jum C. Nunnally, Educational Measurement and Evaluation, (New York: McGraw-Hill Book Company, 1964), p.233.

TABLE 4 : STATEMENT OF THE WEIGHTS ASSIGNED TO VARIOUS QUALIFICATIONS IN EDUCATIONAL ASPIRATION SCALE

Sl No.	Level of Qualification	Weightage
1	H.S.L.C. (Matriculation)	1
2	Pre-University	2
3	ITI, Nursing, Diploma in Engineering, Diploma in Education	3
4	(a) BA; B.Sc; B. Com	4
	(b) B.E; MBBS; LL.B.; B.Ed	5
5	(a) M.A; M.Sc; M.Com	6
	(b) M.E; M.S; M.D; LL.M; M.Ed	7
6	Ph.D; D. Litt; D.Sc	8

marks could easily have been taken from the school records. But since school marks can not be taken as reliable indices of achievement, it was felt desirable to develop an achievement test for class IX in the subjects of science and mathematics so as to secure achievement indices measured on a uniform instrument.

Science and Mathematics are taught on a compulsory basis to all pupils as a part of the general education at secondary stage in the State of Nagaland. Moreover, knowledge in science and mathematical abilities can be effectively evaluated by teacher made tests or standardised tests. For the present study it was decided to construct an achievement test in science and mathematics because no standardised tests in these subjects were available in view of the newly introduced syllabus. Various steps followed and techniques employed in the construction of the achievement test are described below:

(a) Planning the Test - The first step in the test construction involves a definition of purpose. Achievement tests can be used for a variety of instructional purposes. The investigator had no intention to standardise the proposed test and develop norms in the sample chosen. It was intended simply to measure pupil's current achievement more reliably than it could have been done by the school marks. A much wider range of subject matter content, therefore, was tested and items varying

from easy to difficult were included so as to ensure discrimination among pupils.

Since the study was proposed to be conducted on IX standard pupils, it was decided to construct an achievement test in science and mathematics for standard IX based on the following topics from the prescribed syllabus in science and mathematics for standard VIII and IX:

Topics included in the Science Section were : (i) Our Universe; (ii) Introduction to Life Sciences; (iii) Heat and its Effects; (iv) Work and Energy; (v) Floatation; (vi) Structure of Atom and Nuclear Energy; (vii) Organisation of Life; (viii) Life Processes; (ix) Our Living World; (x) Water; (xi) Light; (xii) Force, Motion and Mass; (xiii) Organic Evolution; (xiv) Carbohydrates, Fats and Proteins; (xv) Cell and Tissue and (xvi) Hydrocarbons, Petroleum and Fuels.

Topics included in the Mathematics Section were : (i) Real Numbers; (ii) Set Language and Set Notation; (iii) Exponents and Redicals; (iv) Percentage; (v) Interest; (vi) Discount; (vii) Unitary Method and Its Applications; (viii) Algebraic Expressions; (ix) Special Product and Factors; (x) Logarithm; (xi) Trigonemetry; (xii) Geometry; (xiii) Area; and (xiv) First Degree Equations.

It was decided to have 50 items each in Science (Section I) and Mathematics (Section II). Thus, altogether 100 items in final test of one hour and twenty minutes duration was constructed. Since the test was intended to be used as an instrument to measure a comprehensive knowledge of mathematics and science taught, only the cognitive objectives were taken into consideration.

(b) Item Type - The multiple-choice item is generally recognised as the most widely applicable and useful type of objective test item. It can more effectively measure many of the simple learning outcomes measured by the short-answer item, the alternative-response item, and the matching exercise. In addition, it can measure a variety of the more complex outcomes in the knowledge, understanding and application areas. This flexibility, plus the higher quality of the items usually attained with the multiple-choice form, has led to its extensive use in achievement testing.

A multiple-choice item consists of a problem and a list of suggested solutions. The problem may be statedin the form of a direct question or an incomplete statement and is called the stem of the item. The list of suggested solutions may include words, numbers, symbols, or phrases and are called alternatives. The pupil is typically requested to read the

stem and the list of alternatives and to select the correct one, or best alternative. In the present study correct answer type of multiple-choice items were preferred over the best answer type.

The multiple-choice item is the most versatile type of test item available and it is adoptable to different types of subject matter content. It has much wide applicability and so many specific uses that many standardised tests use multiple-choice items exclusively[4]. It is being increasingly felt in the field of testing that uniformity of test-items is important for greater ease of giving and following directions and less likelihood of mechanical errors on the part of the test takers. The exclusive use of a single appropriate type of obejctive items was considered useful to simplify the tasks of the test maker, the test taker and the test scorer.

Keeping in view the above advantages, finally it was considered useful to use multiple-choice type of items in the test.

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4 Norman E. Gronlund, Measurement and Evaluation in Teaching (New York: Macmillan Publishing Co., Inc., 1976), p. 190.

(c) Preparation of Test Items - The topics were listed both in Science and Mathematics, and weightages assigned taking into consideration the time allowed for each topic as per the syllabus. Weightages to the objectives were assigned. This was done in consultation with teachers and experts.

After deciding weightages for content and objectives, items were prepared accordingly by referring to the text books, reference books and question papers, etc; and thus a draft for the tryout of the test was ready. In this draft there were two sections. Section I dealt with the Mathematics and consist of 121 items. Section II dealing with Science contained 85 items. Thus a 206 item try-out test was finalised again in consultation with the experts in evaluation before administering it to the pupils.

(d) Administering the Try-Out - The try-out was administered to 250 pupils of 4 schools of Kohima, Mokokchung and Zunheboto districts of Nagaland. The schools selected for the try-out were more or less representative of the sample schools where again the final test was administered. The lay-out of the pupils tribe wise and sex wise on whom the try-out was administered is given in the Table-5.

TABLE 5 : STATEMENT SHOWING THE NUMBER OF PUPILS TRIBE WISE AND SEX WISE SELECTED FOR TRY-OUT

Sl No	Name of the School	Angami		Ao		Sema		Total
		Boys	Girls	Boys	Girls	Boys	Girls	
1.	G.H.S. Kohima	36	32	3	2	-	-	73
2.	B.E. High School Kohima	34	8	-	-	-	-	42
3.	Nivuku High School Mokokchung	-	-	27	20	-	-	47
4.	G.H.S. Zunheboto	-	-	-	-	48	40	98
	Total	70	40	30	22	48	40	250*

*The No. of pupils finally taken for item analysis.

The co-operation of the heads of schools was sought. Proper physical conditions such as seating arrangement, ventilation, freedom from outside noice etc., were taken care of. All the required arrangements were made and students were informed in advance about the nature and purpose of the test. Instructions were given quite clearly and firmly, calling attention specifically to the directions presented on the question booklet and to the use of the separate 'Answer Sheet' for recording the responses of pupils. An example was worked out on the black-board. Pupils' doubts were clarified. A conducive rapport was established before they started attempting the items. Pupils were given enough time to write all the answers. The time taken by the students ranged from 2 hours to 2 hours and 40 minutes.

On the basis of the try-out of the tests the following decisions were taken and incorporated in the final test:

(i) The number of test items was reduced from 206 to 100; in order firstly, to weed out the most easy and difficult items from the final test and, secondly, to magnify the quantum of test load so as to be able to administer the test in less time at a stretch.

(ii) Item-analysis was carried out with a view to arrange the test items in a sequential order based on the 'Difficulty Value' and the Discriminative Index.

(e) Scoring of the Test - The achievement test used in this study consisted of the correct answer type of multiple choice items and thus each correct answer was counted as one mark.

Where pupils were asked to answer every item on the test, a pupil's overall score was taken on the basis of the number of items he answered correctly. The formula for computing the overall score was as follows:

$$\text{Score} = \text{Right} - \frac{\text{Wrong}}{n - 1}$$

Use of a correction formula in the scoring made it necessary to count both right and wrong answers. Items which were omitted by a pupil were not taken into consideration for scoring[5]. The format of the Answer Sheet is given as Appendix VI.

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5 Norman E. Gronlund, Ibid., p.262.

(f) Item Analysis - Pupil's responses on the administered try-out were subjected to item-analysis so as to select 100 items for the final test. Only 250 scripts were considered for item analysis leaving out the incomplete ones. Item-analysis is a process of assessing the suitability of item (i.e. selecting good items, refining borderline items and rejecting poor ones) according to the Difficulty Value (P) or Item Validity (D). The difficulty value of a test item is indicated by the percentage of pupils who get the item right. Thus an item, if answered correctly by 60 per cent of the students, for instance, was considered to have a difficulty value (P) of 60.

Item validity (or discriminating power) of an achievement test-item refers to the degree to which it discriminates between pupils with high and low achievement[6].

Based on the total scores, the scored answer papers were arranged from the highest to the lowest. According to Kelley, the best selection of high and low group is possible when 27 per cent from the top (highest) and 27 per cent from

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6 Norman E. Gronlund, Ibid., p.267.

the lowest are taken[7]. The performance of pupils of these two groups on each item constituting the test was analysed and difficulty value and Item Validity were calculated following the procedure suggested by Ebel[8].

With this formula it is also possible to calculate an index of negative Item Validity or disciminating power, that is, one where more pupils in the lower group than the upper group answer the item correctly. As many as 50 items in science having a difficulty value index ranging from 32 to 84 and item validity index ranging from .28 to .88 were selected, and the same number of items in Mathematics having a difficulty value between 22 to 84 and Item Validity Index between .20 to .78 were found fit as per the weightages assigned for the final test. Thus, the final test comprised 100 items arranged sequencially on the basis of difficulty value index. The weightages assigned to the objectives and content are given in Tables 6, 7, 8, 9 and 10. The items on the final test selected on the basis of item analysis together with their difficulty value and Item Validity Index arranged in the order of difficulty value are given in Table 11.

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7 Truman L. Kelley, 'The Selection of Upper and Lower Groups for Validation of Test Items', Journal of Educational Psychology, 1930, 30: 17-24. As cited by Robert L. Ebel, Essentials of Education Measurement (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1972), pp.385-86.

8 Robert L. Ebel, Essentials of Educational Measurement (N.J.:Prentice-Hall, Inc., 1972), p.384.

TABLE 6 : STATEMENT SHOWING THE WEIGHTAGE ASSIGNED TO OBJECTIVES IN GENERAL SCIENCE

Objectives	%	No. of questions
Knowledge	48	24
Comprehension	52	26
Total	100	50

TABLE 7 : STATEMENT SHOWING THE WEIGHTAGE ASSIGNED TO OBJECTIVES IN MATHEMATICS

Objectives	%	No. of questions
Knowledge	22	11
Comprehension	36	18
Application	42	21
Total	100	50

TABLE 8 : STATEMENT SHOWING THE WEIGHTAGE ASSIGNED TO OBJECTIVES IN THE ACHIEVEMENT TEST

Objectives	%	No. of questions
Knowledge	35	35
Comprehension	44	44
Application	21	21
Total	100	100

TABLE 9 : STATEMENT SHOWING THE WEIGHTAGES ASSIGNED TO CONTENT IN ACHIEVEMENT TEST

Sl No	Content	%	No. of questions
	Section I. General Science		
1	Our Universe	6	6
2	Introduction to Life Science	3	3
3	Heat and Its Effect	1	1
4	Work and Energy	2	2
5	Floatation	1	1
6	Structure of Atom and Nuclear Energy	7	7
7	Organisation of Life	2	2
8	Life Processes	10	10
9	Our Living World	2	2
10	Water	2	2
11	Light	3	3
12	Force, Motion and Mass	6	6
13	Organic Evolution	1	1
14	Carbohydrates, Fats and Proteins	2	2
15	Cell and Tissue	1	1
16	Hydrocarbons, Patroleum and Fuels	1	1
	Section II. Mathematics		
1	Real Numbers	8	8
2	Set Language and Set Notation	7	7
3	Exponents and Redicals	2	2
4	Percentage	3	3
5	Interest	7	7
6	Discount	1	1
7	Unitary Method and Its Applications	4	4
8	Algebraic Expressions	1	1
9	Special Product and Factors	2	2
10	Logarithm	5	5
11	Trigonometry	2	2
12	Geometry	3	3
13	Area	3	3
14	First Degree Equations	2	2
	Total	100	100

TABLE 10 : TABLE OF SPECIFICATIONS FOR THE FINAL TEST (SECTION-I) GENERAL SCIENCE

Sl No	Content	Objectives		Total
		Knowledge	Comprehension	
1	Our Universe	$_4$(7, 34, 35, 39)	$_2$(17, 31)	6
2	Introduction to Life Science	$_3$(2, 12, 18)	-	3
3	Heat and Its Effect	$_1$(3)	-	1
4	Work and Energy	$_1$(30)	$_1$(4)	2
5	Floatation	$_1$(15)	-	1
6	Structure of Atom and Nuclear Energy	$_1$(1)	$_6$(9, 13, 24, 27, 46, 50)	7
7	Organization of Life	-	$_2$(20, 36)	2
8	Life Processes	$_5$(5, 10, 33, 42, 44)	$_5$(16, 23, 41, 45, 49)	10
9	Our Living World	$_1$(8)	$_1$(28)	2
10	Water	$_1$(21)	$_1$(26)	2
11	Light	$_1$(40)	$_2$(11, 22)	3
12	Force, Motion and Mass	$_3$(38, 43, 48)	$_3$(14, 19, 47)	6
13	Organic Evolution	$_1$(16)	-	1
14	Carbohydrates, Fats and Proteins	$_1$(37)	$_1$(29)	2
15	Cell and Tissue	-	$_1$(25)	1
16	Hydrocarbons, Patroleum and Fuels	-	$_1$(32)	1

TABLE 10(a) : TABLE OF SPECIFICATIONS FOR THE FINAL TEST (SECTION-II) MATHEMATICS

Sl No	Content	Objectives			Total
		Knowledge	Comprehension	Application	
1	Real Numbers	$_2$(91,94)	$_3$(54,55,61)	$_3$(53,63,66)	8
2	Set language and set notation	$_2$(52,60)	$_5$(62,65,82,95,97)	-	7
3	Exponents and Radicals	-	-	$_2$(56,89)	2
4	Percentage	-	-	$_3$(51,68,93)	3
5	Interest	$_4$(71,72,75,81)	$_1$(57)	$_2$(64,74)	7
6	Discount	-	-	$_1$(58)	1
7	Unitary Method and Its Applications	-	$_1$(92)	$_3$(59,77,80)	4
8	Algebraic expressions	-	-	$_1$(76)	1
9	Special Product and Factors	$_1$(67)	-	$_1$(69)	2
10	Logarithm	-	$_3$(70,79,87)	$_2$(84,88)	5
11	Trigonometry	-	$_1$(73)	$_1$(86)	2
12	Geometry	$_1$(85)	$_2$(78,90)	-	3
13	Area	$_1$(83)	$_2$(98,99)	-	3
14	First Degree Equations	-	-	$_2$(96,100)	2
	Total	35	44	21	100

Note: All questions are multiple-choice questions and each question carries one mark. Numbers in Brackets show the serial numbers of questions in the test.

TABLE 11 : STATEMENT SHOWING ITEMS ON THE FINAL TEST SELECTED ON THE BASIS OF ITEM ANALYSIS TOGETHER WITH DIFFICULTY VALUE AND ITEM VALIDITY

SECTION-I : GENERAL SCIENCE

Item No	Difficulty Value	Item Validity	Item No	Difficulty Value	Item Validity
1	84	.32	26	58	.44
2	78	.28*	27	56	.40
3	78	.44	28	56	.72
4	74	.44	29	56	.48
5	74	.36	30	52	.40
6	74	.36	31	52	.64
7	72	.56	32	52	.56
8	70	.52	33	52	.64
9	68	.32	34	52	.56
10	68	.48	35	52	.56
11	66	.68	36	52	.88**
12	66	.44	37	48	.52
13	64	.32	38	46	.76
14	64	.48	39	46	.36
15	64	.64	40	46	.60
16	64	.56	41	46	.28
17	64	.64	42	46	.28
18	60	.40	43	42	.44
19	60	.48	44	42	.52
20	60	.64	45	42	.36
21	60	.32	46	40	.56
22	58	.84	47	40	.48
23	58	.60	48	40	.48
24	58	.44	49	40	.32
25	58	.36	50	32	.48

TABLE 11(a) : STATEMENT SHOWING ITEMS ON THE FINAL TEST SELECTED ON THE BASIS OF ITEM ANALYSIS TOGETHER WITH DIFFICULTY VALUE AND ITEM VALIDITY

SECTION-II : MATHEMATICS

Item No	Difficulty Value	Item Validity	Item No	Difficulty Value	Item Validity
51	84	.32	76	50	.44
52	80	.40	77	50	.20*
53	76	.40	78	48	.40
54	72	.32	79	48	.48
55	70	.60	80	48	.32
56	68	.40	81	46	.68
57	68	.40	82	44	.40
58	66	.46	83	44	.32
59	66	.36	84	42	.68
60	64	.64	85	42	.36
61	62	.28	86	42	.36
62	62	.52	87	40	.32
63	60	.40	88	40	.56
64	60	.40	89	38	.36
65	60	.48	90	38	.36
66	58	.44	91	34	.36
67	58	.78**	92	34	.36
68	58	.44	93	34	.36
69	56	.32	94	30	.36
70	56	.40	95	30	.28
71	56	.56	96	28	.32
72	52	.32	97	28	.48
73	52	.48	98	24	.24
74	52	.56	99	24	.32
75	52	.56	100	22	.28

(g) Reliability and Validity of the Test - Reliability of the test was established by applying the split-half and test-retest techniques. Using Spearman-Brown Prophecy formula, Split-Half reliability was found to be .90 (r_{hh} = .821) and Test-Retest reliability was calculated as .87 (N = 75).

For calculating the validity, correlation between the test scores and the average school marks in general science and mathematics in Class VIII of 150 students was computed. The correlation coefficieint was found to be .67. The items of the test were finalised as per the weightages fixed in the table of specifications. Thus the rational validity of the test was ascertained. The Achievement Test in General Science and Mathematics for Standard IX is given in Appendix VII.

4.70 The Sample Selection

The importance of the theory of sampling lies in the fact that for a large population, it is neither practical nor necessary to collect data from each and every member of the population. The factors of time and cost are usually important considerations in social research. It is more economical and efficient to base studies on samples and for the most practical purposes the conclusions drawn from a sample can be just as valid as conclusions drawn from the analysis of the entire universe of cases.

