

# **CHAPTER 1**

## **INTRODUCTION**

# REGULARITY IN SCHOOL AND COGNITIVE FUNCTIONS

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## INTRODUCTION

The educated society emerges as a powerful nation with overall development of all the communities. Education not only opens door to acquire knowledge but is also very important for social and economic development of the nation. Education empowers individuals to stand for their rights, protect their interest and raise voice against injustice. Education enhances skills, knowledge, competences and values in an individual and therefore increases individual's participation in development of society. Education also helps in changing beliefs and thoughts of an individual.

India is a country with diverse culture, languages and beliefs which make it multicultural. All the communities of India are not developed equally. There is marked difference in context of education, economic growth, and social structure between some of these communities and general population at large. Adivasi or tribal community is one of them, constituting of 8.6% of Indian population (Statistical profile of Scheduled Tribes in India, 2013). The Adivasi or tribal community is considered to be socially and educationally backward class in India. The constitution of India has made provisions for upliftment of tribal communities but still there are many obstacles. Since independence various schemes and programs have been implemented for development of education which has resulted in improvement of literacy rate but yet equality among all communities is a distant dream. Scheduled Tribes are geographically, socially isolated and economically marginalized communities. Therefore, they are lacking in development in comparison to other communities. Societal changes or reforms come through collective transformation of individuals and these individuals can be the educated children belonging to Scheduled Tribes and Scheduled Caste (Punnaiah, 2018). Literacy and educational attainment can bring social and economic development among all the backward groups in our country. Currently, the Scheduled Tribes not only lag behind the general population but they also lag behind Scheduled Caste people.

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Table 1.1

*Comparative Literacy Rates of Scheduled Tribe and Total Population (in percentage)*

Category/Census Year	1961	1971	1981	1991	2001	2011
Total Population	28.3	34.45	43.57	52.21	64.84	72.99
Scheduled Tribe	8.53	11.30	16.35	29.60	47.10	58.96
Gap	19.77	18.15	19.88	22.61	18.28	14.03

Source: Statistical Profile of Scheduled Tribes in India. (2019), Ministry of Tribal Affairs, Statistics Division, Government of India.

According to Table 1.1, Scheduled Tribes in India have improved in literacy from 47.10% in 2001 to 58.96% in 2011, yet there is only 4.25% improvement in the gap between literacy of total population and Scheduled Tribe population from 2001 to 2011. Literacy rate for the total population has increased from 64.8% in 2001 to 73% in 2011. There is a gap of about 14 % in literacy rate of Scheduled Tribes as compared to the all India literacy rate. It can be derived from the above table that there is literacy improvement among the Scheduled Tribes but when compared with general population, they are still lagging. There is now growing evidence that a considerable proportion of students from this population are also underachieving, dropping out from school, or are irregular in school. Since underachievement represents a considerable threat to student's future career as well as having wider societal costs in business and government such as loss of productivity and reduced taxes, and the increased need for special services. These antecedents are the possible barriers for academic achievement and allow researchers to find proper solution for it.

### 1.1 TRIBES IN INDIA

Constitutionally the tribes in India are called as Scheduled Tribes and popularly known as Adivasi, Vanavasi, Vanyajati and Janajati. There are 573 Tribes and more than 270 tribal languages are spoken in India. The major tribes residing in India are Barda, Bavacha, Bharwad, Bhil, Charan, Chaudhri,

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Chodhara, Dhanka, Dhodia, Dubla, Gamit, Gond, Kathodi, Kokna, Koli, KoliDhor, Kunbi, Naikda, Padhar, Paradhi, Pardhi, Patelia, Pomla, Rabari, Rathawa, Siddi, Vaghri, Varli, Vitola and Generic Tribes among which major Tribes belonging to Gujarat are Baiga, Bhils, Dangi, Dharua, Dubla, Gond, Kokna, Lambani, Naikda, Rathwa, and Varlis.

### 1.2 GOVERNMENT SCHEMES FOR EDUCATION OF TRIBAL POPULATION

Various schemes and constitutional provisions have been made for upliftment of tribal education. Few of the initiatives taken by the Government (Padhi & Padhy, 2011) are: 1) Free textbooks to Scheduled Caste and Scheduled Tribe students, 2) Local recruitment of teachers in tribal areas so that children does not face language problem, 3) Reservations for Scheduled Caste and Scheduled Tribe teachers, 4) Aaganwadi or Balwadi in villages so that girl child do not have to do baby-sitting for their siblings, 5) Scheme for Post Matric Scholarship scheme, 6) Scheme for establishment of Ashram Schools in Tribal Sub-Plan Areas, 7) National Overseas Scholarship for Higher Studies, 8) Vocational Training Centres in Tribal Areas and 9) Scheme of Strengthening Education among Scheduled Tribe Girls in Low Literacy Districts.

The constitutional provisions for educational upliftment (Padhi & Padhy, 2011) are: 1) Article 15(4) clarifies that nothing shall prevent the state from making special provision for the advancement of any socially and educationally backward classes of citizens or for the Scheduled Castes and Scheduled Tribes. 2) Article 41 instructs that State shall within the limits of its economic capacity and development make effective provisions for securing the rights to work, right to education and right to public assistance in cases of unemployment, old age, sickness and disablement. 3) Article 46 urges the State to promote with special care, the educational and economic interests of all the weaker sections of the people including Scheduled Tribes and to protect them from social injustice and all forms of exploitation.