Considering the requirement of a good sampling, Goode and Hatt remarked, "A sample must be representative and it must be adequate"[9]. The present study aims at studying the differences between the three groups of tribal pupils namely Angami, Ao and Sema with reference to their Self-Perception, Socio-Economic Status, Educational Aspiration, Vocational Choices, Reasons for choosing a particular vocation and Academic Achievement. The study was therefore, confined to the high school pupils of three districts of Nagaland - Kohima (dominated by Angami tribe), Mokokchung (dominated by Ao tribe) and Zunheboto (dominated by Sema tribe).

(a) Selection of Sample for Determining the Social Prestige Values of the Different Vocations

Since there are a very large number of vocations in any society, it becomes extremely difficult to select a representative sample from them. This is equally true in respect of vocations in the State of Nagaland. For determining the social prestige values of the different vocations, a purposive sample of 94 adults belonging to Angami, Ao and Sema tribes was chosen on the basis of availability, willingness and co-operation of the people.

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9 William J. Goode and Paul K. Hatt, Methods in Social Research (Tokyo: McGraw Hill Kogakusha, Ltd., 1952), p.225.

The sample thus drawn together with its break-up is given in Table 12.

(b) Selection of the Sample for Testing the Hypotheses

The study was conducted on a random sample of 674 pupils of standard IX belonging to Angami, Ao and Sema tribes drawn from 10 High Schools out of the total number of 20 recognised high schools from three district headquarters, namely, Kohima, Mokokchung and Zunheboto of Nagaland. Due representation was given to the type of schools. Since sex is generally reported to influence the academic achievement and self-concept, a proportionate number of boys and girls were included in the sample.

(c) Size of the Sample - The most important consideration in selecting a sample is to see that it is closely representative of the population or universe. The investigator selected the three districts; Kohima, Mokokchung and Zunheboto because the Angami, Ao and Sema tribes respectively are the major inhabitants of these districts.

The largeness of a sample does not necessarily ensure its represntativeness. Relatively small samples properly selected may be much more reliable than large samples. The actual selection of a sample should be so arranged that every item in the universe under consideration have the same chance

TABLE 12 : STATEMENT SHOWING THE BREAK-UP OF THE SAMPLE FOR DETERMINING THE VOCATIONAL PRESTIGE VALUES OF VOCATIONS

Sl, No.	Vocations	Angami	Ao	Sema	Total
1	Engineer	2	1	-	3
2	Physician	1	2	-	3
3	College Professors	1	3	3	7
4	Assistant Teachers	22	13	10	45
5	Post Graduate Students	13	4	3	20
6	Clerks	4	1	1	6
7	Headmasters (H/S)	1	1	1	3
8	Steno-Typist	2	1	2	5
9	Gaon Bora (GB)	2	-	-	2
	Total	48	26	20	94

for inclusion.

A sample is adequate when it is of sufficient size to allow confidence in the stability of its characteristics. This in turn, requires a measure of sampling error[10]. It was decided to have sufficiently large sample so as to reduce the possible error. Kretch and Crutch Field recommend a sample of 500 for social researches where the permissible error is around 5 percent. The design of this study where a comparative study of the three groups was required, was, therefore, considered in deciding the size of the sample. If the sample was fixed as 500 or so, after administering the tests, practically this would be reduced which would mean a further reduction in the sample. Therefore, it was tentatively proposed to collect data from a large sample of 752 pupils. However, while collecting the data, after checking and eliminating the incomplete answer sheets the final sample was reduced to 674. The break-up is given in Tables 13, 14 and 15.

In order to see the differences if any, among the pupils belonging to Angami, Ao and Sema tribes on various variables with reference to their socio-economic status, the total sample was divided into high, middle, and low socio-economic status

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10 William J. Goode and Paul K. Hatt, Ibid., p.225.

TABLE 13 : STATEMENT SHOWING THE BREAK-UP OF THE SAMPLE (674) SCHOOL, SEX AND TRIBE WISE

Sl No	Name of the School	Angami		Ao		Sema		Total
		Boys	Girls	Boys	Girls	Boys	Girls	
1	Govt. H.S. Kohima	42	32	-	-	4	1	79
2	Govt. T.M.H.S. Kohima	46	45	-	2	3	5	101
3	B.E. High School Kohima	25	18	-	-	1	-	44
4	Kohima English H. School	17	12	-	-	-	-	29
5	Govt. H.S. Unpangkong (Mok.)	-	-	65	48	-	-	113
6	B.E. High School Mokokchung	-	-	39	44	-	-	83
7	Nivuku Pvt. High School (Mok.)	-	-	12	12	4	12	40
8	Govt. H. School Zunheboto	-	-	-	-	76	65	141
9	Sun Beam High School Zunheboto	-	-	-	-	12	3	15
10	St. Paul's H.S. Zunheboto	-	-	-	-	7	22	29
	Total	130	107	116	106	107	108	674

TABLE 14 : STATEMENT SHOWING THE BREAK-UP OF THE SAMPLE (674) DISTRICT WISE

District	Angami		Ao		Sema		Total
	Boys	Girls	Boys	Girls	Boys	Girls	
Kohima	130	107	-	2	8	6	253
Mokokchung	-	-	116	104	4	12	236
Zunheboto	-	-	-	-	95	90	185
Total	130	107	116	106	107	108	674

TABLE 15 : STATEMENT SHOWING THE BREAK-UP OF THE SAMPLE (674) SCHOOL MANAGEMENT AND DISTRICT WISE

District	Angami		Ao		Sema		Total
	Govt. School	Pvt. School	Govt. School	Pvt. School	Govt. School	Pvt. School	
Kohima	165	72	2	-	13	1	253
Mokokchung	-	-	113	107	-	16	236
Zunheboto	-	-	-	-	141	44	185
Total	165	72	115	107	154	61	674

categories. The break-up of final sample in this regard is shown in Tables 16 and 17.

4.80 Collection of Data

The subjects were given oral instructions about the procedures to be followed in giving their responses to the questionnaires. They were requested not to take help from others in answering and recording their answers. After convenient seating, the students were provided with the Personal Information Sheet and the List of Vocations along with the List of Reasons for choosing a particular Vocation. The directions were given in simple form. The pupils were asked to read the list of 164 vocations carefully and put a tick-mark against the number and title of the vocational choice. They were also asked to read the List of Reasons for selecting the particular vocation and tick-mark reasons in the list provided.

Thereafter they were asked to read the Educational Aspiration Scale and to encircle the qualitification which they had desired to attain. The subjects were then given Self-Concept Inventory. They were told to check the inventory after its completion in order to see that no item was left out.

TABLE 16 : STATEMENT SHOWING THE BREAK-UP OF SAMPLE SEX, TRIBE AND SOCIO-ECONOMIC STATUS WISE

Sl No	Tribe & Sex	Socio-Economic Status			Total
		High	Middle	Low	
1	Angami Boys	53	46	31	130
2	Angami Girls	35	41	31	107
3	Ao Boys	32	43	41	116
4	Ao Girls	32	40	34	106
5	Sema Boys	37	36	34	107
6	Sema Girls	33	40	35	108

TABLE 17 : STATEMENT SHOWING THE BREAK-UP OF SAMPLE TRIBE AND SOCIO-ECONOMIC STATUS WISE

Sl No	Tribe	Socio-Economics Status			Total
		High	Middle	Low	
1	Angami	88	87	62	237
2	Ao	64	83	75	222
3	Sema	70	76	69	215

Lastly, the Achievement Test in General Science and Mathematics was given to the pupils alongwith the separate Answer Sheets. The pupils were given directions on how to respond to the test. With the help of one example on blackboard, one item was worked out explaining the procedure before the pupils were made ready to start the test. The administration of all the tests was completed on the same day.

4.90 Organization of Data

(a) Codification of Data - The scripts of all the 674 pupils in all the tests were scored in accordance with scoring keys specified earlier.

A serial number was alloted to each student and the scores were entered int the sheets meant for this purpose. Thus, for a particular student, there were scores on different aspects of Self-Concept, a score on SES, Vocational Choice, Reason(s) behind the selection of the particular vocation, a score on Educational Aspiration Scale, and Academic Achievement in Science and Mathematics.

(b) Classification of Data - Classification is fundamental to any kind of scientific analysis. The general scheme of classification is commonly determined before the data are gathered but is seldom actually completed until all the data

have been collected. The basis of any statistical classification is determined by the problem at hand as well as by the characteristic features of data.

In the present study, the classification of data was done as follows:

(i) In order to determine the vocational prestige values of the different vocations, the data of the adult rankings were tabulated.

(ii) The remaining data were again classified under different groups such as Angami Boys and Angami Girls, Ao Boys and Ao Girls, and Sema Boys and Sema Girls. These groups were further divided into SES groups and their scores were tabulated for each of the variables such as perceived self, ideal self, social self, vocational choice, reasons for a particular vocational choice, educational aspiration and academic achievement.

(iii) The qualitative analysis of the vocational choices and the reasons for choosing a vocation was also discussed.

(c) Statistical Techniques - Following statistical techniques were employed:

(i) To determine the social prestige values of the different vocations, Median Ranking for each vocation was computed for the rankings given by 94 adults. The formula used for finding the median of the series of ungrouped scores was the one given by Ferguson (1959).

(ii) The means and standard deviations for scores on various criterion variables of pupils belonging to Angami, Ao, and Sema tribes were calculated.

(iii) The means and standard deviations for scores on various variables of pupils belonging to high, middle and low SES groups of the three tribes were also computed and tabulated.

(iv) The inter-group mean differences on each variable for pupils belonging to Angami, Ao, and Sema tribes were tested by employing 't-test' of significance for large independent samples[11], to find out the differences between them on a given variable.

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11 Henry E. Garrett, Statistics in Psychology and Education (9th Ed), Bombay: Vikils Feffer and Simons Ltd., 1979, pp. 213-14.

(v) The inter-group mean differences on each variable for pupils belonging to high, middle and low SES groups of the Angami, Ao, and Sema tribes were also tested by employing 't-test' of significance for large independent samples.

C H A P T E R - V

ANALYSIS

Introduction

The present chapter is devoted to detailed analysis of the data, discussion and interpretation of findings classified into three sections. In Section I, an overall picture of comparison of means and SDs of scores on different variables has been given. The variables include Self-Perception, Vocational and Educational Aspirations, and Academic Achievement in General Science and Mathematics. Section II is concerned with the testing of hypotheses formulated. The qualitative analysis of vocational choices together with reasons for making choices has been dealt with in Section III.

SECTION - I

5.10 Comparison of Means and SDs for Scores on Different Variables

The data (Means and SDs) of pupils belonging to Angami, Ao and Sema tribes on self-perception, vocational choices, educational aspirations and academic achievement are given in Tables 18, 19 and 20.

As could be seen from Table 18, the mean score on self-perception of Angami and Ao pupils was 557.38 and 556.68 respectively while the same for pupils belonging to Sema tribe was as high as 566.85. This broadly indicates higher self-perception of Sema pupils as compared to their counterparts among Angami and Ao tribes.

Again, the mean score on vocational choices of Sema pupils was 3.95 as compared to that of Angami and Ao pupils who obtained the mean score of 4.03 and 4.14 respectively. Since the vocational choices are to be interpreted in terms of social prestige value based on ratings on a nine-point scale, representing 1 as highest and 9 as lowest on the continum, the vocational choices indicated by Sema pupils may generally be taken to enjoy slightly higher social prestige than those of Angami and Ao pupils. All the same it has to be noted that the vocational choices indicated by pupils of all the three tribes can at best be taken as of average social prestige, the mean score ranging from 3.95 to 4.14 on a nine-point scale.

In respect of educational aspirations, the mean score of Ao pupils was 4.71 as against that of 4.51 and 4.33 of Angami and Sema pupils respectively. Though Ao pupils were

TABLE 18 : MEANS AND SDs ON SELF-PERCEPTION, VOCATIONAL CHOICES, EDUCATIONAL ASPIRATIONS AND ACADEMIC ACHIEVEMENT SCORES OF PUPILS TRIBE WISE (N = 674)

Sl No	Tribe		Self-Perception	Vocational Choices	Educational aspirations	Academic Achievement
1	Angami Pupils	M	557.38	4.03	4.51	49.58
		SD	43.52	0.88	1.64	13.48
2	Ao Pupils	M	556.68	4.14	4.71	45.34
		SD	46.27	0.98	1.65	8.72
3	Sema Pupils	M	566.85	3.95	4.33	44.80
		SD	38.71	0.91	1.54	10.83

found to have an edge over their counterparts among Angami and Sema pupils, the overall aspirations of all the groups were more or less similar.

The mean score on academic achievement of Ao and Sema pupils was 45.34 and 44.80 respectively while that of pupils belonging to Angami tribe was as high as 49.58. This broadly shows that the academic achievement of Angami pupils was slightly higher as compared to the pupils belonging to Ao and Sema tribes.

The data on comparison of means and SDs on Self-perception, vocational choices, educational aspirations and academic achievement sex wise is given in Table 19.

The mean score on self-perception of boys belonging to Angami, Ao and Sema was 550.76, 551.07 and 574.42 respectively as against 564.39, 560.07 and 561.33 of girls of respective tribes. This showed that the self-perception of Sema boys was higher than those of Angami and Ao boys whereas girls belonging to the three tribes did not differ much on self-perception.

The mean score on vocational choices of Angami and Ao boys in terms of social prestige was 3.88 and 4.09 respectively as against 3.63 of Sema boys. The mean score of Angami, Ao

and Sema girls was 4.23, 4.30 and 4.27 respectively. Thus, it may be seen that while the vocational choices of Sema boys indicated higher social prestige as compared to Angami and Ao boys, vocational choices of the girls belonging to all the three tribes were found as similar.

The mean score on educational aspirations of Angami and Sema boys was 4.76 and 4.89 respectively whereas that of Ao boys was as high as 5.04. Again, the mean score of Angami and Ao girls was 4.22 and 4.33 respectively but the same was as low as 3.80 in case of Sema girls. This showed that while Ao boys had a clear edge over both Angami and Sema boys, Sema girls were poorly pitted against Angami and Ao girls in respect of educational aspirations. However, the boys belonging to Angami, Ao and Sema tribes were found as having higher educational aspirations than the girls of respective tribes.

The mean score on academic achievement of Ao and Sema boys was 47.00 and 47.98 respectively but the same was as high as 54.47 in respect of Angami boys. Thus the academic achievement of Angami boys was comparatively higher than that of the Ao and Sema boys. But that was not true in case of girls. Angami girls though had an edge over their Sema

counterparts (the respective mean scores being 43.63 and 41.63), they were found similar when pitted against Ao girls with the mean academic achievement score of 43.63 and 43.51 respectively. It may however be observed that the boys were found as having higher mean academic achievement than the girls in each tribe.

In order to find out if the socio-economic background of pupils is related to the variables under study, the data on comparison of Means and SDs on self-perception, vocational choices, educational aspirations, and academic achievement SES wise is presented in Table 20.

Self-Perception

At the high SES level, the mean score of Sema pupils was 576.22 as against that of 565.88 and 563.96 of Angami and Ao pupils respectively. Again, at the middle SES level, the mean score of Sema pupils was 569.82 whereas that of Angami and Ao pupils was 555.56 and 563.37 respectively. This showed a higher mean score on self-perception in favour of Sema pupils belonging to high and middle SES levels as compared to their Angami and Ao counterparts. The mean score of Sema pupils at low SES level was 554.07 as against that of 551.71 and 553.10 of Angami and Ao pupils respectively. Even at

the low SES level Sema pupils were found to have an edge over Angami and Ao pupils.

Further, the self-perception of pupils belonging to each tribe at three levels of SES showed correspondence in respect of Angami and Sema pupils. Ao pupils belonging to high and middle SES groups were found similar but those belonging to low SES group were lower than those belonging to high and middle SES groups.

Vocational Choices

The mean score on vocational choices of Sema pupils at high SES level was 3.81 as against that of 3.93 and 4.04 of Angami and Ao pupils respectively. Again, at the middle SES level the mean score of Sema pupils was 3.93 and that of Angami and Ao pupils was 4.05 and 4.16 respectively. The mean score of pupils belonging to Sema, Angami and Ao tribes at low SES level was 4.13, 4.15 and 4.19 respectively.

Interpreted in terms of social prestige value, the data indicate that whilethe vocational choices of Sema pupils belonging to high and middle SES groups were higher than their Angami and Ao counterparts, at the low SES level the three groups were found almost similar.

Intra tribe comparison on the mean scores in respect of vocational choices indicate that social prestige of vocations preferred by Angami, Ao and Sema pupils differed in accordance with their SES levels. In other words, vocational aspirations of pupils belonging to high SES in each tribe were found higher than those in the middle SES group and of those in the middle SES were found higher than the pupils belonging to low SES group.

Educational Aspirations

The mean score on educational aspirations of Ao pupils at high SES level was 5.14 as against that of 4.82 and 4.37 obtained by Angami and Sema pupils respectively. At the middle SES level, the mean score of Ao pupils was 4.60 as against that of 4.52 and 4.47 obtained by Angami and Sema pupils respectively. Again, at low SES level, the mean score of Ao pupils was 4.38 as against 4.14 and 4.07 of Angami and Sema pupils respectively. This indicated higher educational aspirations of Ao pupils as compared to those of Angami and Sema pupils at high SES level and an edge at the middle and low SES levels.

Intra tribe comparison on the mean score indicate that the educational aspirations of pupils belonging to high SES

of the Angami and Ao tribes were found higher than those in the middle SES group and those in the middle SES group were found higher than the pupils belonging to low SES group of the two tribes. As regards the educational aspirations of pupils belonging to Sema tribe it was noted that while those in the high and middle SES groups were almost similar, the pupils belonging to the low SES were found lower as compared to their counterparts in the high and low SES groups.

Academic Achievement in General Science and Mathematics

The mean score on academic achievement of Angami pupils at the high SES level was 52.79 as against 46.85 and 45.75 of Ao and Sema pupils respectively. At the middle SES level, the mean achievement in case of Angami pupils was 50.74 and those of Ao and Sema was 46.38 and 46.13 respectively. This indicated higher mean achievement score for pupils belonging to Angami tribe at high and middle SES levels when compared with their counterparts in the Ao and Sema tribes.

So far as the mean achievement score at the low SES level is concerned, Ao pupils were found to have an edge over their counterparts in the Sema tribe and pupils belonging to Sema tribe an edge over their Angami counterparts, the mean achievement score being 43.74, 42.85 and 41.83 for pupils

belonging to Ao, Sema and Angami tribes respectively.

It may be interesting to note that while Angami pupils both in the high as well as middle SES groups were found to have scored higher mean achievement than the pupils of other two tribes, Angami pupils in the low SES group were found to have scored lowest as compare to their counterparts in the other two tribes.