On 1<sup>st</sup> April 2010, The Right to Education Act was implemented which states to provide free and compulsory education to all children in the age

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group of six to fourteen years. It is legal duty of the Centre and State Government to provide free and compulsory education. The goal of elementary education is that the 14-year-old child should acquire ability or skills to read, write, comprehend, and do numerical and reasoning. Along with these skills, the child should also develop courage, teamwork, confidence, curiosity, independence, resourcefulness, resilience, patience and understanding (Krishnan & Thamarasseri, 2013). Elementary education, however, covers the primary (6-11 years) and upper primary (11-14 years) age group i.e. class I to class VIII as per most Indian states. Higher secondary education is for 14-18 years whereas higher education and adult education is for 18 and above.

### **1.3 RELEVANCE OF NEED FOR ACHIEVEMENT AND COGNITIVE ABILITIES IN EDUCATION**

Despite of so many schemes, programs and provisions in law for upliftment of Scheduled Tribe, universalization of elementary education is far to reach. Dropouts and irregularity among school children are the major challenges that Government is facing in accomplishing the goal of universalization of education. The major reasons for not registering in the school, dropouts and irregularity are identified through various researches and reports. Several authors have shown that dropout is strongly linked to lower academic performance, which, in turn, is influenced by the characteristics of learners and the learning community. According to the review by Kori et al., (2015), there are six groups of factors influencing students' dropout from education: the parents' income, demographics, institutional characteristics, psychological factors, social integration, and academic performance in school. Many other studies have demonstrated that academic performance correlates with students' cognitive abilities. Cognitive abilities have been described as a set of mental abilities needed in carrying out a task. Cognitive skills refer to "the general intellectual or cognitive competencies". Moreover, cognitive skills include a variety of constructs and approaches such as intelligence, scientific problem-solving, metacognition, motivation to learn, and learning

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styles (King, 2009). While each of those terms differs slightly in concept and application, it seems clear that cognitive skills are important given their “applicability and utility across a wide range of different areas of life.”

While there are some mixed findings depending on the type of measures, researchers agree that school attendance generally facilitates students’ cognitive skills development. The non-cognitive factors, including health, emotional state and motivation too, can either enhance or inhibit cognitive performance (Phillipson & Phillipson, 2007). Empirical evidences reveal that tribal children possess the basic cognitive abilities and psychological dispositions for successful participation in schools but there is no sufficient intrinsic and extrinsic motivation to achieve the academic goals (Prajina, 2017).

Even though there are number of factors which contributes to academic achievement, motivation is the key factor which affect directly on the academic performance, other elements affect only through motivation (Francis et al, 2004). Those who are less motivated are likely to be less hard working.

The word motivation was originated from the Latin word "movere", which means to move. Motivation is defined as an internal drive that activates behavior and gives it direction. The term motivation is concerned with why and how human behavior is activated and directed (Singh, 2011). In other words motivation is the stimulation of goal oriented behavior. Various theories support that motivation may be rooted in the basic need of minimizing pain and maximizing pleasure, or it may comprise specific needs such as eating and resting, or a desired object, hobby, goal etc. Parental attitude toward education is another important factor which influences child’s education.

Present research studies whether regular and irregular participants differ in their cognitive abilities and Need for Achievement.

### 1.4 MOTIVATIONAL FACTOR: NEED FOR ACHIEVEMENT

Motivation is the inner state of arousal, which energizes the individual to act on the goal attainment (Manivannan, 2010). A need gives rise to drive, a physiological drive like hunger, thirst and sex and psychological drives like

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maternal, affection, affiliation, aggression and achievement drive, which further directs the person's activities to a goal. Drives are also influenced and guided by incentives (Mangal, 2017). Motive works as a force behind a particular behaviour and compels or inspires humans to accomplish goal for the satisfaction of basic needs or for some purpose. Intrinsic and extrinsic are two types of motivation. Intrinsic motivation refers to force that comes from within and the person takes genuine interest in doing that activity like painting, writing poetry, playing some sport, etc. Extrinsic motivation, on the other hand, refers to those guided behaviour carried out due to some incentive or under some compulsion like completing homework due to fear of punishment, praise, marks, money, rewards, etc. (Manivannan, 2010).

Based on the different assumptions of researchers and theorists, many motivational theories have been developed. The behavioral learning theory by B.F. Skinner focuses on the reinforcement of desired behavior by giving extrinsic reward. The cognitive theory is based on intrinsic motivation. According to this theory when there is cognitive disequilibrium, there is motivation to learn. Piaget's theory states that when a person experiences disagreement between a new idea and he knows there is disequilibrium and this motivates a person to learn to achieve equilibrium. As per humanistic approach, a person is motivated when his basic needs like food, water, shelter are satisfied. Maslow's hierarchical model shows that when basic needs are not satisfied then people won't have urge for higher needs. Therefore, learning for a student is possible when his basic needs are addressed. Content theories of motivation like Aderfer's ERG (Existence Relatedness & Growth) Theory, Herzberg's Two Factor Theory and McLelland's Manifest Needs Theory suggest that people are motivated up to a certain level by survival needs (food, shelter, security) and thereafter by social needs and esteem needs. Process Theories of motivation include Vroom's Expectancy Theory and Adam's Equity Theory are concerned with how the perceived value of outputs to be gained (salary and benefits, promotion, praise, grades and so forth) affect the level of inputs i.e. effort (Cleary, 2014). According to Self-Determination Theory children learn from their parents and adults that achievement behaviors and motivation are valued by society. The Self-System Theory of engagement

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assumes that human can be motivated to engage in activities voluntarily and with passion when his basic psychological needs are met (Koca, 2016). The ARCS model (Attention, Relevance, Confidence and Satisfaction) states that firstly students' attention is very important then students' experience and needs related relevance. Then confidence related to the students' emotion and anticipation and lastly the positive feeling regarding the learning process and the gained knowledge leads to satisfaction (Gopalan et al., 2017). Social Cognitive Theory refers to the attainment of knowledge by direct observation, interaction, experiences and outside media influence. According to Social Cognitive Theory, interactive learning allows students to gain confidence through practices.

The Achievement Motivation Theory is based on the assumption that most of the people want to achieve something rising from their own level or strength or the want to achieve what others have achieved. Atkinson (1964) defined achievement motivation as the comparison of performances with others and against certain standard activities. Atkinson and Feather (1966) suggested that achievement motivation is a combination of two personality variables: tendency to approach success and tendency to avoid failure. Achievement motivation is the tendency to endeavor for success and to choose goal oriented success or failure activities (Singh, 2011). Attendance, academic performance and performance in extra-curricular activities get affected by student motivation. When students are not intrinsically motivated, they lose interest in studies or the motive of the study is lost. Children find the studies boring and become non-creative as they don't find immediate rewards. Atkinson and Feather (1966) describe that the desire to accomplish a task or do not accomplish a task is due to fear of failure. It is the non-conscious decision process in which a person decides whether to act or not. If a student feels that the task has no value, he will decide not to accomplish the task even though he might be capable to accomplish it (Atkinson, 1974). A person's need to achieve or fear of failure varies from person to person and also differs in different situation (Atkinson, 1966). Atkinson and Feather (1966) propose that a person's achievement behavior is based on three parts: the first part is



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individual's predisposition to achievement, the second part is the probability of success and the third part is the individual's perception of value of task.

Students are influenced by a need to achieve which makes them to attempt and be successful. Some students have a strong desire to succeed which makes them overcome failure factors such as lack of skills, lack of experience, lack of ability or lack of time (Zenzen, 2002). According to Atkinson and Feather (1966), if there is anticipation of negative consequence then negative motivation will be produced which is commonly called as fear of failure. They further state that the person who is motivated to achieve would prefer moderate task where his level of aspiration would be strongest i.e. success of 50-50. A person with fear of failure would either choose a task which is either very easy where he cannot fail or choose a task which is very difficult that it cannot be expected to be accomplished (Atkinson, 1966). Atkinson's Risk-Taking Model (RTM) was designed to predict individual preferences for task difficulty. High-need achievers would prefer tasks that are moderately difficult because the outcome is not certain, it is 50-50 chance to succeed or fail. In a ring toss game, high-need achievers tend to pick a moderate distance from the pole. In contrast, low-need achievers are more likely to choose tasks where the outcome is most certain (very easy or very hard). Atkinson (1964) states that, the theory of achievement motivation attempts to account for the determinants of the direction, magnitude and persistence of behaviour, in limited but very important domain of human activities.

Various theories of motivation suggest a significant positive relationship between motivation and performance, and also suggest a significant positive relationship between motivation, self-esteem and self-efficacy. Therefore, if a student's need for achievement is correctly addressed then his academic interest will grow and regularity will improve.

People who are motivated are dynamic; they enjoy their life and feel control on life which gives them self-respect. Motivated people set achievable targets which are neither extremely difficult nor easy targets but moderately difficult. They prefer those risks that are achievable. Achievement motivated

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people refer to work on problem, prefer personal achievement rather than reward or outcome to chance (Singh, 2011).

### **1.4.1 Intrinsic and Extrinsic Motivation**

Student motivation is often divided into two categories:

1. Extrinsic motivation: A student can be described as extrinsically motivated when he or she engages in learning "purely for the sake of attaining a reward or for avoiding some punishment" (Dev, 1997). Extrinsically motivating students includes giving candy, stickers, or other reward, recognizing publicly.
2. Intrinsic motivation: A student can be described as intrinsically motivated when he or she is motivated from within. A student who is intrinsically motivated will not need any type of reward or incentive to initiate or complete a task (Dev, 1997).

### **1.4.2 Strategies to Increase Motivation Among School Children**

Few of the strategies to motivate students are described below (Brewster & Fager, 2000):

1. Extrinsic motivators are to be used only when tasks are completed and deserved. Otherwise it sends message that minimum effort is acceptable and rewards loss their meaning.
2. Students should be made feel comfortable and supported.
3. Teachers should make good rapport with all students, interact with them individually and connection with school should be developed.
4. Student questions should be responded positively and they should be verbally praised for their good work.
5. Big assignment or projects should be made into series of small tasks to prevent students from becoming overwhelmed and discouraged.
6. The feedback for any assignments should be given immediately and it should be clear and constructive.
7. Evaluation of students should be based on task not in comparison of other students.

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8. Students should be encouraged for mastery learning. If he fails to meet expected criteria, he should be given more opportunities till he masters the task.

### 1.4.3 Review of Studies on Need for Achievement

Achievement motivation is an attitude to achieve rather than achievement. The need to achieve and excel than others which leads to strong drive or motive is achievement motivation. This drive makes the person strive for excellence. Achievement motivation is involved when a person knows that his actions will be evaluated into success or failure and the good performance will give a feeling of accomplishment. Achievement motivation is result of early-learned experiences, training and subsequent learning. Achievement motivation plays a vital role in academics of children.