Intra group comparison on mean academic achievement with reference to SES groups indicated a more or less common trend. While the pupils belonging to high and middle SES groups in each of the three tribes appeared to have the same level of academic achievement within them, pupils belonging to the higher SES groups in each tribe scored a higher mean achievement than their counterparts in the low SES groups.

The above results indicate that pupils belonging to high and middle SES groups got higher mean achievement score than those in the low SES group in all the three tribes.

SECTION II

5.20 Identifying Groups of Pupils Discriminating on Criterion Variables

This section of analysis was intended to find out the various groups of pupils which discriminated on each of the variables in the study. Whether a mean difference exists among groups more than two could be tested by applying the technique of analysis of variance, but a technique of this type only helps to conclude whether or not a mean difference exists. It does not help to identify the group or groups which cause such difference. Hence in the present study, null hypotheses were formulated and it was decided to apply the tests of significance for difference between means. Accordingly, the Means and SDS on each variable scores for pupils belonging to various groups were computed and two-tailed test of significance for the difference between means of large independent samples was applied so as to be able to meaningfully compare the groups. The significance of the mean differences was determined by finding out whether the obtained critical ratios exceeded 1.96 and or 2.58 for significance at .05 and .01 levels respectively.

Hypothesis: 1

> There is statistically no difference in self-perception of pupils belonging to the Angami, Ao and Sema tribes.

H: 1 stated that there is statistically no difference in self-perception between the mean scores of pupils belonging to the three tribes taken two at a time. The mean scores and SDs of the pupils tribe-wise are compared in Table-18. The data for the tests of significance between the mean scores of pupils belonging to the three tribes are given in Table-21.

The obtained critical ratio of scores between Angami and Sema pupils was 2.44 which showed a significant difference at .05 level. The C.R. between scores of Ao and Sema pupils was 2.49 which was also found significant at the same level. But the difference between the mean scores of Angami and Ao pupils was not found to be significant (C.R. = 0.16). It suggests that while Sema pupils were found to be significantly different from their Angami and Ao counterparts in respect of self-perception, the pupils belonging to the Angami and Ao tribes appeared similar.

Further, it was tried to find out if there exists a significant difference in the self-perception of boys and

girls belonging to the three tribes. The mean scores on self-perception sex wise are given in Table-19. The data for the significance of difference between the means is shown in Table-22.

The obtained C.R. values revealed a significant difference between the mean scores of (i) Angami boys and girls; (ii) Angami boys and Sema girls; (iii) Angami girls and Ao boys and (iv) Ao boys and Sema girls at .05 level. Again, the mean difference was found to be significant at .01 level between (i) Angami boys and Sema boys; (ii) Ao boys and Sema boys; (iii) Ao girls and Sema boys and (iv) Sema boys and girls.

Further, no significant difference on self-perception was found as between (i) Angami boys and Ao boys; (ii) Angami boys and Ao girls; (iii) Angami girls and Ao girls; (iv) Angami girls and Sema boys; (v) Angami girls and Sema girls; (vi) Ao boys and girls; and (vii) Ao girls and Sema girls. This again suggests that:

(i) The boys belonging to Angami and Sema tribes were found to be significantly different from the girls of the same tribes but no such difference was found between Ao boys and girls on self-perception.

TABLE 21 : DATA SHOWING THE SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS ON SELF-PERCEPTION OF PUPIL TRIBE WISE

Sl No.	Groups		t
1.	Angami pupils	Ao pupils	0.16
2.	Angami pupils	Sema pupils	2.44*
3.	Ao pupils	Sema pupils	2.49*

* Significant at .05 level.

TABLE 22 : DATA SHOWING THE SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS ON SELF-PERCEPTION OF PUPILS TRIBE WISE AND SEX WISE

Sl No	Groups		t
	A	B	
1.	Angami boys	Angami Girls	2.52*
2.	Angami boys	Ao boys	0.05
3.	Angami boys	Ao girls	1.70
4.	Angami boys	Sema boys	4.59**
5.	Angami boys	Sema girls	2.19*
6.	Angami girls	Ao boys	2.34*
7.	Angami girls	Ao girls	0.77
8.	Angami girls	Sema boys	1.89
9.	Angami girls	Sema girls	0.62
10.	Ao boys	Ao girls	1.60
11.	Ao boys	Sema boys	4.28**
12.	Ao boys	Sema girls	1.99*
13.	Ao girls	Sema boys	2.67**
14.	Ao girls	Sema girls	0.22
15.	Sema boys	Sema girls	2.79**

* Significant at .05 level
** Significant at .01 level

(ii) Self-perception of Sema boys was significantly different from those of Angami and Ao boys.

(iii) The girls belonging to the three tribes were found similar on self-perception.

Hypothesis: 2

There is statistically no difference in the vocational choices of pupils belonging to the Angami, Ao and Sema tribes.

H:2 predicted that there is statistically no difference in vocational choices (in terms of social prestige values) between the mean scores of pupils belonging to the three tibes. The mean scores and SDs of the pupils on vocational choices tribe-wise are given in Table-18. The computed C.Rs for testing the significance of the difference between means of pupils are presented in Table-23.

The obtained C.R. between Ao and Sema pupils was 2.13 showing a significant difference at .05 level. On the other hand, the mean difference between Angami and Ao, and that between Angami and Sema pupils was not found to be significant (C.R. = 1.32 and 0.96). It clearly suggested that while Sema pupils were found to be significantly different from Ao pupils as regards their vocational choices,

they were found similar to their Angami counterparts. Also, the Angami and Ao pupils appeared similar on the same variable.

The data showing the significance of the difference between means on vocational choices of boys and girls belonging to the three tribes are given in Table-24.

The computed C.R. values reveal that there was significant difference between the means of (i) Angami boys and girls; (ii) Angami boys and Ao girls; (iii) Angami boys and Sema girls; (iv) Angami girls and Sema boys; (v) Ao boys and Sema boys; (vi) Ao girls and Sema boys; and (vii) Sema boys and girls at .01 level, the CRs ranging from 3.33 to 6.15. Again, the mean difference between Angami boys and Sema boys was found significant at .05 level. The hypothesis was thus rejected in case of the above groups of pupils.

The mean difference was, however, not found significant between the scores of (i) Angami boys and Ao boys; (ii) Angami girls and Ao boys; (iii) Angami girls and Ao girls; (iv) Angami girls and Sema girls; (v) Ao boys and Sema girls; (vi) Ao boys and Sema girls; and (vii) Ao girls and Sema girls implying thereby as follows:

TABLE 23 : C.R. VALUES FOR THE SCORES ON VOCATIONAL CHOICES OF PUPILS TRIBE WISE (N = 674)

Sl No	Groups		t
1.	Angami pupils	Ao pupils	1.32
2.	Angami pupils	Sema pupils	0.96
3.	Ao pupils	Sema pupils	2.13*

* Significant at .05 level.

TABLE 24 : C.R. VALUES FOR THE SCORES ON VOCATIONAL CHOICES OF PUPILS TRIBE WISE AND SEX WISE

Sl No	Groups		t
	A	B	
1.	Angami boys	Angami girls	3.33**
2.	Angami boys	Ao boys	1.45
3.	Angami boys	Ao girls	4.04**
4.	Angami boys	Sema boys	2.04*
5.	Angami boys	Sema girls	3.58**
6.	Angami girls	Ao boys	1.04
7.	Angami girls	Ao girls	0.78
8.	Angami girls	Sema boys	5.50**
9.	Angami girls	Sema girls	0.42
10.	Ao boys	Ao girls	1.57
11.	Ao boys	Sema boys	4.22**
12.	Ao boys	Sema girls	1.30
13.	Ao girls	Sema boys	6.15**
14.	Ao girls	Sema girls	0.32
15.	Sema boys	Sema girls	5.61**

* Significant at .05 level
** Significant at .01 level.

The obtained C.R. between the means of Ao and Sema pupils was 2.52 which is significant at .05 level indicating thereby that Ao pupils differed from their Sema counterparts so far as educational aspirations are concerned.

Further, the CRs between Angami and Ao pupils and those between Angami and Sema pupils were 1.32 and 1.22 respectively which were found not significant suggesting thereby that while the educational aspirations of Ao pupils were found to be significantly different from Sema pupils, they were found similar to their Angami counterparts. However, the Angami and Sema pupils appeared similar on the same variable.

The data showing the significance of the difference between means on educational aspirations of boys and girls belonging to the three tribes are given in Table-26. The means and SDs of the pupils sex wise are compared in Table-19.

The obtained C.R. values revealed that the difference between means was significant between the scores of (i) Angami boys and girls; (ii) Angami boys and Sema girls; (iii) Angami girls and Ao boys; (iv) Angami girls and Sema boys; (v) Ao boys and girls; (vi) Ao boys and Sema girls; (vii) Ao girls and Sema boys; and (viii) Sema boys and girls at .01 level,

TABLE 25 : DATA SHOWING THE SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS ON EDUCATIONAL ASPIRATIONS OF PUPILS TRIBE WISE (N = 674)

Sl No	Groups		t
1.	Angami pupils	Ao pupils	1.32
2.	Angami pupils	Sema pupils	1.22
3.	Ao pupils	Sema pupils	2.52*

* Significant at .05 level.

TABLE 26 : DATA SHOWING THE SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS ON EDUCATIONAL ASPIRATIONS OF PUPILS TRIBE WISE AND SEX WISE

Sl No	Groups		t
	A	B	
1.	Angami boys	Angami girls	2.583**
2.	Angami boys	Ao boys	1.44
3.	Angami boys	Ao girls	1.963*
4.	Angami boys	Sema boys	0.68
5.	Angami boys	Sema girls	4.80**
6.	Angami girls	Ao boys	4.02**
7.	Angami girls	Ao girls	0.48
8.	Angami girls	Sema boys	3.32**
9.	Angami girls	Sema girls	2.01*
10.	Ao boys	Ao girls	3.32**
11.	Ao boys	Sema boys	0.80
12.	Ao boys	Sema girls	6.36**
13.	Ao girls	Sema boys	2.64**
14.	Ao girls	Sema girls	2.42*
15.	Sema boys	Sema girls	5.68**

* Significant at .05 level
** Significant at .01 level.

the critical ratios ranging from 2.583 to 6.36. Again, the mean difference between (i) Angami boys and Ao girls; (ii) Angami girls and Sema girls; and (iii) Ao girls and Sema girls was significant at .05 level.

However, the mean difference between the scores of (i) Angami boys and Ao boys; (ii) Angami boys and Sema boys; (iii) Angami girls and Ao girls; and (iv) Ao boys and Sema boys was not found to be significant.

The data on the mean differences and the obtained CR values as given above clearly suggest the following:

(i) The educational aspirations of boys belonging to Angami, Ao and Sema tribes differed significantly from girls in the respective tribes.

(ii) Boys belonging to the three tribes were found to have similar educational aspirations.

(iii) The educational aspirations of girls belonging to the Angami and Ao tribes were found to differ significantly from their counterparts in Sema tribe whereas the Angami and Ao girls appeared similar on this variable.

Hypothesis: 4

> There is no significant difference in the academic achievement of pupils belonging to the Angami, Ao and Sema tribes.

H:4 stated above attempts to prove that the pupils belonging to the three tribes do not differ on their mean academic achievement. The means and SDs on academic achievement of the pupils tribe-wise and sex-wise are compared in Tables-18 and 19 respectively. The data showing the significance of the difference between means is given in Table-27.

The obtained C.R. between the mean scores of Angami and Ao pupils was 4.07. The same between Angami and Sema pupils was 4.19, both being significant at .01 level. This indicated that the Angami pupils differed significantly on academic achievement from both the Ao and Sema pupils. However, the mean difference was not found to be significant between the mean scores of Ao and Sema pupils (C.R. = 0.58). This implied that the academic achievement of the Angami pupils was significantly different from those of the Ao and Sema pupils, whereas the pupils belonging to Ao and Sema tribes were not found to differ significantly so far as academic achievement is concerned.

TABLE 27 : DATA SHOWING THE SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS ON ACADEMIC ACHIEVEMENT OF PUPILS TRIBE WISE (N = 674)

Sl No	Groups		t
1.	Angami pupils	Ao pupils	4.07**
2.	Angami pupils	Sema pupils	4.19**
3.	Ao pupils	Sema pupils	0.58

** Significant at .01 level.

TABLE 28 : DATA SHOWING THE SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS ON ACADEMIC ACHIEVEMENT OF PUPILS TRIBE WISE AND SEXWISE

Sl No	Groups		t
	A	B	
1.	Angami boys	Angami girls	6.65**
2.	Angami boys	Ao boys	5.75**
3.	Angami boys	Ao girls	8.43**
4.	Angami boys	Sema boys	4.44**
5.	Angami boys	Sema girls	9.30**
6.	Angami girls	Ao boys	2.23*
7.	Angami girls	Ao girls	0.08
8.	Angami girls	Sema boys	2.64**
9.	Angami girls	Sema girls	1.26
10.	Ao boys	Ao girls	3.06**
11.	Ao boys	Sema boys	0.74
12.	Ao boys	Sema girls	4.33**
13.	Ao girls	Sema boys	3.39**
14.	Ao girls	Sema girls	1.52
15.	Sema boys	Sema girls	4.50**

* Significant at .05 level
** Significant at .01 level.

The data showing the significance of the difference betwween mean scores on academic achievement of boys and girls belonging to the three tribes is given in Table-28.

The obtained critical ratios revealed that the mean difference on academic achievement scores between (i) Angami boys and girls; (ii) Angami boys and Ao boys; (iii) Angami boys and Ao girls; (iv) Angami boys and Sema boys; (v) Angami boys and Sema girls; (vi) Angami girls and Sema boys; (vii) Ao boys and girls; (viii) Ao boys and Sema girls; (ix) Ao girls and Sema boys; and (x) Sema boys and girls was significant at .01 level. Again, the critical ratio between the mean scores of Angami girls and Ao boys was 2.23, which was significant at .05 level.

No significant difference was, however, noticed between the mean scores of (i) Angami girls and Ao girls; (ii) Angami girls and Sema girls; (iii) Ao boys and Sema boys and (iv) Ao girls and Sema girls. This confirmed as follows:

(i) The academic achievement of boys belonging to the three tribes was significantly different from those of the girls in the respective tribes.

(ii) The academic achievement of Angami boys was significantly different from those of their counterparts in the Ao and Sema tribes, whereas

the boys belonging to Ao and Sema tribes were found to be similar on the same variable.

(iii) The girls belonging to three tribes were not found to differ significantly on academic achievement as such.

Hypothesis: 5

There is statisticaly no difference in self-perception of pupils belonging to high, middle and low SES of the Angami, Ao and Sema tribes.

H:5 is concerned with testing the significance of the difference between the mean scores on self-perception of pupils belonging to high, middle and low SES of the three tribes. The data on means and SDs on self-perception SES-wise are given in Table 20. The data showing the significance of the difference between means are given in Table-29.

The obtained C.Rs revealed that:

(i) at the high SES level, the mean difference on self-perception scores was not significant between pupils belonging to Angami and Ao, Angami and Sema, and Ao and Sema tribes;

TABLE 29 : DATA SHOWING THE SIGNIFICANCE OF DIFFERENCE BETWEEN THE MEANS ON SELF-PERCEPTION OF PUPILS TRIBE WISE AND SES WISE

Sl No	Tribe	SES		SES	t
1.	Angami	H	Ao	H	0.28
2.	Angami	H	Sema	H	1.46
3.	Ao	H	Sema	H	1.66
4.	Angami	M	Ao	M	1.14
5.	Angami	M	Sema	M	2.43*
6.	Ao	M	Sema	M	0.97
7.	Angami	L	Ao	L	0.17
8.	Angami	L	Sema	L	0.32
9.	Ao	L	Sema	L	0.14
10.	Angami	H	Angami	M	1.63
11.	Ao	H	Ao	M	0.07
12.	Sema	H	Sema	M	0.96
13.	Angami	H	Angami	L	1.92
14.	Ao	H	Ao	L	1.45
15.	Sema	H	Sema	L	3.09**
16.	Angami	M	Angami	L	0.54
17.	Ao	M	Ao	L	1.34
18.	Sema	M	Sema	L	2.56*

* Significant at .05 level
** Significant at .01 level

H means high SES group
M means middle SES group
L means low SES group

(ii) at the middle SES level, the mean difference was found to be significant between the scores of pupils belonging to Sema and Angami tribes (C.R. = 2.43) at .05 level, but not found significant between the mean scores of those belonging to Angami and Ao, and Ao and Sema tribes; and

(iii) at the low SES level, the mean difference was not found to be significant between the scores of pupils belonging to Angami and Ao, Angami and Sema, and Ao and Sema tribes.

Further, the C.Rs revealed that:

(a) the mean difference on self-perception scores between the Angami pupils belonging to high and middle SES, high and low SES, and middle and low SES groups was not significant;

(b) the mean difference on self-perception scores between Ao pupils belonging to high and middle SES, high and low SES, middle and low SES groups was also not found to be significant; and

(c) the mean difference on self-perception scores between Sema pupils belonging to high and middle SES groups was not significant, but those

belonging to high and low SES, and middle and low SES groups was found to be significant at .01 and .05 levels, the C.Rs being 3.09 and 2.56 respectively.

The obtained CRs as given above may clearly be taken to mean that:

(i) Both at the high as well as low SES levels the pupils belonging to the three tribes were not found to differ significantly so far as self-perception is concerned. However, at the middle SES level, while the Sema pupils were noticed to be significantly different from Angami pupils, they were not found to differ from their Ao counterparts. Again, pupils belonging to Angami and Ao tribes were also not found to differ significantly on self-perception at the middle SES level.

(ii) The Angami and Ao pupils belonging to high, middle and low SES groups were not found to differ significantly on self-perception but Sema pupils belonging to low SES group were found significantly different from their counterparts in high and middle SES levels as regards self-perception.

Hypothesis: 6

> There is statistically no difference in the vocational choices of pupils belonging to high, middle and low SES of the Angami, Ao and Sema tribes.

This hypothesis is concerned with testing the significance of the difference between mean scores on vocational choices (in terms of social prestige) among the pupils belonging to high, middle and low SES levels. The means and SDs of pupils SES-wise are compared in Table-20. The data showing the significance of the difference between mean scores of pupils of the three tribes SES-wise are given in Table-30.