A study was conducted by Chetri (2014) to investigate the achievement motivation of adolescents and its relationship with academic achievement. The sample belonged to 480 secondary school leavers studying in different government as well as non-government schools of Sikkim from rural and urban areas. The finding of the study revealed that there was no significant difference in achievement motivation with regard to gender but there was significant difference in relation to school management. It was concluded that urban students are exposed to urban technologies and modern trends in education and rural children are deprived of many such facilities. Rural schools are mostly government schools and these children need to be encouraged for higher level of academic achievement (Chetri, 2014). In another study, Kumari and Chamundeswari (2015) investigated the relationship between achievement motivation, study habits and academic achievement at secondary level with 457 students as sample. The results showed that there was a significant correlation between achievement motivation, study habits and performance of students. A significant difference was also found between female and male students in achievement motivation, study habits and academic achievement. The study conducted by Siahi and Maiyo (2015) also showed that there was a significant positive correlation

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between academic achievement and study habits. The school achievement motivation and home environment play important role in academic achievements. The study conducted on school attendance and student achievement at Ohio schools showed a significant relationship between student attendance and student achievement at the 4<sup>th</sup>, 6<sup>th</sup>, 9<sup>th</sup> and 12<sup>th</sup> grade (Roby, 2003). The above studies show that academic achievement gets affected by achievement motivation.

Achievement of students gets affected by attendance is being proved by Mikus (2013) in his study. He selected 69 fourth grade students from an urban elementary school as subjects for the study. The scores obtained by the sample on Communication Arts MAP test and Math MAP test of year 2013 were correlated with the school attendance percentage for the year 2012-2013. The results showed that there was a positive relationship between school attendance percentages and students achievement based on the selected subjects. Irregularity and dropping out from primary and secondary school is a worldwide problem. A study conducted by Meyers et al. (2013) in secondary school of Luxemburg revealed that there was significant difference in motivation and self-regulation among potential drop-out students and students who would be completing their schooling. The comparison was done on various motivational variables such as intrinsic motivation, self-efficacy, consistency of interest, and self-regulation variables such as perseverance of effort, learning strategies and resistance to peer influence on two groups of students (potential dropout and potential school finisher). Many of the dimensions were found to be significantly different for both the group of students. The potential dropout students had less intrinsic motivation, less introverted regulation, and less of academic self-efficacy.

The study conducted by Prajina (2017) attempts to find the academic achievement motivation among the tribal children. This study was conducted in Kannur district of Kerala on sample of 100 students from a tribal school. The study showed that academic performance and academic achievement motivation get affected by poor socio-economic condition of tribal people. Majority of the children had low academic achievement motivation. Gender, family system, community were few of the factors that affect academic

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achievement motivation (Prajina, 2017). The above two studies show external factors like family system, socio-economic status and internal factor consistency of interest, and self-regulation affect motivation of student and then it results in poor attendance. A study conducted by Laws (2013) confirms that students' performance is affected by school attendance. His study states that there is high correlation between both individual attendance and that of schools overall in students' performance. Study carried out by Minnalkodi, (1997) on higher secondary school students' achievement in zoology in relation to anxiety, achievement, motivation and self- concept. The major findings of the study revealed that there was significant gender difference on achievement scores. The government and private school students differed significantly on their achievement and anxiety while they did not differ on achievement-motivation and self- concept scores. The school and home environment play an important role in academic achievements of students and in their achievement motivation.

### **1.5 COGNITIVE FACTORS**

Cognition is the general term for all processes (mental) by which a human being becomes aware of his set or environment. Cognitive activities involve thinking, reasoning, perceiving, learning, memorizing and problem-solving, and the ability behind all these activities is known as cognitive ability. The cognitive abilities in a child undergo a process of development. Cognitive theorists are interested in finding out ways how to receive information, retain it, and then retrieve it. According to Piaget, the main stages of cognitive development are, (a) the sensory-motor stage, (b) the preoperational stage, (c) the concrete operational stage, and (d) the formal operational stage (Morgan, 2000). During the sensory-motor stage (0-2 years of age) the baby first uses its senses like vision, hearing then in second part of year of life it uses motor skills and by the second year, the baby starts using a coordination of both these primary abilities. The second stage is between 2 to 7 years of age. During this stage child is not able to apply specific cognitive operations. Children use various words and images which they come across in routine life

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and analyze their environment as it appears. In addition children pretend to play to be people they are not like teachers, superheroes, parents. In the third stage of development (7 to 11 years), children develop logic to cognitive operations, rearrange mental images and symbols and can draw conclusions from observations. In the last stage of development (11 years and on), the child has ability to think logically and justify their answers. Children in this stage formulate and test complex hypotheses, they think abstractly and they generalize, using abstract concepts (Morgan, 2000).

Piaget thinks that children learn not only by observation but also through a process of self-regulation – a process called equilibrium. In this process, they not only record what is going on, rather reorganize and coordinate their own activities to form rules and principles. Knowledge of children depends on the feedback in shape of questioning, contradictions and reorganization of the thought-factors, which are often stimulated by social interaction. He concludes that learning is a result of reconstruction of ideas, so understanding lags behind the action. The cognitive development of child evolves slowly similar to physical development. Basic cognitive skills develop gradually which are essential for learning.

Cognitive skills are the mental capabilities that one needs to successfully learn academic subjects. Underlying cognitive skills must function well to efficiently and easily read, think, prioritize, understand, plan, remember, and solve problems. Cognitive abilities include ability to analyze, evaluate, retain information, recall experiences, make comparisons, and determine action. Cognitive skills are learned and with practice these skills can be improved with proper training. Weak cognitive skills can be strengthened, and normal cognitive skills can be enhanced to increase ease and performance in learning.

There are various theories which explain the cognitive approach in the process of learning. The theory of latent learning was developed by Edward Chance Tolman (1886-1959). Tolman claimed that learning was related to complex mental processes, not simple mechanic conditioning processes. He did a lot of classical experiments with mice in order to prove his idea. One of his most well known studies involves maze running. According to his theory

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learning occurs in situations where there is no reward. Tolman called the first learning occurring when trials without a reinforcer were done as “latent learning.” People apply this kind of learning every day while driving car, walking through the same path daily, and they learn the places of various buildings and places. Another cognitive approach for learning is discovery learning where humans are born with innate ability of curiosity which causes babies to learn. According to Piaget, children create and learn from their senses. Lev Vygotsky puts special emphasis on the importance of cultural and social effects, and children’s interaction with others in cognitive development (Kaya & Akdemir, 2016). Schools, government programs, and special education all focus on academic instruction without understanding that all students do not have fundamental cognitive skills required for effective learning.