The computed C.R. values revealed that the mean difference on vocational choices between the scores of pupils belonging to Angami and Ao, Angami and Sema, and Ao and Sema tribes was not found to be significant at each of the high, middle and low SES levels. Further, the mean difference in socres on vocational choices was not found significant in respect of the following:

(a) Angami pupils belonging to high and middle SES, high and low SES, and middle and low SES groups;

TABLE 30 : C.R. VALUES FOR THE SCORES ON VOCATIONAL CHOICES OF PUPILS TRIBE WISE AND SES WISE

Sl No	Tribe				t
		SES		SES	
1.	Angami	H	Ao	H	0.69
2.	Angami	H	Sema	H	0.85
3.	Ao	H	Sema	H	1.53
4.	Angami	M	Ao	M	0.81
5.	Angami	M	Sema	M	0.89
6.	Ao	M	Sema	M	1.47
7.	Angami	L	Ao	L	0.30
8.	Angami	L	Sema	L	0.14
9.	Ao	L	Sema	L	0.42
10.	Angami	H	Angami	M	0.90
11.	Ao	H	Ao	M	0.74
12.	Sema	H	Sema	M	0.84
13.	Angami	H	Angami	L	1.50
14.	Ao	H	Ao	L	1.00
15.	Sema	H	Sema	L	2.28*
16.	Angami	M	Angami	L	0.79
17.	Ao	M	Ao	L	0.21
18.	Sema	M	Sema	L	1.30

* Significant at .05 level.

(b) Ao pupils belonging to high and middle SES, high and low SES, and middle and low SES groups; and

(c) Sema pupils belonging to high and middle SES, and middle and low SES groups.

But the mean difference in scores on vocational choices was found to be significant between the Sema pupils belonging to high and low SES groups at .05 level (C.R. = 2.28) imply thereby that:

(i) No significant difference was found with regard to vocational choices among the pupils belonging to three tribes at the high, middle and low SES levels.

(ii) The vocational choices of the Angami and Ao pupils belonging to high, middle and low SES groups were not found to differ significantly but those of Sema pupils belonging to high SES group were significantly different from their counterparts in low SES group.

Hypothesis: 7

There is no significant difference in the educational aspirations of pupils belonging to high, middle and low SES of the Angami, Ao and Sema tribes.

H: 7 is concerned with testing the significance of the difference between mean scores on educational aspirations of the pupils belonging to high, middle and low SES groups. The mean scores and SDs of the pupils SES-wise are compared in Table-20. The data showing the significance of mean difference are given in Table-31.

The obtaine C.Rs revealed that:

(i) at the high SES level, the mean difference between scores on educational aspirations of the pupils belonging to Angami and Ao, and Angami and Sema tribes was not significant, but those between Ao and Sema tribes was found to be significant at .01 level (C.R. ≠ 2.96);

(ii) at the middle SES and low SES levels, the mean difference on the same variable was not found to be significant in respect of pupils belonging to Angami and Ao, Angami and Sema, and Ao and Sema tribes;

Further, the C.Rs revealed that:

(a) the mean difference in scores on educational aspirations between the Angami pupils belonging

TABLE 31 : DATA SHOWING THE SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS ON EDUCATIONAL ASPIRATIONS OF PUPILS TRIBE WISE AND SES WISE

Sl No.	Tribe				t
	SES			SES	
1.	Angami	H	Ao	H	1.28
2.	Angami	H	Sema	H	1.80
3.	Ao	H	Sema	H	2.96**
4.	Angami	M	Ao	M	0.35
5.	Angami	M	Sema	M	0,20
6.	Ao	M	Sema	M	0.52
7.	Angami	L	Ao	L	0.86
8.	Angami	L	Sema	L	0.25
9.	Ao	L	Sema	L	1.24
10.	Angami	H	Angami	M	1.29
11.	Ao	H	Ao	M	2.12*
12.	Sema	H	Sema	M	0.38
13.	Angami	H	Angami	L	2.52*
14.	Ao	H	Ao	L	2.92**
15.	Sema	H	Sema	L	1.18
16.	Angami	M	Angami	L	1.44
17.	Ao	M	Ao	L	0.89
18.	Sema	M	Sema	L	1.54

* Significant at .05 level
** Significant at .01 level

to high and middle SES, and middle and low SES groups was not found a significant but those between high and low SES groups was found to be significant at .05 level (C.R. = 2.52).

(b) the mean difference on educational aspirations scores between the Ao pupils belonging to middle and low SES groups was not significant but was found to be significant between those belonging to high and middle SES, and high and low SES groups at .05 and 0.1 level respectively; and

(c) the mean difference in scores on educational aspirations between the Sema pupils belonging to high and middle SES, high and low SES, and middle and low SES groups was not found to be significant.

The above results, therefore, suggest that:

(i) At the high SES level, while the educational aspirations of Ao pupils were significantly higher than those of Sema pupils, they were found to be similar to Angami pupils on this variable. But at the middle and low SES

levels, the educational aspirations of pupils belonging to Angami, Ao and Sema tribes were not found to differ significantly;

(ii) While the pupils in the high SES group were significantly different from those belonging to the low SES group on educationalaspirations, they were found to be similar to their counterparts at the middle SES level. The educational aspirations of Ao pupils belonging to high SES group were also found to be significantly different from their counterparts at middle and low SES levels. But the educational aspirations of Sema pupils at high, middle and low SES levels were not found to differ significantly.

Hypothesis: 8

There is no significant difference in the academic Achievement of pupils belonging to high, middle and low SES of the Angami, Ao and Sema tribes.

The above hypothesis is concerned with testing the significance of the difference between mean soores on

academic achievement of the pupils of the three tribes belonging to high, middle and low SES groups. The means and SDs of the pupils SES-wise are compared in Table-20. The data showing the significance of the difference between mean scores are given in Table-32.

The obtained critical ratios revealed that:

(i) at the high SES level, the mean difference in the scores on academic achievement between pupils belonging to Angami and Ao, and Angami and Sema tribes was significant at .01 level, but not found significant in respect of pupils belonging to Ao and Sema tribes;

(ii) at the middle SES level, the mean difference between the scores of pupils belonging to Angami and Ao, and Angami and Sema tribes was significant at .01 and .05 levels respectively, but not found significant in respect of pupils belonging to Ao and Sema tribes; and

(iii) at the low SES level, the mean difference in the scores on academic achievement was not found to be significant between pupils belonging to Angami and Ao, Angami and Sema, and Ao and Sema tribes.

TABLE 32 : DATA SHOWING THE SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS ON ACADEMIC ACHIEVEMENT OF PUPILS TRIBE WISE AND SES WISE

Sl No	Tribe				t
		SES		SES	
1.	Angami	H	Ao	H	3.41**
2.	Angami	H	Sema	H	3.94**
3.	Ao	H	Sema	H	1.03
4.	Angami	M	Ao	M	2.70**
5.	Angami	M	Sema	M	2.43*
6.	Ao	M	Sema	M	0.14
7.	Angami	L	Ao	L	1.03
8.	Angami	L	Sema	L	0.45
9.	Ao	L	Sema	L	0.77
10.	Angami	H	Angami	M	1.06
11.	Ao	H	Ao	M	0.34
12.	Sema	H	Sema	M	0.20
13.	Angami	H	Angami	L	5.22**
14.	Ao	H	Ao	L	2.17*
15.	Sema	H	Sema	L	1.52
16.	Angami	M	Angami	L	4.16**
17.	Ao	M	Ao	L	1.87
18.	Sema	M	Sema	L	1.94

* Significant at .05 level
** Significant at .01 level

H means high SES group
M means middle SES group
L means low SES group

Further, the C.Rs revealed that:

(a) the mean difference in the scores on academic achievement of Angami pupils belonging to high and low SES, and middle and low SES groups was found to be significant at .01 level, but not found significant between those belonging to high and middle SES groups;

(b) the mean difference in the scores on academic achievement of Ao pupils belonging to high and low SES groups was significant at .05 level (C.R. = 2.17) whereas not found significant between those belonging to high and middle SES, and middle and low SES groups; and

(c) The mean difference in the academic achievement scores was not found significant between the Sema pupils belonging to high and middle SES, high and low and middle and low SES groups.

The above results imply that:

(i) At the high SES level, the academic achievement of Angami pupils was found to be significantly different from pupils belonging to both the Ao and Sema tribes. At the middle SES level, the academic achievement of Angami pupils was

significantly different from both the Ao and Sema pupils, whereas Ao pupils were not found to differ significantly from their counterparts in Sema tribe. However, at the low SES level, the pupils belonging to the three tribes were not found to differ significantly as regards academic achievement; and

(ii) The academic achievement of Angami pupils belonging to the high and middle SES groups was found similar. But the academic achievement of Angami pupils belonging to low SES group was found to be significantly lower than their counterparts at high as well as middle SES levels.

While the academic achievement of Ao pupils belonging to high SES group was found to be significantly higher than those at the low SES level, no significant difference was found when compared with those in the middle SES group.

Further, the Sema pupils belonging to high, middle and low SES groups were not found to differ significantly on academic achievement.

SECTION - III

5.30 Qualitative Analysis of Vocational Choices

5.31 Qualitative Analysis of Vocational Choices Tribe Wise

Vocational choices of pupils were analysed qualitatively for studying the differences if any among the pupils tribe wise and sex wise. In all 97 different vocations were chosen by the pupils out of a list of 164 vocations. The data on vocational choices is given in Table-33.

No. of vocations common to all 6 groups : 3

No. of vocations chosen by Angami pupils : 61

No. of common vocations between Angami boys & girls : 16

No. of common vocations between Ao pupils : 67

No. of common vocations between Ao boys & girls : 19

No. of vocations chosen by Sema pupils : 60

No. of common vocations between Sema boys & girls : 11

Total No. of vocations chosen by boys : 78

Total No. of vocations chosen by girls : 57

Total No. of common vocations between boys & girls : 38

Total No. of vocations which are chosen by only boys: 40

Total No. of vocations which are chosen by only girls: 19

Total No. of common vocations between Angami, Ao and Sema boys: 22

Total No. of common vocations between Angami, Ao and Sema girls: 10

In order to determine the vocational choices of pupils, a list of 164 vocations was first supplied to them. They were then asked to select one vocation out of the list which they wished to adopt in their future career. The data in Table 33 show that, a difference was observed in respect of pupils' vocational choices. It may be seen that some of the vocations were characteristically marked by girls only. They included vocations such as dentistery, nursing, teaching, steno-typist, air hostess etc. etc. The boys on the other hand were found to aspire to become electricians, architects, librarians, agricultural scientists, bank managers, magistrates, ship-captains, pilots etc.

Out of 164 vocations in the list, Angami boys and girls selected 48 and 29 vocations respectively. Ao boys and girls selected 54 and 32 vocations respectively, whereas Sema boys selected 41 vocations and Sema girls marked 30 different vocations. All the pupils (N = 674) marked 97 vocations altogether out of the list. Further analysis of the data revealed that Angami pupils choose as many as 61 vocations out of 97 in the list, 16 vocations being common to Angami boys and girls. Likewise, Ao and Sema pupils chose 67 and 60 vocations respectively, 19 and 11 vocations being common to the boys and girls in each case.

TABLE 33 : DATA SHOWING THE VOCATIONAL CHOICES OF PUPILS TRIBE WISE AND SEX WISE

Sl No	Vocation	Angami		Ao		Sema		Total
		Boys	Girls	Boys	Girls	Boys	Girls	
1	2	3	4	5	6	7	8	9
1.	Physician	4	2	1	1	2	-	10
2.	Surgeon	2	1	-	-	-	1	4
3.	Dentist	-	-	-	-	-	1	1
4.	Nurse	-	32	-	33	-	32	97
5.	Compounder	2	-	-	1	-	6	9
6.	Veterinary Doctor	3	1	2	-	-	1	7
7.	X-ray Technician	-	2	1	2	-	-	5
8.	Engineer	24	1	21	1	30	6	83
9.	Diploma Engineer	3	1	3	-	5	-	12
10.	Overseer	3	-	1	-	4	4	12
11.	Mechanic	-	1	1	-	-	-	2
12.	Electrician	-	-	1	-	-	-	1
13.	Architect	2	-	-	-	-	-	2
14.	Motor Mechanic	1	-	3	-	-	1	5
15.	Principal	-	-	1	2	-	-	3

1	2	3	4	5	6	7	8	9
16.	Professor	1	2	1	2	1	-	7
17.	Headmaster	-	-	-	1	-	1	2
18.	Primary Teacher	1	5	-	2	1	5	14
19.	Assistant Teacher	-	4	-	5	-	8	17
20.	Librarian	-	-	1	-	-	-	1
21.	Peon	-	-	-	-	-	1	1
22.	Agricultural Scientist	1	-	1	-	3	-	5
23.	Scientist	3	-	2	-	1	-	6
24.	Farmer	-	-	-	-	-	2	2
25.	Agricultural Inspector	2	1	2	1	1	-	7
26.	Bank Manager	1	-	1	-	3	-	5
27.	Cashier	-	-	-	-	1	-	1
28.	Accountant	1	2	-	-	-	-	3
29.	Steno-typist	-	1	-	1	-	-	2
30.	Chartered Accountant	1	-	-	-	1	-	2
31.	Pastor	-	-	1	-	-	-	1
32.	Evangelist	5	1	1	2	-	2	11
33.	Postman	-	-	-	-	1	-	1
34.	Magistrate	-	-	1	-	-	-	1
35.	Lawyer	3	-	4	2	3	-	12
36.	Clerk	-	4	2	3	1	2	12

1	2	3	4	5	6	7	8	9
37.	High Court Clerk	1	-	-	-	-	-	1
38.	Police Commissioner	1	-	2	-	2	-	6
39.	Police Inspector	3	-	6	2	3	-	14
40.	Policeman	-	-	1	-	1	-	2
41.	Bus Driver	-	-	1	-	-	-	1
42.	Conductor	-	-	1	-	-	-	1
43.	Station Master	-	-	-	-	-	1	1
44.	Circle Officer	-	-	1	3	1	2	7
45.	Watchman	2	-	-	-	-	-	2
46.	Army Officer	6	-	8	-	1	1	16
47.	Navy Officer	6	-	1	-	4	4	15
48.	C.I.D. Officer	-	-	-	1	1	-	2
49.	Post-Master	1	-	-	-	-	-	1
50.	Ship Captain	3	-	-	-	1	-	4
51.	Air-Hostess	-	15	-	15	-	5	35
52.	Pilot	6	-	2	-	3	-	11
53.	Prime Minister	-	-	-	-	2	-	2
54.	President	1	-	1	-	-	-	2
55.	Minister	1	-	-	-	2	-	3
56.	Ambassador	-	-	5	-	1	-	6
57.	M.L.A.	-	-	1	-	7	-	8

1	2	3	4	5	6	7	8	9
58.	M.P.	-	-	2	-	-	-	2
59.	Writer	-	1	-	-	-	-	1
60.	Journalist	3	1	1	-	-	-	5
61.	Publisher	-	1	-	-	-	-	1
62.	Canteen Contractor	-	-	-	-	-	1	1
63.	Tourist Reception Officer	-	1	-	-	-	-	1
64.	Film Actor	1	-	1	1	1	-	4
65.	Music Director	-	4	1	3	-	3	11
66.	Film Director	1	2	-	-	-	-	3
67.	Singer	3	5	2	5	2	5	22
68.	Classical Dancer	-	-	-	1	-	-	1
69.	Radio Announcer	-	3	-	5	-	1	9
70.	News Reader	-	-	1	1	-	-	2
71.	Businessman	4	-	3	1	1	-	9
72.	Shop Keeper	-	-	1	-	-	-	1
73.	Salesman	1	-	-	-	-	-	1
74.	Social Worker	1	-	1	-	-	2	4
75.	L.I.C. Officer	-	-	-	2	-	-	2
76.	Income Tax-Officer	-	-	-	1	-	-	1
77.	Excise Inspector	-	-	2	1	1	-	4
78.	Forest Officer	-	-	1	-	3	1	5
79.	Ranger	1	3	2	-	1	-	7
80.	Chemist	-	-	1	-	-	-	1

1	2	3	4	5	6	7	8	9
81.	Contractor	1	-	2	-	1	-	4
82.	Tailor	-	-	1	-	-	-	1
83.	Poet	-	2	-	-	-	2	4
84.	Primary School Headmaster (Pandit)	-	-	-	-	-	1	1
85.	Poultry Farmer	-	-	-	-	1	-	1
86.	I.A.S. Officer	7	7	6	3	5	5	33
87.	Sportsman	4	-	2	-	-	-	6
88.	General Manager (Transport)	-	-	-	-	1	-	1
89.	Block Development Officer	-	-	1	-	-	-	1
90.	I.G.P.	1	-	-	-	-	-	1
91.	S.P.	1	-	-	-	1	-	2
92.	D.S.P.	2	-	1	-	1	1	5
93.	S.D.O.	-	-	1	-	1	-	2
94.	Chief Conservator of Forest	1	-	1	-	-	-	2
95.	D.F.O.	1	-	-	-	-	-	1
96.	Personal Secretary	1	-	-	-	-	-	1
97.	D.S.I.	2	1	-	1	-	-	4
	Total Students	130	107	116	106	107	108	674
	Total Vocations	48	29	54	32	41	30	97

Classified in terms of social prestige categories, it was revealed that 12 vocations were found to have high social prestige (median value between 1 and 3), whereas 76 and 9 vocations belonged to average (median value between 3+ and 6) and low (median value between 6+ and 9) prestige categories respectively. The number and percentage of pupils belonging to different tribes sex wise in each of these categories are given in Table 34.

Out of 61 different vocations preferred by Angami pupils 7 were found to belong to high, 52 to average, and 2 to low social prestige categories. Likewise out of 67 different vocations chosen by Ao pupils 8, 54 and 5 vocations were found to have high, average and low prestige values respectively. Again, out of 60 different vocations preferred by Sema pupils 8 vocations belonged to high, 49 to average and 3 to low prestige value.

It was further revealed that there were 22 vocations found common among the boys of the Angami, Ao and Sema tribes of which 3 belonged to high and 19 to average prestige categories. Subjects in the high prestige categories opted to become Professors, Scientists and IAS officers. Those in the average category would like to become Physicians, Engineers, Diploma Engineers, Overseers, Agricultural Scientists,

TABLE 34 : DATA SHOWING THE VOCATIONAL CHOICES OF PUPILS IN DIFFERENT PRESTIGE CATEGORIES TRIBE WISE AND SEX WISE

Sl No	Group	High	Average	Low
1.	Angami boys	16 (12.31%)	111 (85.38%)	3 (2.31%)
2.	Angami girls	10 (9.35%)	97 (90.65%)	- -
3.	Ao boys	19 (16.38%)	92 (79.31%)	5 (4.31%)
4.	Ao girls	7 (6.60%)	99 (93.40%)	- -
5.	Sema boys	19 (17.76%)	86 (80.37%)	2 (1.87%)
6.	Sema girls	6 (5.55%)	101 (93.52%)	1 (0.93%)

Agricultural Inspectors, Bank Managers, Lawyers, Police Commissioners, Police Inspectors, Army Officers, Navy officers, Pilots, Film Actors, Contractors and D.S.Ps.

Out of 57 vocations opted by girls, there were 10 vocations found common among the girls belonging to three tribes and all of whom fall in the average prestige category. They would like to become Nurses, Engineers, Primary teachers, Assistant teachers, Evangelists, Clerks, Air-hostesses, Music Directors, Singers and Radio announcers.

It may be interesting to note that out of 97 vocations preferred by 674 pupils, 19 vocations were marked by 66 per cent of the sample. These 19 vocations include 1 vocation from high prestige category namely IAS officer and 18 from average prestige category. There were 33 pupils in the former and 413 in the latter prestige category. Data on those is given in Table-35.

5.32 Qualitative Analysis of Vocational Choices SES wise and Sex Wise

The vocational choices of boys and girls of the different tribes belonging to three SES groups were also analysed to see if there existed differences among them. The data on vocations preferred by them is given in Table-36.

TABLE 35 : DATA SHOWING THE POPULAR VOCATIONS OF PUPILS TRIBE WISE

Sl No	Vocation	Angami	Ao	Sema	Total
1.	Nurse	32*	33	32	97
2.	Engineer	25	22	36	83
3.	Air-Hostess	15	15	5	35
4.	I.A.S. Officer	14	9	10	33
5.	Singer	8	7	7	22
6.	Assistant Teacher	4	5	8	17
7.	Army Officer	6	8	2	16
8.	Navy Officer	6	1	8	15
9.	Primary Teacher	6	2	6	14
10.	Police Inspector	3	8	3	14
11.	Diploma Engineer	4	3	5	12
12.	Overseer	3	1	8	12
13.	Lawyer	3	6	3	12
14.	Clerk	4	5	3	12
15.	Evangelist	6	3	2	11
16.	Pilot	6	2	3	11
17.	Music Director	4	4	3	11
18.	Physician	6	2	2	10
19.	Businessman	4	4	1	9
	Total Pupils	159	140	147	446
	Percentage	67%	63%	68.37%	66%

* indicates number of pupils.

(a) The Vocational choices of Angami students belonging to three SES groups showed the following characteristics:

(i) At the high SES level, 5 vocations were reported to be common between boys and girls who would prefer to become IAS officers (7.9%), Singers (3.40%), Physicians (2.27%), Surgeons (2.27%), and Evangelists (2.27%).

(ii) At the middle SES level, 7 vocations were found to be common to both boys and girls who opted to be Singers (4.59%), I.A.S. officers (3.44%), Physicians (2.29%), Accountants (2.29%), Journalists (2.29%), Engineers (2.29%), and Professors (2.29%).

(iii) At the low SES level, 4 vocations were found common between boys and girls who chose to be I.A.S. officers (6.45%), Engineers (4.83%), Primary Teachers (4.83%), and District School Inspectors (3.22%).

(b) The vocational choices of Ao pupils at the three SES levels showed as follows:

TABLE 36 : DATA SHOWING THE NUMBER OF DIFFERENT VOCATIONS PREFERRED SES WISE AND SEX WISE

Sl No	Group	SES level		
		High	Middle	Low
1.	Angami boys	28 (43)	30 (40)	22 (30)
2.	Angami girls	20	17	12
3.	Ao boys	22 (33)	25 (39)	27 (36)
4.	Ao girls	15	18	13
5.	Sema boys	17 (30)	24 (38)	20 (32)
6.	Sema girls	16	20	13

Data in brackets indicate the number of vocations preferred by both boys and girls.

(i) At the high SES level, 4 vocations were marked by both boys and girls who preferred to be I.A.S. officers (9.37%), Agricultural Inspectors (4.83%), Lawyers (4.83%), Circle Officers (3.12%).

(ii) At the middle SES level, 4 vocations were found common to both boys and girls who aspired to become Engineers (9.63%), lawyers (2.40%), Film Actors (2.40%), and News Readers (2.40%).

(iii) At the low SES level, 4 vocations were found common to both boys and girls who would like to be Police Inspectors (6.66%), Singers (6.66%), Clerks (5.33%), and Evangelists (2.66%).

(c) Vocational choices of Sema students belonging to three SES groups showed as follows:

(i) At the list SES level, 3 vocations were reported to be common to both boys and girls who opted to be I.A.S. officers (11.42%), Navy officers (5.71%), and Singers (5.71%).

(ii) At the middle SES level, 6 vocations were selected by both boys and girls. Theyopted to become Engineers (17.10%), Navy Officers (3.9%), Clerks (2.63%), Singers (2.63%), Forest Officers (2.63%), and I.A.S. officers (2.63%).

(iii) At the low SES level, only one vocation namely that of Engineering (14.50%) was found common to both boys and girls.

5.33 Qualitative Analysis of the Reasons Behind Vocational Choices

Vocational choice is the result of a process happening over a period of time, during which a series of factors pre-dispose the individual towards the choice of certain types of vocations and limit or prohibit his choice of others. Not only the educational system plays a particularly important role in choice, but the informal means of guidance such as parents and friends also found to influence the vocational choice of an individual to a great extent. To investigate into the reasons behind the vocational choices of the pupils, a list of 19 reasons was attached to the list of vocations. The pupils were asked to tick mark the number(s) of reason(s) which influenced their vocational choice. The data on reasons behind vocational choices are presented in Tables 37 and 38.

Data in bracket indicates the percentage of pupils preferring the given vocations.

TABLE 37 : DATA SHOWING THE REASONS BEHIND VOCATIONAL CHOICES TRIBE WISE AND SEX WISE (N = 674)

Reasons (Sl.Nos)	Angami		Ao		Sema		Total	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1.	49	42	20	42	16	18	85	102
2.	18	11	6	8	10	8	34	27
3.	3	10	5	9	5	13	15	32
4.	19	17	22	11	5	18	46	46
5.	28	28	19	9	16	12	63	49
6.	29	14	30	8	15	24	74	46
7.	29	30	24	42	7	40	60	112
8.	19	12	21	15	31	17	71	44
9.	3	4	4	-	4	3	11	7
10.	38	22	37	26	38	30	113	78
11.	10	4	16	2	5	6	31	12
12.	12	9	14	17	21	18	47	44
13.	18	6	15	13	11	33	44	52
14.	10	11	6	6	9	8	25	25
15.	12	19	12	14	16	7	40	40
16.	15	6	11	9	11	2	37	17
17.	59	24	33	37	35	37	127	98
18.	21	19	41	30	42	27	104	76
19.	89	64	70	60	64	39	223	163
Total	483	352	406	358	361	360	1250	1070
N	130	107	116	106	107	108	353	321

TABLE 38 : DATA SHOWING THE FIRST FIVE REASONS FOR SELECTING VOCATIONS IN ORDER OF PREFERENCE TRIBE WISE AND SEX WISE

Rank	Angami		Ao		Sema		Total	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1	19*	19	19	19	19	7	19	19
2	17	1	18	1	18	19	17	7
3	1	7	10	7	10	17	10	1
4	10	5	17	17	17	13	18	17
5	6	17	6	18	8	10	1	10

* Indicates the Serial Number of Reason as in the Scale.

Discussion

As may be seen, the vocational choices of Angami boys were mostly influenced by considerations implicit in Reasons vide serial numbers 19, 17, 1, 10, and 6. Reasons proper for selecting vocations in order of preference being 'I will be doing my duty for the nation being in this vocation', 'the subjects which I have selected in my course will be useful in this vocation', 'I like the work involved in this vocation', 'This vocation enjoys the highest prestige in our society', and 'My father thinks this vocation suits me'. It therefore appeared that the Angami boys were found to have service to nation as the most important single factor in choosing a career in their future life. They were also found to be influenced by their courses of study as they felt that the same will be useful in the vocation they would like to adopt. The second most important consideration for preferring a particular vocation by Angami boys thus appeared to be their favourite subjects of study which they either like best or considered most important. The third reason for selecting vocation in order of preference by the Angami boys was that they liked the work involved in a particular vocation. The fourth and fifth reasons in order of preference pertained to the high prestige enjoyed by vocation in Angami tribe and parental aspirations for their ward's future career.

The data on Angami girls revealed that they shared with their boys counterparts 'reasons' behind their vocational choices in as much as they like Angami boys were guided by national service as the most important factor. Again, Angami girls were seen to share with Angami boys reasons for selecting vocations of their choices vide serial numbers 1 and 17. While the reason vide serial number 1 indicated the importance of work involved in the selection of a particular vocation, reason number 17 reflected the choice of vocation in terms of the special subjects of study at the school. However, Angami girls, unlike their boys counterparts, gave reason number 5 i.e. 'I possess the ability to do the work involved in this job' as the fourth most important reason behind selecting a vocation. This is quite a revealing finding in as much as Angami girls were found to be conscious of their potentialities vis-a-vis choosing a career in their future life. However, 30 Angami girls out of 107 revealed that they would mostly go by their mother's advice in choosing their future career.

The underlying reasons behind vocational choices as given by Ao boys were mostly influenced in order of preference by the reasons stated as 'I will be doing my duty for the nation being in this vocation', 'I always get good marks in the subjects which are necessary to be successful in this vocation',

'This vocation enjoys the highest prestige in our society', 'The subjects which I have selected in my course will be useful in this vocation', and 'My father thinks this vocation suits me'. It may be seen that, like the Angami pupils, service to nation was mentioned to be the most important factor for choosing a particular vocation in case of Ao boys too. The social prestige of the vocation in their society was another important consideration in determining the vocational choice. It is quite interesting to note that subjects offered at the school and the consistent good performance in those subjects were found to be the other two important factors governing the vocational choice of Ao boys. The fifth reason in order of preference was cited as their fathers advise them to select the particular vocation. Out of 116 Ao boys, 30 boys revealed that they mostly go by their father's advice in choosing their vocation for future life.

The data on Ao girls revealed that they too share with their boys counterparts the reason number 19 behind their vocation choice. Service to nation was therefore, the most important consideration governing the choice of Ao girls. Again, Ao girls were seen to share with Ao boys the reasons vide serial numbers 17 and 18 for selecting vocations of their choices. These reasons pertained to the usefulness of the subjects offered in the course relevant to the vocation and

the high level of performance so obtained in these subjects by Ao girls. But unlike the Ao boys the reasons vide serial numbers 1 and 7 were ranked second and third respectively in order of preference by Ao girls. While the reason vide serial number 1 indicated the importance of work involved in the selection of a particular vocation, reason number 7 reflected the choice of vocation on the lines suggested by mother's advice. As regards reasons vide serial numbers 1 and 7 are concerned, they were found to have similarity in the choice of particular vocation with the girls belonging to their counterparts in Angami tribe.

Further, the data on Sema boys revealed that the underlying reasons for selecting their vocations were mostly governed by the reasons bearing serial numbers 19, 18, 10, 17 and 8. Reasons proper for selecting vocations in order of preference being 'I will be doing my duty for the nation being in this vocation', 'I always get good marks in the subjects which are necessary to be successful in this vocation', 'This vocation enjoys the highest prestige in our society', 'The subjects which I have selected in my course will be useful in this vocation', and 'People earn a lot of money in this vocation'. As far as first four reasons behind vocational choices are concerned, Sema boys were found in no way different from Ao boys. But at the fifth place, reason vide serial

number 8 i.e. earning from the particular vocation was one of the major factors governing the vocational choices of Sema boys. As many as 31 Sema boys out of total number of 107 boys stated that the reason behind their vocational choices was higher earning.

The data on Sema girls show that their vocational choices were mostly influenced by considerations implicit in reasons vide serial numbers 7, 19, 17, 13 and 10. Reasons proper for selecting vocations in order of preference being, 'My mother wishes that I enter this vocation', 'I will be doing my duty for the nation being in this vocation', 'The subjects which I have selected in my course will be useful in this vocation', 'One of my relatives had advised me to select this vocation', and 'This vocation enjoys the highest prestige in our society'. It appeared that in determining the vocational choices of Sema girls, mother's advice played a significant role. They ranked this reason in the first place. The second and third reasons in order of preference given by Sema girls pertained to the service to nation being in that vocation and the usefulness of the subjects so offered to be successful in that vocation. Again, the reason vide serial number 13 i.e. 'One of my relative advised me to select this vocation' was the one quite distinct found to influence the

vocational choices of Sema girls when compared with their counterparts in Angami and Ao tribes. However, the fifth reason in order of preference was the social prestige enjoyed by the vocation in Sema tribe.

One very important difference worth noticing was that a vast majority of girls belonging to the three tribes reported that they would choose their vocation in accordance with the wish of their mothers. In the case of Angami and Ao boys, father's advice was reported as playing a significant role in determining their vocational choices but for Sema boys earning from a vocation appeared as an influencing factor in choosing the same.

C H A P T E R - VI

SUMMARY AND CONCLUSION

The present study aimed at comparing the pupils belonging to the three different Naga tribes - Angami, Ao, and Sema, on their self-perception, socio-economic status, vocational and educational aspirations and academic achievement. Psychological researches have revealed that the concept of self is useful in understanding the dynamics of personality and behaviour. The self gives to personality its dynamic and unique character. The concept of self is accepted as the one related to perception and as a variable in motivation. The core of the individual's perceptual field is his self-concept. The self evaluation greatly influences an individual's behaviour in almost everything he does. In many cases, as the teacher gains an understanding of the nature of a pupil's self-perception, he is in a position to predict his future motivation and degree of success in the classroom.

Academic achievement is of paramount importance particularly in the socio-economic and cultural context. Self-concept plays a significant role toward the total achievement. Sinha (1966) and Brookover, Thomas and Paterson (1964) in their studies established a causal role on self-concept in determining the grades at school. The research

evidence based on various studies conducted on tribal children is almost conclusive that pupils with favourable environment show higher academic achievement than those from unfavourable environment.

Another manifestation of self-concept is vocational choice. Super (1953) has developed a proposition that 'preparing for and choosing an occupation essentially involves a process of development and implementing a self-concept'. This process involves a considerable role playing - related to the kind of self-perception the individual has. The process begins during the middle school years. At this stage, the pupils begin to think of educational choices in relation to tentitive career interests in broad fields. Therefore, the knowledge of self-perception and vocational and educational aspirations of Naga tribal pupils would serve as a basis for the curriculum planning at different stages of education in the State of Nagaland. The present study contributed substantially towards this end.

6.10 Objectives

The study was designed to realise the following objectives:

1. To find out the differences in the self-perception of the pupils belonging to the Angami, Ao and Sema tribes.

2. To find out the differences in self-perception among pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

3. To study the differences in vocational choices of the pupils belonging to the Angami, Ao and Sema tribes.

4. To study the differences in vocational choices of the pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

5. To find out the reasons for vocational choices of pupils belonging to the Angami, Ao and Sema tribes.

6. To find out the educational aspirations of pupils belonging to the Angami, Ao and Sema tribes.

7. To find out the educational aspirations of pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

8. To find out the differential academic achievement of pupils belonging to the Angami, Ao and Sema tribes.

9. To find out the differential academic achievement of pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

10. To construct (a) Vocational Aspiration Scale; and (b) Vocational Prestige Value Scale for measuring vocational choices of pupils in Nagaland.

11. To construct an Achievement Test in General Science and Mathematics for pupils of Class IX in Nagaland.

6.20 Hypotheses

The following hypotheses were formulated and tested:

H: 1 There is statistically no difference in self-perception of pupils belonging to the Angami, Ao and Sema tribes.

H: 2 There is statistically no difference in the vocational choices of pupils belonging to the Angami, Ao and Sema tribes.

H: 3 There is no significant difference in the educational aspirations of pupils belonging to the Angami, Ao and Sema tribes.

H:4 There is no significant difference in the academic achievement of pupils belonging to the Angami, Ao and Sema tribes.

H:5 There is statistically no difference in self-perception of pupils belonging to high, middle and low socio-economic status of the Angami, Ao and Sema tribes.

H:6 There is statistically no difference in the vocational choices of pupils belonging to high, middle and low socio-economic status of the Angami, Ao, and Sema tribes.

H:7 There is no significant difference in the educational aspirations of pupils belonging to high, middle and low socio-economic status of the Angami, Ao, and Sema tribes.

H:8 There is no significant difference in the academic achievement of pupils belonging to high, middle and low socio-economic status of the Angami, Ao, and Sema tribes.

6.30 The Sample Selection

In order to conduct the present study, two different sets of samples were drawn: (i) For testing the hypotheses a random sample of 674 pupils (353 boys and

321 girls) of standard IX belonging to Angami, Ao and Sema tribes drawn from 10 High Schools of three districts namely - Kohima, Mokokchung and Zunheboto. Due representation was given to sex and type of schools in the sample. Further, in order to see differences if any, among the pupils belonging to Angami, Ao and Sema tribes with respect to their socio-economic status, the total sample was divided into high, middle and low socio-economic groups; (ii) For determining the social prestige values of different vocations a purposive sample of 94 adults belonging to Angami, Ao and Sema tribes was chosen.

6.40 Tools and Techniques Employed

A number of tools were employed in order to get data relevant to the variables in the study. The included Deo-Jogawar Self-Concept Inventory, modified version of the Kuppuswamy's Socio-Economic Status Scale, Kamat's Educational Aspiration Scale. In addition, three instruments viz., Vocational Aspiration Scale, Vocational Prestige Value Scale, and an Achievement Test in General Science and Mathematics were prepared by the investigator specially for use in the study.

The data were collected in two parts. The data regarding the pupils' Self-perception, Socio-Economic Status,

Vocational and Educational Aspirations and Academic Achievement were obtained by administering the tools. The scoring sheets duly completed were collected and checked whether all the items were answered by the pupils. Scoring was done in accordance with the relevant scoring keys. Thereafter, the data were subjected to the statistical treatment as under:

(i) Means and SDs of socres on various variables of pupils belonging to the Angami, Ao and Sema tribes were calculated.

(ii) Means and SDs of scores on various variables of pupils belonging to high, middle and low SES groups of the three tribes were also computed.

(iii) The inter-group mean differences on each variable for pupils belonging to the three tribes were tested by employing 't-test' of significance for large independent samples.

(iv) The inter-group mean differences on each variable for pupils belonging to high, middle and low SES groups of the three tribes, was also tested by employing 't-test' of significance for large independent samples.

(v) To determine the social prestige values of the different vocations, median ranking for each vocation was computed.

(vi) The qualitative analysis of the vocational choices made by the pupils of various groups as well as the reasons given for preferring the vocation was done.