Few of the cognitive factors which are important part of development of children are analyzed in the current study.

### 1.5.1 CONCENTRATION

Concentration is defined as the ability to give something our undivided attention to the exclusion of other distractions. Paying attention is body function and that happens naturally but attention on something keeps on shifting from one object to another or one thing to another. Therefore, the child must be taught to focus his attention for some length of time. Concentration is an act on will of a person and it is a cognitive skill which can be taught through training.

Attention is a complex cognitive process of selecting important issues and ignoring those which are less important. Attention and concentration both are equally important for the physiological and behavioural responses. There are two types of attention, active and passive. Active attention is a voluntary process of increased alertness, concentration, interest and needs of a person. Curiosity and hunger are the stimulants for active attention. Passive attention can be said to be an involuntary cognitive process which easily gets distracted

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by any external stimuli. Selective sustained attention helps the person to concentrate and focus on stimuli for a longer period of time.

Attention span is the total time given by an individual to concentrate on any particular activity without getting distracted. Mild change in mental focus helps the individual to regain attention for another few minutes. Further, it depends on the interest of the person. There are many factors which can reduce the attention span of a person, such as, fatigue, hunger, noise, external stimuli, emotional and mental status (Lamba et al., 2014).

There are two strategies to help keep and maintain concentration:

1. If a person wants to increase attention while working on a task, a person needs to practice on focusing on a lit candle, or his breathing, for increasing periods of time.
2. Secondly, a person needs to decrease attention to irrelevant stimuli. This involves training oneself to 'shut out' anything that may hinder concentration, for example, the noise from outside.

**Determinants of attention-** There are mainly two types of determinants of attention viz. 1) External Factors or Conditions and 2) Internal Factors or Conditions.

**External factors or conditions-** These are those general characteristics which are outside the situation or those stimuli which make the strongest force to capture attention. There are mainly five types of external conditions which are explained below.

- a) *Nature of the stimulus:* All stimuli do not attract attention in a same way. For example picture attracts attention more than words. Colored pictures or picture of beautiful women or handsome men or pictures of famous personalities capture maximum attention.
- b) *Intensity and size of the stimulus:* Attention is attracted to loud noise, large objects, bright colors rather than small or dull pictures and objects.
- c) *Contrast, change and variety:* Change in routine activity attracts attention. Change and variety attracts more attention than any other factor. For example, when a teacher teaches with maps, graph, projector than usual practice of lecture, it attracts attention of students. Similarly, capital letters on a given page attract attention.



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- d) *Repetition of stimulus*: Repetition also attracts attention. During a speech, points to be noticed by listeners are given more emphasis and repeated. Similarly, misspelled word is easily noticed if it is repeated twice in a paragraph. But too much repetition of a stimulus may bring loss.
- e) *Movement of stimulus*: A moving object attracts more attention than the still object. Most of the advertisement attracts attention by moving lights on the board.

**Internal factors-** Along with external factors, internal factors also affect attention. These inner factors include as follow:

- a) *Interest and attention*: Interest is a very helpful factor to attract attention. A student interested more in computers would be easily attentive in computer class than any other class. If a person is interested in buying books than in market the book shops will attract his attention than cloth or shoe shops.
- b) *Motives*: The basic drives and urges are the most important factor in attention. Thirst, hunger, sex, curiosity, fear is some of the motives that influence attention. A hungry person will notice smell of food. Similarly, nicely shaped female models are used to sell unrelated items such as tyres, tractors, electrical items, etc. as sex drive is highly used in advertisement.

**Span of attention**-People pay attention to one object, idea or fact that can be center of consciousness at a time and can attend one thing at one time. Span of attention, therefore, referred as the process of paying attention to the stimuli at given point of time. This span differs from person to person and according to different situations. Span of visual attention is measured through the instrument known as tachistoscope. With the help of this instrument, the person is shown different cards in short time and asked to recall. The correct responses are considered as the measure of the span of attention.

**Shifting or fluctuation of attention**-While paying attention to an object, event or activity, the concentration shifts from one stimulus to other. This is called as fluctuation or shifting of attention. Attention can be divided into two parts i.e. Focus and Margin. At a given point of time, the object on which a

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person is paying the attention is called Focus and the remaining background is called Margin. However, the attention keeps shifting from one stimulus to another stimulus. Hence, at one point of time the focus can become margin and vice versa.

**Division of attention-** In a given situation when two different tasks are to be performed at a time then this process is called division of attention. If the nature of the task is similar then there are chances that work may suffer less but the assigned tasks are different in nature then it may take long time to complete the tasks and the work quality may get deteriorated.

**Sustained Attention-** In given task performance, if a person remains attentive throughout the task, without getting distracted by internal or external stimulus, then this process is called sustained attention. In this process the person from the beginning till the end keeps paying attention to one task without getting much distracted.

**Distraction-** Distraction refers to the interference in attention. The sources could be internal or external. External factors include noise, lack of light, uncomfortable sitting arrangement, etc. whereas internal factors include motivation, interest, emotional disturbance, etc. There are two strategies to help keep and maintain concentration: To increase attention to relevant information and to decrease attention to irrelevant stimuli. One has to be trained to focus on something to accomplish task and he has to be trained to 'shut out' from activities that hinders concentration.

### 1.5.1.1 Review of Studies on Concentration

Cancellation test has been used as a tool for assessing attention deficits among the patients suffering from Alzheimer disease and visuo-spatial ability. In a study, 'Evaluating Older Driver's Skill', conducted by US Transportation Department, Letter Cancellation Test was used (Chaudhary, Ledigham, Eby, & Molnar, 2013).

A study was carried out by Dixit and Rai (2016) to see if language has any effect on performance in Letter Cancellation Test (LCT). In country like India, all people are not well versed with English language and most of the

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tests are in English language. Therefore, the study was carried out in Hindi and English language and the results were compared. The study was conducted on 50 healthy volunteers after taking written, informed consent. Subjects were asked to cancel out letters in One, Two and Three LCTs in Hindi and English language. The total time taken to complete each test and number of errors were statistically analyzed by unpaired t-test. The findings showed that significantly longer time was taken to complete Hindi LCTs than English LCTs and error rates in Hindi LCTs were more than English LCTs. This is probably because of the complex script for Hindi requiring more time and neural resources for processing.

According to a study conducted in Dehradun, teaching time affects attention and concentration of students. The study was conducted in selected College of Nursing, Dehradun, Uttarakhand, India (Lamba, Rawat, Jacob, Arya, Rawat, Chauhan, & Panchal, 2014). The study was administered on 91 nursing students who had classes for two hours. The tools used for study were divided in two sections i.e. section A was about the details of the sample (includes age, gender, class/group and duration of class preferred by the students) and section B contained self-reported checklist (include factors which can distract the students during the class). The analysis of data showed that most of the students lose attention and concentration during lengthy teaching learning activities and there was no significant association between sample characteristics with attention and concentration score of students.

Concentration is required while solving difficult subjects like arithmetic. Concentration is one of the most important cognitive ability that helps a child to achieve his or her difficult tasks. A study conducted by Baumer and Camos (2015) was aimed to find the contribution of cognitive abilities such as multiplicative facts, attention and spatial capacities to solve the long division problems. The study was conducted in three French urban schools with sample size of 56 students of age group 10 to 11 years. There were six different test used in the study out of which cancellation subtest of WISC was also used. The results showed that increased attention capacity and better knowledge in multiplicative facts contributed to division solving, whereas spatial capacity did not contribute for unique variance and children

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with low attention capacity showed decreased in performance when the solution required more processing steps.

Another study conducted by Sulaiman, Mahbob, and Azlan (2011) showed that students were able to concentrate and were comfortable in learning when they were with people whom they liked. The study also revealed that concentration increases when there is conducive environment, good teaching technique like proper communication and discussion. Rami (2012) conducted study to find out the status of primary education in the tribal district of Gujarat. The study revealed that the status of primary education was not satisfactory. This tribal district had educational issues such as poor infrastructure of schools, number of teachers per classroom, instruction methods used by teachers, language of communication, parents' education were the factors which affecting attendance. Issues related to a particular community are required to be studied properly to address it. Individual issues of students in classroom such as learning disorders, health issues also need to be addressed to develop interest and concentration of students.

### 1.5.2 CREATIVITY

Creativity is defined as the process of producing something that is both original and worthwhile or characterized by originality and expressiveness and imagination (Csikszentmihalyi, 1999). "Creativity is a concept of individual differences which is intended to explain why some people have higher potential to provide new solutions to old problems than others. It leads us to change the way we think about things and is conceived as the driving force that moves civilization forward" (Hennessey & Amabile, 2010, pp.569-598). The different theoretical traditions relating to creativity are: a psychoanalytic tradition, a personality trait tradition, a phenomenological tradition, a behaviorist tradition and a social cognitive tradition.

In the psychoanalytic tradition creativity is correlated with fundamental dimensions of personality such as extraversion. The personality trait tradition relates creativity to aspects of personality that includes

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differences in cognitive ability, tests to assess levels of ability and an underlying factor of general intelligence, the 'g' factor. The behaviorist tradition explains creativity as the response of an individual to influences in the environment. The social cognitive tradition emphasizes that individuals modify behaviour and responses according to the situation.

In today's world, there is a need of those individuals who can develop sophisticated creative solutions to the complex problems prevailing in society and communities. Creativity is considered as an essential skill required at this hour. Educators and education policy makers emphasize on developing creativity among children. Creativity is the set of attitudes abilities, and mental processes that increases the probability of hitting upon the solution that seemed to be well informed both novel and appropriate. It encompasses the process of generating new ideas which can further result in a formulating new solution to a problem, a new method or device, or a new artistic object or form. Creativity refers to abilities that are most characteristics of creative people. Creative abilities describe whether the individual has the power to exhibit creative behavior to noteworthy degree and the requisite abilities will actually produce the result of creative nature will depend upon the motivational and a temperamental traits.

Creativity is the production of unique and useful products, services, processes, or procedures (Parashar & Pingle, 2015). Process theories typically specify different stages of processing or particular mechanisms as the components of creative thought (Parashar & Pingle, 2015). Developmental views on creativity mainly emphasize the person, place, and potential aspects of creativity. In the componential theory, the influences on creativity include three components which are individual specific which include domain-relevant skills, creativity-relevant processes and task motivation (specifically, the intrinsic motivation to engage in the activity out of interest, enjoyment, or a personal sense of challenge) (Parashar & Pingle, 2015). The person-centered views of creativity assess creativity with view of personal attributes like intelligence and attributes. The process-centered theories view creativity with reference to thought process like problem-solving or strategies (Batey & Furnham, 2006).