6.50 Conclusions

1. (a) While the Sema pupils were found to be significantly different from their Angami and Ao counterparts in respect of self-perception, the pupils belonging to the Angami and Ao tribes appeared similar;

(b) The boys belonging to Angami and Sema tribes were found to be significantly different from the girls of the same tribe but no such difference was found between Ao boys and girls on self-perception;

(c) Self-perception of Sema boys was significantly different from those of Angami and Ao boys;

(d) The girls belonging to the three tribes were found similar on self-perception; and

(e) The Angami and Ao pupils belonging to high, middle and low SES groups were not found to differ significantly on self-perception but Sema pupils belonging to low SES group were

found significantly different from their counterparts in high and middle SES levels as regards self-perception.

2. (a) While the Sema pupils were found to be significantly different from Ao pupils as regards their vocational choices, they were found similar to their Angami counterparts. Also, the Angami and Ao pupils appeared similar on the same variable;

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

(c) The vocational choices of Sema boys were found to be significantly different from those of the boys belonging to the Angami and Ao tribes;

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

(e) The vocational choices of the Angami and Ao pupils belonging to high, middle and low SES groups were not found to differ significantly but those of Sema

pupils belonging to high SES group were significantly different from their counterparts in low SES group.

3.(a) While the educational aspirations of Ao pupils were found to be significantly different from Sema pupils, they were found similar to their Angami counterparts. However, the Angami and Sema pupils appeared similar on the same variable;

(b) The educational aspirations of boys belonging to Angami, Ao and Sema tribes differed significantly from girls in the respective tribes;

(c) Boys belonging to the three tribes were found to have similar educational aspirations;

(d) The educational aspirations of girls belonging to the Angami and Ao tribes were found to differ significantly from their counterparts in Sema tribe whereas the Angami and Ao girls appeared similar on this variable; and

(e) While the Angami pupils in the high SES group were significantly different from those belonging to the low SES group on educational aspirations they were found to be similar to their counterparts at the middle SES level. The educational aspirations of

Ao pupils belonging to high SES group were found to be significantly different from their counterparts at middle and low SES levels. But Sema pupils belonging to high, middle and low SES groups were not found to differ significantly on educational aspirations.

4.(a) The academic achievement of the Angami pupils was significantly different from those of the Ao and Sema pupils, whereas the pupils belonging to Ao and Sema tribes were not found to differ significantly as far as academic achievement is concerned;

(b) The academic achievement of boys belonging to the three tribes was significantly different from those of the girls in the respective tribes;

(c) The academic achievement of Angami boys was significantly different from those of their counterparts in the Ao and Sema tribes, whereas the boys belonging to Ao and Sema tribes were found to be similar on the same variable;

(d) The girls belonging to three tribes were not found to differ significantly on academic achievement as such; and

(e) The academic achievement of Angami pupils belonging to the high and middle SES groups was found similar. But the academic achievement of Angami pupils belonging to low SES group was found to be significantly lower than their counterparts at high as well as middle SES levels. While the academic achievement of Ao pupils belonging to high SES group was found to be significantly higher than those at the low SES level, no significant difference was found when compared with those in the middle SES group. Further, the Sema pupils belonging to high, middle and low SES groups were not found to differ significantly on academic achievement.

5. The data on qualitative analysis of vocational choices and the reasons behind the preferences revealed as follows:

(a) The pupils (N=674) marked 97 different vocations altogether out of a list of 164 vocations;

(b) Angami pupils chose as many as 61 vocations out of 97 in the list, 16 vocations being common to Angami boys and girls. Likewise

Ao and Sema pupils chose 67 and 60 vocations respectively, 19 and 11 vocations being common to the boys and girls in each case;

(c) Classified in terms of social prestige categories, it was revealed that 12 vocations were found to have high social prestige whereas 76 and 9 vocations belonged to average and low prestige categories respectively. Out of 61 different vocations preferred by Angami pupils, 7 were found to belong to high, 52 to average and 2 to low social prestige categories. Likewise, out of 67 different vocations chosen by Ao pupils, 8, 54 and 5 vocations were found to have high, average and low prestige values respectively. Again, out of 60 different vocations preferred by Sema pupils, 8 vocations belonged to high, 49 to average and 3 to low prestige value;

(d) Further, the analysis of vocational choices SES wise revealed - (i) in the high SES group, the Angami pupils marked 43 vocations as against 33 and 30 of Ao and Sema pupils respectively, (ii) in the middle SES group there were 40, 39, and 38 different vocations chosen by Angami, Ao and Sema

pupils respectively, and (iii) at the low SES level, the Ao pupils chose as many as 36 vocations whereas Angami and Sema pupils marked 30 and 32 different vocations respectively;

(e) It may be interesting to note that out of 97 vocations preferred by 674 pupils, 19 vocations (1 from high and 18 from average social prestige category) were the most popular ones. These vocations were marked by majority (66%) of pupils.

(f) In order to find out the reasons behind vocational choices, a list of 19 reasons was attached to the list of vocations. It was found that 8 reasons played significant role in determining the vocational choices. These reasons in order of their ranking were as follows:

i) I will be doing my duty for the nation being in this vocation.

ii) The subjects which I have selected in my course will be useful in this vocation.

iii) This vocation enjoys the highest prestige in our society.

iv) I like the work involved in this vocation.

(v) I always get good marks in the subjects which are necessary to be successful in this vocation.

(vi) My mother wished that I enter this vocation.

(vii) My father thinks this vocation suits me.

(viii) People earn a lot of money in this vocation.

One very important difference worth noticing was that a vast majority of girls belonging to the three tribes reported that they would choose their vocations in accordance with the wish of their mothers. In the case of Angami and Ao boys, father's advice was reported as playing a significant role in determining their vocational choices but for the Sema boys earning from a vocation appeared as an influencing factor in choosing the same.

6.60 Recommendations

The findings of the present study may profitably be utilised for understanding the tribal pupils behaviour and their educational and vocational aspirations. The following suggestions are put forward with the hope that they may, if tried, pave the way for desired changes in the educational system of Nagaland and for the general upliftment of the Naga tribal society.

1. The pupils of the Angami, Ao and Sema tribes of Nagaland are not exposed to the social and educational programmes in the same measure. However, they are becoming conscious of their identity as tribal groups in the state. This suggests that the gap between various tribal groups need to be bridged. Special attention may, therefore, be given to the underdeveloped tribal groups through various developmental programmes. Again, since the socio-economic background of pupils is found to be an important factor in determining their self-concept, educational and vocational aspirations and academic achivement, their overall socio-economic conditions need to be improved, among other things, by extending facilities for agriculture, small scale industries and other form of self-employment rural developmental programmes.

2. The boys and girls of different tribes have shown varying interest in their preference toward vocational choice. Some of the vocations were characteristically liked exclusively by boys whereas certain others were preferred by girls only. Distinct interests and needs of boys and girls be kept in mind while offering subject combinations at the secondary stage in both the academic as well as vocational streams.

3. It is seen that varying degrees of social prestige of different vocations serve an important factor for determining the vocational choice by an individual. As majority of students expect to enter vocations which enjoy high social prestige, it creates a discrepancy between what they think to become and the skills or type of training or education they have to acquire for that. To ensure correspondence between the two, vocational and educational guidance programme should be organised in the secondary schools in the State. This will, in turn, help them in wise selection of vocations in accordance with their talents, interests, and aptitudes.

4. Work experience programme should be suitably modified and vigorously followed in the school curriculum. This will provide the students a proper understanding of what a certain type of work pertains to and afford an opportunity to acquire desirable attitudes for that work.

5. Knowledge of self-concept would help the teacher to understand the behaviour of pupils. It may, therefore, well be that teachers during their training, both preservice as well as inservice, are duly equipped with the know-how accordingly.

6.70 Suggestions for Further Research

It is difficult to draw an exhaustive list of possible research areas in the field. Only such studies are proposed as are directly or indirectly related to the present study.

1. The present study was delimited to the pupils from the three Naga tribes. There are 14 major tribes in the State of Nagaland. It is, therefore, suggested that similar studies be taken up on the remaining tribal pupils for the purpose of cross-validating the findings of the present study.

2. In the present study no attempt was made to find out the relationship between the criterion variables. It may be worthwhile to take up correlational studies in this area.

3. The tribal pupils of Nagaland may be compared with the tribal pupils from other parts of the country with regard to the variables in question.

4. Creativity is the entelechy of life and one realizes ones potential mainly through it. This concept is axiomatic with the educational theory as well as the practice. In view of the increasing significance of

creativity of an individual vis-a-vis education, some studies may be undertaken to establish relationship between self-concept and creativity.

5. Group dynamics is another important related area of research. Its knowledge for a teacher is very essential. Since in group dynamics an individual's behaviour is observed in the presence of other members of the group, it is important and desirable to study some aspects of group dynamics in relation especially to self-concept of an individual.

6. Radical changes are taking place in the teaching-learning process. Teaching now is not a one-way traffic but a two-way effective communication. The interaction of a pupil with the teacher in classroom mostly depends on how he perceives himself or how others perceive him or what is his view of others perception about him. Some concrete results may be obtained in studying classroom interaction analysis in relation to self-concept of pupils.

7. The Vocational Prestige Value Scale used in the present study has been developed on adult members of the Angami, Ao and Sema tribes. The 'Scale' may be validated on larger adult sample drawn from all the major tribes in Nagaland.

8. In Nagaland, new pattern of education based on the 10+2+3 has been introduced from this year. Therefore, a number of diversified courses need to be organised to suit the needs of individual pupils within the Naga tribal society. Again, a comprehensive comparative study for assessing the educational and vocational aspirations of pupils in relation to the requirements of the Nagas need to be carried out for fruitfully designing the curriculum at the secondary stage.

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APPENDICES

Deo-Jogavar Self Concept Inventory

1. Name _____ 2. Sex : Boy/Girl

3. School _____

4. Class _____ 5 Roll No. _____

6. Tribe to which you belong _____

INSTRUCTIONS: —

In this questionnaire supplied to you there are a number of adjectives on the left hand side of the page. On the right hand side of the page you find three major columns, namely **'How I am ?'** **'How I would like to be ?'** and **'How others perceive me ?'** Under each of three columns there are four sub-columns i.e. very much, much, little and very little. These four words denote degrees of proportion: Highest, high, less and lowest.

Read the adjective carefully. See the first column, How I am ? Think to what extent the adjective describes you and tick mark (✓) into the bracket opposite this adjective in that column.

Remember you have to mark at only one Place out of the four columns.

Then turn to the next major column, How I would like to be? Think about the adjective in that light and mark in the bracket under that column.

Remember here also you have to mark at only one place

Turn to the last major column. How others perceive me ? Think about your perception about others assessment regarding you and mark into bracket under that column. When you have done by this way, proceed to the second adjective and treat it exactly in the same way you have treated the first one, then proceed to the third and so on up to the last.

Mark only those places which you most sincerely and honestly feel describe you best. Rest assured the information you volunteer will be kept most secret.

NOW TURN OVER THE PAGE AND START ANSWERING

Adjective	How I am ?				How I would like to be ?				How others perceive me ?			
	very much	much	little	very little	very much	much	little	very little	very much	much	little	very little
1. Forgiving	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
2. Altruistic	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
3. Friendly	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
4. Helpful	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
5. Able to bear jesting & joking.	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
6. Mischievous	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
7. Unsocial	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
8. Quarrelsome	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
9. Arrogant	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
10. Sentimental	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
11. Kind	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
12. Happy	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
13. Loving	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
14. Enduring	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
15. Jealous	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
16. Shy	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
17. Impatient	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
18. Whimsical	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
19. Peevish	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
20. Reliable	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
21. Idealistic	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )

Adjective	How I am ? very much	much	little	very little	How I would like to be ? very much	much	little	very little	How others perceive me ? very much	much	little	very little
22. Who Keeps his word	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
23. Honest	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
24. Punctual	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
25. Disciplined	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
26. Adventurous	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
27. Resolute	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
28. Self-confident	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
29. Back-biting	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
30. Lazy	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
31. Pretendious	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
32. Bossy	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
33. Humorous	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
34. Irritated by injustice	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
35. Grateful	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
36. Stubborn	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
37. Boastful	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
38. Revengeful	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
39. Grudging	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
40. Proud	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
41. Restrainable	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
42. Selfish	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )

Adjective	How I am ?				How I would like to be ?				How others perceive me ?			
	very much	much	little	very little	very much	much	little	very little	very much	much	little	very little
43. Contented	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
44. Short-tempered	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
45. Greedy	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
46. Sympathetic	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
47. Coward	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
48. Dutiful	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
49. Truthful	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
50. Repenting	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
51. Virtuous	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
52. Persevering	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
53. Tidy	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
54. Responsible	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
55. Self-dependent	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
56. Shirker	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
57. Dogged	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
58. Suspicious	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
59. Vagrant	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
60. Crazy	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
61. Obedient	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
62. Bashful	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
63. Gentlemanly	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )

APPENDIX - II

INFORMATION BLANK

SOCIO-ECONOMIC STATUS SCALE

Date_____

1. Name _____ 2. Sex : Boy/Girl

3. School _____

4. Class _____ 5. Roll No. _____

6. Tribe to which you belong_____

A Education of Your Father/Guardian.

1. Last Examination Passed (School/College/University)
_____

2. Last Technical or Professional Examination Passed
_____

B Occupation of Your Father/Guardian.

1. In which organization does he work?_____

2. What is his designation?_____

3. What is the nature of the work? _____

C Income of Your Father/Guardian.

1. What is his total monthly income?_____

—★★—

APPENDIX - III

NORTH-EASTERN HILL UNIVERSITY
DEPARTMENT OF EDUCATION
NAGALAND CAMPUS

JAGDISH CHAND

VOCATIONAL ASPIRATION SCALE

1. Name_____ 2. Sex : Boy/Girl

3. School _____

4. Class_____ 5. Roll No _____

6. Tribe to which you belong_____

INSTRUCTIONS :—

In Section - 1 of this booklet, a list of 164 different vocations has been given. Please go through this list carefully and (✓) mark only <u>One</u> vocation that you would like to adopt for yourself.

In Section - II is given a list of some common reasons why people choose a particular vocation. Please go through the list of reasons carefully and tick (✓) mark any Three out of the list indicating the reasons why you would like to choose the vocation that you have (✓) marked in Section - I.

SECTION - I List of Vocations

1. Physician
2. Surgeon
3. Dentist
4. Nurse
5. Compounder
6 Vaccinator
7. Mid-wife
8. Veterinary Doctor
9. Ward Boy
10. X-ray Technician
11. Pathologist
12. Engineer
13. Diploma Engineer
14. Overseer
15. Plumber
16. Mechanic
17. Technician
18 Blacksmith
19. Turner
20. Fitter
21. Electrician
22. Draftsman
23. Architecht
24. Motor Mechanic
25. Vice-Chancellor
26. Principal
27. Professor
28. Headmaster
29. Primary Teacher
30. Assistant Teacher
31. Librarian
32. Laboratory Assistant
33. Peon
34. Agricultural Scientist
36. Scientist
36. Horticulturist
37. Farmer
38. Agricultural Inspector
39. Gardener
40. Bank Manager
41. Cashier
42. Accountant
43. Steno - typist
44. Chartered Accountant
45. Pastor
46. Deacon
47. Evangelist
48. Gaon Bora (GB)
49. Dubashi
50. Postman
51. Post Office Supervisor
52. Telegraphist
53. Magistrate
54. Judge
55. Lawyer
56. Clerk
57. High Court Clerk
58. Police Commissioner
59. Police Inspector
60. Policeman

61. Bus driver
62. Conductor
63. Railway Driver
64. Railway Guard
65. Station Master
66. Circle Officer (CO)
67. Ticket checker
68. Watch Man
69. Booking Clerk
70. Coolie
71. Sweeper
72. Truck Driver
73. Army Officer
74. Navy Officer
75. C.I.D. Officer
76. Bank Officer
77. Builder
78. Carpenter
79. Postmaster
80. Ship Captian
81. Computer Operator
82. Air-Hostess
83. Pilot
84. Flight Purser
85. Hotel Manager
86. Hotel Proprieter
87. Prime Minister
88. President
89. Minister
90. Governor
91. Ambassador
92. M. L. A.
93. M.P.
94. Editor
95. Writer
96. Reporter
97. Journalist
98. Publisher
99. Canteen Contractor
100. Tourist Reception Officer
101. Tourist Guide
102. Tourist Agent
103. Television Annonncer
104. Drama Actor
105. Film Actor
106. Music Director
107. Film Director
108. Singer
109. Classical Dancer
110. Radio Announcer
111. News Reader
112. Businessman
113 Shop Keeper
114. Salesman
115. Social Worker
116. Salesgirl
117. Employment Officer
118. L. I. C. Officer
119. L.I.C. Clerk
120. Income Tax Officer
121. Excise Inspector
122. Photographer
123. Painter
124. Forest Officer
125. Ranger
126. Chemist

127. Telephone Operator
128. Contractor
129. Governess
130. Tailor
131. Beautician
132. Washerman
133. Fisherman
134. Fisheries Inspector
135. Ticket Collector
136. Poet
137. Primary School Headmaster (Pandit)
138. Hotel Waiter
139. Labourer
140. Labour Officer
141. Dairy Farmer
142. Receptionist
143. Poultry Farmer
144. I. A. S. Officer
145. Sportsman
146. General Manager (Transport)
147. Cook
148. Block Development Officer
149. Deputy Secretary
150. Under Secretary
151. Director
152. Deputy Director
153. Superintendent
154. I. G. P.
155. S. P.
156. D. I. G.
157. D. S. P.
158. Sub-Divisional Officer
159. Officer on Special Duty
160. Chief Conservator of Forests
161. Divisional Forest Officer(DFO)
162. Personal Secretary
163. District School Inspector
164. Secretary

SECTION—II

REASONS FOR CHOOSING A VOCATION

1. I like the work involved in this vocation.
2. There are chances for rapid progress in this vocation.
3. One can find employment easily in this vocation.
4. My friend is also planning to enter in this vocation.
5. I possess the ability to do the work involved in this job.
6. My father thinks this vocation suits me.
7. My mother wishes that I enter this vocation.
8. People earn a lot of money in this vocation.
9. No tedious training is required for this vocation.
10. This vocation enjoys the highest prestige in our society.
11. Hard work like other vocations is not required in this vocation.
12. My teacher has suggested that I should choose this vocation.
13. One of my relatives has advised me to select this vocation.
14 There is no risk to life or health involved in this vocation.
15. I like the atmosphere in which people are engaged in this vocation.
16. Job security is more.
17. The subjects which I have selected in my course will be useful in this vocation.
18. I always get good marks in the subjects which are necessary to be successful in this vocation.
19. I will be doing my duty for the nation being in this vocation.