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According to Guilford (1967), divergent and convergent thinking are two types of human response to a set problem. Guilford defined divergent or “synthetic thinking” as the ability to draw on ideas from across disciplines and fields of inquiry to reach a deeper understanding of the world and one's place in it. He, thus, associated divergent thinking with creativity, appointing it with several characteristics:

1. Fluency (the ability to produce a great number of ideas or problem solutions in a short period of time);
2. Flexibility (the ability to simultaneously propose a variety of approaches to a specific problem);
3. Originality (the ability to produce new, original ideas) and
4. Elaboration (the ability to systematize and organize the details of an idea in a head and carry it out).

Fostering creativity in education is very important for many reasons such as dealing with ambiguous problems, coping with the fast changing world and facing an uncertain future. It is also important for economic reasons as creativity would help nations for attaining higher employment, economic achievement and to cope with increased competition. It has therefore become important to teach creativity as a skill to students (Shaheen, 2010). Formal education is being criticized for making stereotypes and spoon feeding students as the approach towards education is knowledge acquisition. This ultimately leads to killing creativity among students (Shaheen, 2010). Schools are the ideal place for encouraging creativity and not just produce elite class students.

### **Characteristics of Creative Students**

Following are the characteristics of a creative individual (Morris, 2017):

- a) Creative students are curious. They ask questions and like challenges.
- b) Creative students think laterally and make associations between things that are not usually connected.
- c) Creative students are imaginative and they look at things from different view-points.
- d) Creative students explore ideas and options to achieve creative results.

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- e) Creative students reflect on ideas, actions and outcomes of the task.

### **Teachers Encouraging Creativity**

Teachers should follow the below given suggestion to encourage creativity (Morris, 2017):

- a) Students should be given space and time to explore when they are productively engaged and motivated to complete task.
- b) An inviting and exciting environment should be created in classroom.
- c) Students should be provided with interesting and useful material along with resources.
- d) Students should be ensured that their mistakes are acceptable and they should be encouraged for risk-taking.

### **1.5.2.1 Review of Studies on Creativity**

We all use new technologies and products which results due to creative thinking. The society needs creative people who come-up with different solutions. Our problems are resolved easily when we improve our capacity for thought, action and communication. Children have to grow in adults who think flexibly, innovative, play with ideas and material, use information in new ways, experiment with novel concepts, take risks, can work with people from different places and cultures and deal with change. For all these characteristics children have to grow as creative adults and encourage creative thinking (Duffy, 1998).

Alternative Tests is widely used as tool for divergent thinking. Divergent thinking is a very important in creative design process. There are many solutions for a problem in design problems. A study to evaluate alternative uses of Creativity was carried out by Dippo (2013) on 2000 participants of age ranging from 15 to 64 years. He hypothesized that subjects who gave more responses will have more responses that are creative and the items listed first would be fewer novels than those at the end. The participants were asked to list the uses of paper-clip in 3 minutes. The findings showed

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that the subjects who gave more responses were having more novel ideas.

Secondly, later responses were more novel than the responses stated earlier.

Creative learning environment has to be created in schools for children to develop the creativity and good academic results. A study was commissioned by Learning and Teaching Scotland (LTS) by reviewing 210 different educational researches, policies and other professional literature related to creative environment for learning in school (Davies, Jindal-Snape, Collier, Digby, Hay, & Howe, 2013). The authors mostly reviewed the studies published in 2005-2011. The finding showed that factors such as flexible use of space and time; availability of appropriate materials; working outside the classroom/school; 'playful' or 'games-bases' approaches with a degree of learner autonomy; respectful relationships between teachers and learners; opportunities for peer collaboration; are the important factors which promote or support creative skills development in children and young people. Studies also show that there is positive impact on students' academic achievements due to creative environment.

A study was carried out in India to see the divergent thinking ability among selected sample of school children (Sharma, 2015). It also aimed to compare the divergent ability in the sample group across gender and assessment of home and school environment for development of divergent thinking of the selected sample. The study also aimed to find the parents and teachers perception regarding the importance of divergent thinking skills. Total sample of 1000 children of age 6 to 9 years was selected randomly (450 girls and 550 boys) from Jammu district of India. Standardized Divergent Production Ability Test (DPAT), Standardized Socio-economic Scale, Self-devised Parental and Teacher perception questionnaire, Self-devised school and home environment rating scale were the tools used for assessment. The results showed that girls scored higher than boys on all indicators of divergent production ability test. Statistically, no significant difference was found across gender on all the factors of divergent production ability test. The children who were high performer in DPAT had high accessibility to all the material (unstructured material, educational material, play equipment, natural material, electronic goods) at their homes than low performer children. The study also



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revealed that high performer children engaged themselves more in usage of technology, unstructured material, visual art and excursion activities than the low performer children. There was significant difference among high and low performer children with respect to their activities at home.

Yadav (2015) in her study states that every child is different in his creative ability. She conducted a study where her objective was to find out relation of intelligence and self-concept with different dimensions of creative thinking of 10+2 students in Rewari district of Haryana. The results of the study showed that intelligence and self-concept positively affect creative thinking of the students and students with high self-concept showed more originality, more flexibility and more fluency on creative thinking as compared to students with low self-concept. This implies that every child needs special attention to develop his creative abilities.

A comparative study of creativity to find the differences among girls and boys studying in secondary schools of Aligarh city was carried out by Siddiqi, (2011). The instrument used was Torrance Test of Creative Thinking (Verbal Form A). The findings revealed that boys do not differ significantly in all the variables of verbal creativity, except the measures of originality from the girls. Another study was carried out on a sample of 600 students. The results indicated that creativity is one of the factors which contribute significantly in the academic achievement of the students. The findings also revealed that creativity could predict students' academic success and achievement-orientation (Chauhan & Sharma, 2017). Sherfat and Murthy (2016) conducted a comparative study of Government and Private School students on their critical thinking and study habits. The study was conducted on 625 students of Mysore city. Results indicated that Private School students had better critical thinking ability and study habits in comparison to Government school students. Similar study was carried out by Surapuramath (2014) to study the relationship between creativity and academic achievement of secondary school pupils. The sample consisted of 50 students from government aided school and 50 students from unaided school in Kollegala Taluk. The results showed slightly positive relationship between creativity and academic achievement of 8<sup>th</sup> standard students and there was no significant

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difference on creativity of 8<sup>th</sup> standard students on gender, rural and urban students and government and unaided school students.