APPENDIX - IV

VOCATIONAL PRESTIGE VALUE SCALE

JAGDISH CHAND

C L. ANAND

1. Name_____ 2. Sex : Man/Woman

3. Are you employed ? Yes/No

If yes, state your occupation/profession_____

INSTRUCTIONS :—

Different Vocations enjoy varying degree of prestige in a particular society. The "Vocational Prestige Value Scale "is intended to study the social prestige value of different vocations in our sciety.

The 'Scale' carries a list of 164 vocations. You are requested to rate each vocation on a **Nine-Point Scale** in order of its Prestige Value. Against each vocation in the list are given digits 1, 2, 3, 4, 5, 6, 7, 8, and 9 representing the Highest, Very High, High, Above Average, Average, Below Average, Low, Very Low and the Lowest prestige respectively.

Please tick (✓) mark '1' against the vocation which in your opinion enjoys the highest prestige and '9' against the vocation having the lowest prestige. Likewise based on your opinion tick (✓) mark the other digits accordingly.

Make sure that no vocation is left out without rating. The answers will be kept strictly confidential.

P. T. O.

S. No.	Vocation	Prestige Value								
1.	Physician	1	2	3	4	5	6	7	8	9
2.	Surgeon	1	2	3	4	5	6	7	8	9
3.	Dentist	1	2	3	4	5	6	7	8	9
4.	Nurse	1	2	3	4	5	6	7	8	9
5.	Compounder	1	2	3	4	5	6	7	8	9
6.	Vaccinator	1	2	3	4	5	6	7	8	9
7.	Mid-wife	1	2	3	4	5	6	7	8	9
8.	Veterinary Doctor	1	2	3	4	5	6	7	8	9
9.	Ward Boy	1	2	3	4	5	6	7	8	9
10.	X-ray Technician	1	2	3	4	5	6	7	8	9
11.	Pathologist	1	2	3	4	5	6	7	8	9
12.	Engineer	1	2	3	4	5	6	7	8	9
13.	Diploma Engineer	1	2	3	4	5	6	7	8	9
14.	Overseer	1	2	3	4	5	6	7	8	9
15.	Plumber	1	2	3	4	5	6	7	8	9
16.	Mechanic	1	2	3	4	5	6	7	8	9
17.	Technician	1	2	3	4	5	6	7	8	9
18.	Blacksmith	1	2	3	4	5	6	7	8	9
19.	Turner	1	2	3	4	5	6	7	8	9
20.	Fitter	1	2	3	4	5	6	7	8	9
21.	Electrician	1	2	3	4	5	6	7	8	9
22.	Draftsman	1	2	3	4	5	6	7	8	9
23.	Architecht	1	2	3	4	5	6	7	8	9
24.	Motor Mechanic	1	2	3	4	5	6	7	8	9
25.	Vice-Chancellor	1	2	3	4	5	6	7	8	9
26.	Principal	1	2	3	4	5	6	7	8	9
27.	Professor	1	2	3	4	5	6	7	8	9
28.	Headmaster	1	2	3	4	5	6	7	8	9
29.	Primary Teacher	1	2	3	4	5	6	7	8	9
30.	Assistant Teacher	1	2	3	4	5	6	7	8	9
31.	Librarian	1	2	3	4	5	6	7	8	9
32.	Laboratory Assistant	1	2	3	4	5	6	7	8	9
33.	Peon	1	2	3	4	5	6	7	8	9

S. No.	Vocation	Prestige Value								
34.	Agricultural Scientist	1	2	3	4	5	6	7	8	9
35.	Scientist	1	2	3	4	5	6	7	8	9
36.	Horticulturist	1	2	3	4	5	6	7	8	9
37.	Farmer	1	2	3	4	5	6	7	8	9
38.	Agricultural Inspector	1	2	3	4	5	6	7	8	9
39.	Gardener	1	2	3	4	5	6	7	8	9
40.	Bank Manager	1	2	3	4	5	6	7	8	9
41.	Cashier	1	2	3	4	5	6	7	8	9
42.	Accountant	1	2	3	4	5	6	7	8	9
43.	Steno - typist	1	2	3	4	5	6	7	8	9
44.	Chartered Accountant	1	2	3	4	5	6	7	8	9
45.	Pastor	1	2	3	4	5	6	7	8	9
46.	Deacon	1	2	3	4	5	6	7	8	9
47.	Evangelist	1	2	3	4	5	6	7	8	9
48.	Gaon Bora (GB)	1	2	3	4	5	6	7	8	9
49.	Dubashi	1	2	3	4	5	6	7	8	9
50.	Postman	1	2	3	4	5	6	7	8	9
51.	Post Office Supervisor	1	2	3	4	5	6	7	8	9
52.	Telegraphist	1	2	3	4	5	6	7	8	9
53.	Magistrate	1	2	3	4	5	6	7	8	9
54.	Judge	1	2	3	4	5	6	7	8	9
55.	Lawyer	1	2	3	4	5	6	5	8	9
56.	Clerk	1	2	3	4	5	6	7	8	9
57.	High Court Clerk	1	2	3	4	5	6	7	8	9
58.	Police Commissioner	1	2	3	4	5	6	7	8	9
59.	Police Inspector	1	2	3	4	5	6	7	8	9
60.	Policeman	1	2	3	4	5	6	7	8	9
61.	Bus driver	1	2	3	4	5	6	7	8	9
62.	Conductor	1	2	3	4	5	6	7	8	9
63.	Railway Driver	1	2	3	4	5	6	7	8	9
64.	Railway Guard	1	2	3	4	5	6	7	8	9
65.	Station Master	1	2	3	4	5	6	7	8	9
66.	Circle Officer (CO)	1	2	3	4	5	6	7	8	9

S. No.	Vocation	Prestige Value								
67.	Ticket checker	1	2	3	4	5	6	7	8	9
68.	Watch Man	1	2	3	4	5	6	7	8	6
69.	Booking Clerk	1	2	3	4	5	6	7	8	9
70.	Coolie	1	2	3	4	5	6	7	8	9
71.	Sweeper	1	2	3	4	5	6	7	8	6
72.	Truck Driver	1	2	3	4	5	6	7	8	9
73.	Army Officer	1	2	3	4	5	6	7	8	9
74.	Navy Officer	1	2	3	4	5	6	7	8	9
75.	C.I.D. Officer	1	2	3	4	5	6	7	8	9
76.	Bank Officer	1	2	3	4	5	6	7	8	9
77.	Builder	1	2	3	4	5	6	7	8	9
78.	Carpenter	1	2	3	4	5	6	7	8	9
79.	Postmaster	1	2	3	4	5	6	7	8	9
80.	Ship Captain	1	2	3	4	5	6	7	8	9
81.	Computer Operator	1	2	3	4	5	6	7	8	9
82.	Air-Hostess	1	2	3	4	5	6	7	8	9
83.	Pilot	1	2	3	4	5	6	7	8	9
84.	Flight Purser	1	2	3	4	5	6	7	s	9
85.	Hotel Manager	1	2	3	4	5	6	7	8	9
86.	Hotel Proprieter	1	2	3	4	5	6	7	8	9
87.	Prime Minister	1	2	3	4	5	6	7	8	9
88.	President	1	2	3	4	5	6	7	8	9
89.	Minister	1	2	3	4	5	6	7	8	9
90.	Governor	1	2	3	4	5	6	7	8	9
91.	Ambassador	1	2	3	4	5	6	7	8	9
92.	M.L.A.	1	2	3	4	5	6	7	8	9
93.	M.P.	1	2	3	4	5	6	7	8	9
94.	Editor	1	2	3	4	5	6	7	8	9
95.	Writer	1	2	3	4	5	6	7	8	9
96.	Reporter	1	2	3	4	5	6	7	8	9
97.	Journalist	1	2	3	4	5	6	7	8	9
98.	Publisher	1	2	3	4	5	6	7	8	9
99.	Canteen Contractor	1	2	3	4	5	6	7	8	9

S. No.	Vocation	Prestige Value								
100.	Tourist Reception Officer	1	2	3	4	5	6	7	8	9
101.	Tourist Guide	1	2	3	4	5	6	7	8	9
102.	Tourist Agent	1	2	3	4	5	6	7	8	9
103.	Television Announcer	1	2	3	4	5	6	7	8	9
104.	Drama Actor	1	2	3	4	5	6	7	8	9
105.	Film Actor	1	2	3	4	5	6	7	8	9
106.	Music Director	1	2	3	4	5	6	7	8	9
107.	Film Director	1	2	3	4	5	6	7	8	9
108.	Singer	1	2	3	4	5	6	7	8	9
109.	Classical Dancer	1	2	3	4	5	6	7	8	9
110.	Radio Announcer	1	2	3	4	5	6	7	8	9
111.	News Reader	1	2	3	4	5	6	7	8	9
112.	Businessman	1	2	3	4	5	6	7	8	9
113	Shop Keeper	1	2	3	4	5	6	7	8	9
114.	Salesman	1	2	3	4	5	6	7	8	9
115.	Social Worker	1	2	3	4	5	6	7	8	9
116.	Salesgirl	1	2	3	4	5	6	7	8	9
117.	Employment Officer	1	2	3	4	5	6	7	8	9
118.	L I. C. Officer	1	2	3	4	5	6	7	8	9
119.	L.I.C. Clerk	1	2	3	4	5	6	7	8	9
120.	Income Tax Officer	1	2	3	4	5	6	7	8	9
121.	Excise Inspector	1	2	3	4	5	6	7	8	9
122.	Photographer	1	2	3	4	5	6	7	8	9
123.	Painter	1	2	3	4	5	6	7	8	9
124.	Forest Officer	1	2	3	4	5	6	7	8	9
125.	Ranger	1	2	3	4	5	6	7	8	9
126.	Chemist	1	2	3	4	5	6	7	8	9
127.	Telephone Operator	1	2	3	4	5	6	7	8	9
128.	Contractor	1	2	3	4	5	6	7	8	9
129.	Governess	1	2	3	4	5	6	7	8	9
130.	Tailor	1	2	3	4	5	6	7	8	9
131.	Beautician	1	2	3	4	5	6	7	8	9
1 2.	Washerman	1	2	3	4	5	6	7	8	9

S. No.	Vocation	Prestige Value								
133.	Fisherman	1	2	3	4	5	6	7	8	9
134.	Fisheries Inspector	1	2	3	4	5	6	7	8	9
135.	Ticket Collector	1	2	3	4	5	6	7	8	9
136.	Poet	1	2	3	4	5	6	7	8	9
137.	Primary School Headmaster (Pandit)	1	2	3	4	5	6	7	8	9
138.	Hotel Waiter	1	2	3	4	5	6	7	8	9
139.	Labourer	1	2	3	4	5	6	7	8	9
140.	Labour Officer	1	2	3	4	5	6	7	8	9
141.	Dairy Farmer	1	2	3	4	5	6	7	8	9
142.	Receptionist	1	2	3	4	5	6	7	8	9
143.	Poultry Farmer	1	2	3	4	5	6	7	8	9
144.	I. A. S. Officer	1	2	3	4	5	6	7	8	9
145.	Sportsman	1	2	3	4	5	6	7	8	9
146.	General Manager (Transport)	1	2	3	4	5	6	7	8	9
147.	Cook	1	2	3	4	5	6	7	8	9
148.	Block Development Officer	1	2	3	4	5	6	7	s	9
149.	Deputy Secretary	1	2	3	4	5	6	7	8	9
150.	Under Secretary	1	2	3	4	5	6	7	8	9
151.	Director	1	2	3	4	5	6	7	8	9
152.	Deputy Director	1	2	3	4	5	6	7	8	9
153.	Superintendent	1	2	3	4	5	6	7	8	9
154.	I. G. P.	1	2	3	4	5	6	7	8	9
155.	S. P.	1	2	3	4	5	6	7	8	9
156.	D. I. G.	1	2	3	4	5	6	7	8	9
157.	D. S. P.	1	2	3	4	5	6	7	8	9
158.	Sub-Divisional Officer	1	2	3	4	5	6	7	8	9
159.	Officer on Special Duty	1	2	3	4	5	6	7	8	9
160.	Chief Conservator of Forests	1	2	3	4	5	6	7	8	9
161.	Divisional Forest Officer (D. F. O.)	1	2	3	4	5	6	7	8	6
162.	Personal Secretary	1	2	3	4	5	6	7	8	9
163.	District School Inspector	1	2	3	4	5	6	7	8	9
164.	Secretary	1	2	3	4	5	6	7	8	6

—★★—

APPENDIX - V

NORTH-EASTERN HILL UNIVERSITY
DEPARTMENT OF EDUCATION
NAGALAND CAMPUS

JAGDISH CHAND

EDUCATIONAL ASPRISATION SCALE

1. Name_____ 2. Sex : Boy/Girl

3. School_____

4. Class_____ 5. Roll No_____

6. Tribe to which you belong_____

INSTRUCTIONS :—

Below are given a number of academic and professional qualifications : (indicating Certificates/Diplomas/Degrees). Tick mark (✓) the qualification you would like to acquire.

1. High School Leaving Certificate. (Matriculation).
2. Pre-Univerity (XII).
3. Certificate/Diploma from I.T.I., Polytechnic, Junior Teacher Training Institute. Nursing Training Course.
4. Bachelor's Degree : (i) B.A.; B. Sc.; B. Com.
   (ii) B.E.; M.B.B.S.; LL.B.; B Ed.
5. Master's Degree : (i) M.A.; M.Sc.; M. Com.
   (ii) M.E.; M.S.; M.D.; LL.M.; M.Ed.
6. Doctorate Degree : Ph.D; D. Litt.; D.Sc.

—★★—

ANSWER SHEET

Achievement Test in General Science and Mathematics for Standard IX

1. Name _____ 2. Sex : Boy/Girl

3. School _____

4. Class _____ 5. Roll No _____

6. Tribe to which you belong _____

SECTION I :— GENERAL SCIENCE

1	A	B	C	D	2	A	B	C	D
3	A	B	C	D	4	A	B	C	D
5	A	B	C	D	6	A	B	C	D
7	A	B	C	D	8	A	B	C	D
9	A	B	C	D	10	A	B	C	D
11	A	B	C	D	12	A	B	C	D
13	A	B	C	D	14	A	B	C	D
15	A	B	C	D	16	A	B	C	D
17	A	B	C	D	18	A	B	C	D
19	A	B	C	D	20	A	B	C	D
21	A	B	C	D	22	A	B	C	D
23	A	B	C	D	24	A	B	C	D
25	A	B	C	D	26	A	B	C	D
27	A	B	C	D	28	A	B	C	D
29	A	B	C	D	30	A	B	C	D
31	A	B	C	D	32	A	B	C	D
33	A	B	C	D	34	A	B	C	D
35	A	B	C	D	36	A	B	C	D
37	A	B	C	D	38	A	B	C	D
39	A	B	C	D	40	A	B	C	D
41	A	B	C	D	42	A	B	C	D
43	A	B	C	D	44	A	B	C	D
45	A	B	C	D	46	A	B	C	D
47	A	B	C	D	48	A	B	C	D
49	A	B	C	D	50	A	B	C	D

R :	
W :	

R :	
W :	

Score

APPENDIX - VI

ANSWER SHEET

Achievement Test in General Science and Mathematics for Standard IX

1. Name _____ 2. Sex : Boy/Girl

3. School _____

4. Class _____ 5. Roll No _____

6. Tribe to which you belong _____

SECTION II :— MATHEMATICS

51	A	B	C	D	52	A	B	C	D
53	A	B	C	D	54	A	B	C	D
55	A	B	C	D	56	A	B	C	D
57	A	B	C	D	58	A	B	C	D
59	A	B	C	D	60	A	B	C	D
61	A	B	C	D	62	A	B	C	D
63	A	B	C	D	64	A	B	C	D
65	A	B	C	D	66	A	B	C	D
67	A	B	C	D	68	A	B	C	D
69	A	B	C	D	70	A	B	C	D
71	A	B	C	D	72	A	B	C	D
73	A	B	C	D	74	A	B	C	D
75	A	B	C	D	76	A	B	C	D
77	A	B	C	D	78	A	B	C	D
79	A	B	C	D	80	A	B	C	D
81	A	B	C	D	82	A	B	C	D
83	A	B	C	D	84	A	B	C	D
85	A	B	C	D	86	A	B	C	D
87	A	B	C	D	88	A	B	C	D
89	A	B	C	D	90	A	B	C	D
91	A	B	C	D	92	A	B	C	D
93	A	B	C	D	94	A	B	C	D
95	A	B	C	D	96	A	B	C	D
97	A	B	C	D	98	A	B	C	D
99	A	B	C	D	100	A	B	C	D

R :	
W :	

R :	
W :	

Score

APPENDIX - VII

ACHIEVEMENT TEST

IN

GENERAL SCIENCE

AND

MATHEMATICS

FOR

STANDARD IX

NORTH-EASTERN HILL UNIVERSITY
DEPARTMENT OF EDUCATION
NAGALAND CAMPUS

JAGDISH CHAND

Achievement Test in General Science and Mathematics

INSTRUCTIONS :—

1. Do not write anything on this booklet.
2. Attempt your answers in the separate Answer-Sheet supplied to you.
3. There are **Two Sections** in the whole test. **Section - I** contains questions in **Geneal Science** and **Sectiion - II** in **Mathematics.**
4. For each item in the test, there are four answers denoted by A, B, C and D. Only ONE of these answers is either correct or the most appropirate. The letter against which the correct answer or the most appropriate answer is given should be crossed in the appropriate column on the Answer Sheet.
5. Time limit for answering the questions is 40 minutes **each** for Sections I and II.
6. Do not ask any question(s) after you begin to answer the test. All doubts you can clarify before you begin to answer the test.

Example

What is the product of 9 and 7 ?

(A) 97

(B) 79

(C) 63

(D) 16

The product of 9 and 7 is equal to 63. This answer which is correct one is found against the letter C. Therefore, you should cross the letter 'C' on the **Answer Sheet** as shown below :

Answer Sheet

A	B	X	D

Now in the same way answer the test items on the **Answer Sheet** provided separately.

Start Answering the Test

SECTION—I

GENERAL SCIENCE

1. Radium was discovered by
   (A) Edison
   (B) Marie & Pierre Curie
   (C) Darwin
   (D) Faraday

2. Biology is the study of
   (A) Animals
   (B) Living beings
   (C) Insects
   (D) Birds

3. Thermometer is used to measure
   (A) Intensity of light
   (B) Temperature
   (C) Intensity of earthquackes
   (D) None of these

4. Kinetic energy means the
   (A) Energy possessed by a particle or body by virtue of its motion
   (B) Coal energy
   (C) Electric energy
   (D) Petrol energy

5. Chlorophyll is a green pigment contained in the
   (A) Birds
   (B) Leaves of the plant
   (C) Animals
   (D) Human beings

6. By the process of reproduction an individual produces the individuals of
   (A) Similar kind
   (B) Dissimilar kind
   (C) Similar and dissimilar kind
   (D) None of these

7. Planets revolve round the
   (A) Sun
   (B) Moon
   (C) Earth
   (D) Mars

8. Diseases that spread through water are
   (A) Tuberculosis and Pneumonia
   (B) Throat infection and Tonsils
   (C) Cholera and Dysentery
   (D) Itches and boils

9. Reactor means
   (A) A post in the university
   (B) A post in the Church
   (C) A part in a car
   (D) An apparatus for generation of atomic energy

10. A normal adult has
    (A) 30 teeth
    (B) 25 teeth
    (C) 28 teeth
    (D) 32 teeth

11. A straight stick looks bent when partly immersed in water because

(A) It becomes crooked

(B) Of the phenomenon of refraction

(C) It is bent

(D) None of the above

12. Zoology is the study of

(A) Birds

(B) Animal life

(C) Human beings

(D) Plants

13. Atom is the

(A) Biggest particle of an element

(B) Largest particle of an element

(C) Invisible particle of an element

(D) Smallest particle of an element which takes part in chemical action

14. Why does a substance thrown up comes to the ground ?

(A) Due to its weight

(B) Due to the vastness of ground

(C) Due to the gravitational pull of the earth

(D) None of the above

15. The statement that apparent loss in weight of a wholly or partially submerged body in a fluid is equal to the weight of the fluid displaced by it, is based on

(A) Newton's first law of motion

(B) Newton's second law of motion

(C) Archimedes principle

(D) None of the above

16 Fossils are the remains of

(A) Buildings

(B) Graves

(C) Old Hills

(D) Plants and animal life which become hardened like stone during the course of ages

17. The mass of the Sun is

(A) Greater than the mass of the earth but less than that of the moon

(B) Greater than the mass of the earth and the moon

(C) Smaller than the mass of the earth but greater than the mass of the moon

(D) Smaller than the mass of the earth and the moon

18. Genetics is the study of

(A) Animals

(B) The phenomena of heredity and the laws governing it

(C) Birds

(D) Insects

19. In the equation $v=u+at$, u stands tor

(A) Vector

(B) Scalar

(C) Final velocity

(D) Initial velocity

20. Meiosis takes place in

(A) Cytoplasm

(B) Reproductive cell

(C) Respiration

(D) Digestion

21. The purest water from natural sources is from

(A) Sea

(B) River

(C) Rain

(D) Well

22. Reflection of light means

(A) Assembling of light rays on a polished surface

(B) Passing of light rays through a polished surface

(C) Bouncing back of light rays from a polished surface

(D) Amount of light absorbed by polished surface

23. Reproduction is a process by which

(A) All living and non-living things can produce individuals of their kind

(B) All non-living things can produce individuals of their own kind

(C) All living beings can produce individuals of their own kind

(D) All living beings can produce individuals of different kinds

24. What is U^{238}?

(A) Name of an American Aeroplane

(B) Name of a Russian Aeroplane

(C) Name of a Chinese Spy ship

(D) U^{238} is an isotope of uranium with mass number 238, atomic number 92 and used in the release of atomic energy by nuclear fission

25. Chromosomes are thread shaped bodies, consisting mostly of DNA and Proteins, number of which are present in the nucleus of every

(A) Metal

(B) Animal or Plant Cell

(C) Stone

(D) None of the above

26. In city water supply, chlorination helps the removal of

(A) Colour

(B) Bitter taste

(C) Bad smell

(D) Bacteria

27. Molecule is the

(A) Biggest particle of a substance

(B) Longest particle of a substance

(C) Smallest particle of a substance that is capable of independent existence

(D) None of these

28. Bacteria are

(A) Mosquitoes

(B) Insects

(C) Birds

(D) Minute unicellular organisms that multiply very fast

29. Proteins are contained in

(A) Eggs, Beans, Pulses etc.

(B) Oils, Nuts, Ghee, Butter

(C) Sugar, Honey, Starch etc.

(D) None of these etc.

30. The statement "the energy of a system can be transformed from one form into another but energy can neither be created nor destroyed" is well known as

(A) Law of inertia

(B) Law of conservation of energy

(C) Law of pollination

(D) Law of motion

31. The things weigh less on the moon than on the earth because
(A) Gravity on the moon's surface is more than the gravity on the earth
(B) Moon is a satellite of the earth
(C) The gravity on the moon's surface is only one-sixth of the gravity on the earth
(D) None of the above

32. Diesel oil is preferred for heavy road vehicles because
(A) It is costly
(B) It is produced in India
(C) Due to its higher efficiency and economy
(D) Diesel oil engine is complicated

33. Which one of the following constitutes the major part of the human body ?
(A) Fats
(B) Water
(C) Plasma
(D) Proteins

34. Stars are
(A) Planets
(B) Deriving their light from the Sun
(C) Satellites
(D) Suns or self luminous bodies

35. A Comet is a
(A) Satellite
(B) Planet
(C) Luminous celestial body which moves round the sun in elliptic orbit
(D) None of these

36. Mitosis takes place in
(A) Vegetative cell
(B) Reproductive cell
(C) Chromosome
(D) Photosynthesis

37. Proteins are mainly responsible for
(A) Providing energy
(B) Growth of the body
(C) Providing vitamins
(D) Providing fats

38. " Every body continues in its state of rest or of uniform motion unless it is acted upon by some external force to change that state " is known as
(A) Pascal's law
(B) Archimedes law
(C) Newton's first law of motion
(D) Law of radiation

39. A planet which has no satellite is
(A) Jupiter
(B) Saturn
(C) Mercury
(D) Earth

40. Solar eclipse occurs when
(A) Earth comes between sun and moon
(B) Moon is at right angle to the earth
(C) Moon comes between sun and the earth
(D) Sun comes between moon and the earth

41. It is not abvisable to sleep under a tree at night because of the
(A) Release of oxygen in less amount
(B) Release of oxygen in larger amount
(C) Release of carbon monoxide
(D) Release of carbon dioxide

42. Enzymes are proteins with high molecular weight and are derived from
(A) Chemicals
(B) Waste material
(C) Dead tissues
(D) Living organisms

43. Which of the following is a scalar quantity ?
(A) Acceleration
(B) Velocity
(C) Speed
(D) Weight of the body

44. The red colour of the blood is due to the presence of
(A) A pigment known as haemoglobin
(B) White corpuscles
(C) Red corpuscles
(D) None of these

45. Cross pollination among plants is of great advantage because
(A) It is a quick process of growing various varieties of plants
(B) It results in getting better quality of seeds
(C) It is possible in all types of flowers
(D) Insects are being helped by the plants

46. Neutrons have
(A) A double positive charge
(B) Single positive charge
(C) A negative charge
(D) No electric charge

47. Under what conditions do a feather and a lump of lead fall at the same rate
(A) In a clear weather
(B) When thrown from an aeroplane
(C) When they fall freely under vacuum
(D) In stromy weather

48. The statement that to every action there is an equal and opposite reaction is based upon
(A) Newton's first law of motion
(B) Newton's third law of motion
(C) Newton's second law of motion
(D) None of these

49. Photosynthesis takes place in the presence of sunlight when a green plant is supplied with
(A) Nitrogen and Oxygen
(B) Oxygen and Hydrogen
(C) Carbon-dio-oxide and water
(D) Carbon-dio-oxide and Hydrogen

50. The number of negative charges in an atom is equal to
(A) The atomic weight of the atom
(B) The valence electron of the atom
(C) The positive charges in the atom
(D) The neutrons in the atom

Contd.....

SECTION—II

MATHEMATICS

51. Express $\frac{3}{5}$ as a percentage

(A) 53%

(B) 60%

(C) 35%

(D) 75%

52. Which of the following is the empty set ?

(A) [3, 4, 5]

(B) [a, b, c]

(C) ϕ

(D) [0]

53. Insert an appropriate sign in the box

82356 [ ] 82189

(A) > (Greater than)

(B) = (equal to)

(C) < (less than)

(D) None of the above

54. .75 can be expressed as a fraction

(A) $\frac{75}{1000}$

(B) $\frac{75}{100}$

(C) $\frac{75}{10}$

(D) $\frac{75}{10000}$

55. The decimal representation of $\frac{3}{4}$ is

(A) . 43

(B) . 34

(C) . 75

(D) . 80

56. Find the Value of $\sqrt{\frac{16}{81}}$

(A) $\frac{16}{81}$

(B) $\frac{3}{2}$

(C) $\frac{4}{9}$

(D) $\frac{2}{3}$

57. In simple interest, rate percent is the interest on

(A) Principal

(B) Amount

(C) Rs. 100

(D) Rs. 1000

58. A salesman earned 5% commission on a sale of Rs. 300/-. How much commission did he receive ?

(A) Rs. 1500

(B) Rs. 305

(C) Rs. 295

(D) Rs. 15

59. 5 persons can plough a field in 6 days. How long will one person take to plough the same field ?

(A) 6×5 days

(B) $\frac{6}{5}$ days.

(C) $\frac{5}{6}$ days

(D) $\frac{6}{5} + 1$ days

60. If set P = [g, h, i]
Set Q = [h, i, j, k]
Then P union Q (P U Q) is the set

(A) [g, h, i,]

(B) [g, h, i, k]

(C [h, i, j, k]

(D) [g, h, i, j, k]

61. Which one of the following is a prime number ?

(A) 15
(B) 23
(C) 28
(D) 40

62. If set P= [1, 2. 3] ; Set Q = [3, 1, 2] set R = [1, 2] ; set T = [2, 3] then which one of the following is true ?

(A) $P \neq Q$
(B) $P = Q$
(C) $P = T$
(D) $R = T$

63. Simplify :

$$\frac{5}{6} \div \frac{3}{4} \times \frac{2}{3}$$

(A) $\frac{10}{9}$

(B) $\frac{20}{27}$

(C) $\frac{30}{72}$

(D) $\frac{27}{20}$

64. The strengih of a school increased by 15% in a year. If the strength during the last year was 500, then the strength of the school during the current year will be

(A) $500 + \frac{100}{15 \times 500}$

(B) $500 + \frac{15 \times 100}{500}$

(C) $500 + \frac{15 \times 500}{100}$

(D) $\frac{500}{15} + 100$

65. If set P= [1, 2, 3, 4] ; Set Q= [3, 5, 7] then which one of the following is correct ?

(A) 2 belongs to set Q
(B) 7 belongs to set P
(C) 5 belongs to set P
(D) 1 belongs to set P

66. How much is the sum of 7664, 1589, and 23502 ?

(A) 75532
(B) 32575
(C) 32755
(D) 55732

67. The product of (x + y) and (x - y) is equal to

(A) $x^2 + y^2 + x^2 - y^2$

(B) $x^2 + y^2$

(C) $x^2 - y^2$

(D) $y^2 - x^2$

68. 75% of 80 is

(A) 5

(B) 155

(C) 60

(D) 90

69. $x^2 + 10x + 21$ is equal to

(A) $(x - 3)(x + 7)$

(B) $(x + 3)(x + 7)$

(C) $(x + 3)(x - 7)$

(D) $(x - 3)(x - 7)$

70. If log 50 = 1.70 ; log 81 = 1.91 ; then while calculating the value of log (50×81), which one of the following steps is correct ?

(A) 1.70 + 1.91

(B) 1.91 — 1.70

(C) — 1.91 — 1.70

(D) 1.70 × 1.91

71. In the problems involving compound interest, if 'P' stands for Principal, 'R' for rate percent and 'T' for number of years ; then which one of the following formulae is used to calculate the amount ?

(A) $\frac{P\,R\,T}{100}$

(B) $P\left(1 + \frac{R}{100}\right)^T$

(C) $P\left(1 + \frac{T}{100}\right)^R$

(D) $P\left(1 + \frac{100}{R}\right)^T$

72. Mr. Bendang took Rs. 4000 from Hichulo Rengma and paid Rs. 800 more for using money for 2 years. Here the sum of Rs. 800 represents

(A) Principal

(B) Amount

(C) Interest

(D) Rate of Interest

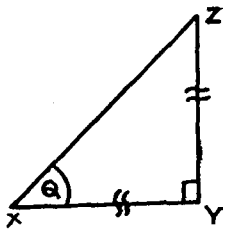
73. In the adjoining figure, the value of the angle Q in degrees is

(A) 15

(B) 30

(C) 45

(D) 60



74. The population of a town increases by 15% every year. If the population in the year 1981 was 30,000 ; what would be the population in 1982 ?

(A) $30{,}000 \times \frac{115}{100}$

(B) $30{,}000 \times \frac{100}{115}$

(C) $30{,}000 \times \frac{85}{100}$

(D) $30{,}000 \times \frac{100}{85}$

75. Which of the following formulae can be used to calculate simple Interest ?

(A) $\frac{P \times R \times T}{100}$

(B) $\frac{P \times R}{100 \times T}$

(C) $\frac{P \times T \times 100}{R}$

(D) $P \times R \times T$

76. The sum of the Polynomials $2x^4 - 2x^3 + 9x - 3$ and $7x^4 + x^3 + 2x + 5$ is

(A) $5x^4 - 3x^3 + 7x + 8$

(B) $9x^4 - x^3 + 11x + 2$

(C) $9x^4 + 3x^3 + 11x - 8$

(D) $14x^4 - 2x^3 + 18x - 15$

77. If $\frac{3}{5}$ of a sum of money is Rs. 36. What is the total sum ?

(A) Rs. 60

(B) Rs. 18

(C) Rs. 50

(D) Rs. 90

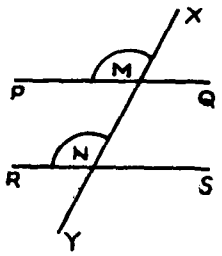
78. In the figure given below $\angle M = \angle N$ because they are

(A) Supplimentary angles

(B) Alternative angles

(C) Corresponding angles

(D) Vertically opposite angles



79. If $\log_2 N = 5$, then N will be equal to

(A) 5^2

(B) 2^5

(C) 2×5

(D) $2 + 5$

80. A headmaster purchases X tables at the rate of P rupees each and Y chairs at the rate of Q rupees each. What is the total amount he spent ?

(A) $X + P + Y + Q$

(B) $X.P - Y.Q$

(C) $X.P + Y.Q$

(D) $Y.P + X.Q$

81. In the relation ;

$X = P + \frac{P.R.T.}{100}$, where p, r, t bear their usual meanings then what does 'X' mean ?

(A) Amount

(B) Rate

(C) Principal

(D) Interest.

82. If set $Z = [1, 2, 3]$ set $W = [5, 7\ 8]$ then which one is correct ?

(A) $Z \cap W = [1, 2, 3, 5, 7, 8]$

(B) $Z \cap W = [1, 3, 5, 7]$

(C) $Z \cap W = \phi$

(D) $Z \cap W = [2, 5, 8]$

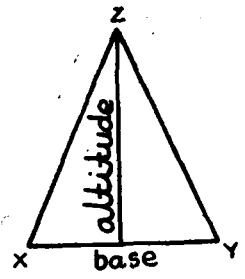
83. The area of the traingle is calculated by the formula

(A) [base × altitude]

(B) $\frac{1}{4}$ [Base × altitude]

(C) [Base × altitude]

(D) $\frac{1}{2}$ [base × altitude]



84. The value of $\log_{10} 10^{500}$ is

(A) 490

(B) 510

(C) 500

(D) 5000

85. The centroid of a triangle is the point of intersection of the

(A) Medians

(B) Altitudes

(C) Sides

(D) Angles

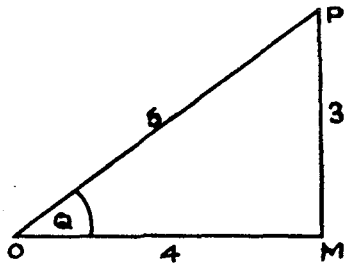
86. In the following right angled traingle OMP if OM = 4; MP = 3 and OP = 5, then what is the value of $\cos\theta$?

(A) $\frac{4}{5}$

(B) $\frac{3}{5}$

(C) $\frac{5}{3}$

(D) $\frac{3}{4}$



87. In $\log_2 16$, the base is

(A) 8

(B) 14

(C) 18

(D) 2

88. What is the value of $\log_3 3^2$?

(A) 3^2

(B) 2^3

(C) 2

(D) 6

89. A gardener plants an orchard with 400 trees and arranges so that the number of rows of the trees equals the number of trees in each row. The number of rows is equal to

(A) 400^2

(B) $\sqrt{400}$

(C) $\sqrt[3]{400}$

(D) 400^3

90. If two distinct lines intersect, then the Intersection will be

(A) A line segment

(B) A line

(C) A point

(D) A square

91. The additive identity element in the set of natural numbers is

(A) 0

(B) 1

(C) 2

(D) 3

92. Five students from each class of your school are the members of the Science Club of the school. To find out how many club members there are altogether, what other fact would you need to know ?

(A) Number of students in each class.
(B) Number of students in the school
(C) Number of classes in the school
(D) Size of the classroom in the school

93. What percent of 375 is 45 ?

(A) 12%
(B) 15%
(C) 18%
(D) 9%

94. The multiplicative identity element in the set of natural numbers is

(A) - 1
(B) 0
(C) 1
(D) None of the above

95. If set U =[10, 11, 12, 13, 14, 15, 16] set P = [13, 14, 15] then the compliment of set P (i. e. P') is

(A) P' = [10, 11, 12, 13, 14, 15, 16]

(B) P' = [10, 11, 12]
(C) P' = [10, 11, 12, 16]
(D) P' = [16]

96. The solution of the equation

$4X + 4 = 28$ is

(A) $x = -6$

(B) $x = 4$

(C) $x = 6$

(D) $x = 24$

97. Which one of the following is a set of natural numbers which divide 12 ?

(A) [1, 2, 3]
(B) [1, 2, 3, 4, 6, 12]
(C) [3, 4, 6]
(D) [4, 6, 12]

98. $\frac{1}{1000}$ of a kilometer is

(A) Millimeter
(B) Centimeter
(C) Meter
(D) Hectometer

99. A square field has its side equal to 100 meters. To find the length for fencing which one of the following information is essential ?

(A) Area
(B) Perimeter
(C) Diagonal
(D) Volume

100. The sum of two numbers is 22 and their difference is 6. What are the numbers ?

(A) 16 and 6
(B) 12 and 6
(C) 15 and 7
(D) 14 and 8

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