In today's world creativity is very important for children to deal with the day-today problems and cope with changes in environment. Children can acquire and develop creativity skill in their early years. Intelligence and self-concept of the students positively affect creative thinking of the students (Yadav, 2015). Creativity is to be nurtured. If teachers use techniques such as brainstorming, free discussion, games, use different teaching models then, Creativity will be encouraged in children. Creativity helps to generate multiple solutions to one problem. Creativity is not only helpful in subjects like art, drama, dance, music but also in subjects like mathematics and science. Children who think critically, enjoy in learning new things would be those who regularly come to school and are encouraged by parents and teachers. Government school students need to be educated for study habits and develop critical thinking abilities. The study conducted by Yadav (2015) states that intelligence and self-concept positively affects creative thinking. Teachers should be trained to address such needs of children.

### 1.5.3 PROBLEM SOLVING ABILITY

Academic achievement gets affected by many factors like intelligence, motivation, school and home environment, interests, aptitude and many more. Problem solving is one of major factors that affect academic achievement. Problem solving is the key to success and has been regarded as the most significant aspect of human behaviour. Problem solving ability plays an important role in the academic achievement of students and has been received broad public interest as an important competency in modern societies (Gupta, Pasrija, & Kavita, (2015). According to Mayer and Wittrock (2006), problem solving is cognitive processing directed at achieving a goal when no solution method is obvious to the problem solver. This definition consists of four parts:

1. First part, problem solving is cognitive i.e. problem solving occurs within the problem solver's cognitive system and can only be inferred from the problem solver's behavior.

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2. The second part, problem solving is a process i.e. problem solving involves applying cognitive processes to cognitive representations in the problem solver's cognitive system.
3. The third part, problem solving is directed i.e. problem solving is guided by the problem solver's goals.
4. The last part, problem solving is personal i.e. problem solving depends on the knowledge and skill of the problem solver (Gupta, Pasrija, & Kavita, (2015).

The procedure of overcoming difficulties or problems which interfere with the satisfaction of wants is called problem solving ability.

Problem solving is also related to critical thinking, decision making, reasoning and thinking. Problem solving is also about how people think scientifically or mathematically or how people think within the process of reading or writing a passage. Problem solving ability is necessary skill which students can use further in their study. Enhancing student's problem solving capacity is one of educational psychology's greatest challenges and is a major demand placed on any educational institution (Mayer & Wittrock, 2006).

Problem solving is an individualized process but the classroom teacher can develop a scientific approach to solve problems that the students are expected to face in social life. Teachers in school can create an environment that will help child to develop problem solving ability. In present world where technology and socio-economic changes are happening so frequently number of problems is multiplying in a person's life. Therefore, it becomes responsibility of school to develop scientific attitude in students so that they may solve their problems independently for better adjustment in the future complex society. Problem solving is a mental process and is a part of the larger problem process that includes problem finding and problem shaping. Problem solving requires the modulation and control of fundamental skills. Problem solving involves the application of principles and facts to explain new phenomena or predict consequences from known conditions. Problem solving is the ability to think and reason on given levels of complexity. When a state of tension is created which hinder the progress towards the goal and

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satisfaction in an individual, then he uses best language techniques, observations and skills to control the difficulties.

Problem solving is the key to success and has been regarded as the most significant aspect of human behaviour. There are individual differences in the problem solving ability. Some individuals can handle a situation, but others cannot. A large part of an individual's life is spent in a struggle to find effective solution to his problems. A student having good problem solving ability will be properly adjusted in the class as well as at home (Gupta, 2013). The main objective of problem solving is to go through the physical, psychological, social and environmental factors which hinder the progress of an individual to attain certain goals. If the student has low problem solving ability then he may become recessive, withdrawn, nervous and prone to anxiety, which ultimately is not desirable for his sufficient positive growth (Gupta, 2013).

Early psychological theories to describe problem solving were based on the ideas of trial-and-error behaviour and stimulus-response association from Edward Thorndike's classic observation of animals in puzzle boxes. But from the early 1990's and additional observation of young children, psychologists concluded that the trial-and-error behavior is a generally ineffective and time consuming approach to problem-solving and is only workable if there is a limited number of possibilities to try. Further psychologists focused their research only on process that can be observed and measured. Later this approach shifted to information processing theory, which remains a prevalent theory today. Information processing theory of memory is the basis for contemporary theories of learning and problem solving. According to this theory, information in the brain is stored in two primary components of memory: short term or 'working' memory and long term memory. Short term memory is limited in size and the length of time it can hold information. In contrast, long-term memory can hold vast quantities of facts and data for long periods of time, but to access this information must be activated by being brought into working memory. In problem solving, it is thought that working memory is utilized to process information about the

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problem and maintains its accessibility during the problem solving process (Gupta, 2013).

John Bransford and Barry Stein (1984) suggested five steps of problem-solving viz. 1) identifying the problem, 2) defining and representing the problem, 3) exploring possible strategies, 4) acting on the strategies and 5) looking back and evaluating the effects of one's activity. There are many factors affecting problem-solving behaviour but all can be combined into two distinct categories viz. 1) Factors depend on the nature of the problem and 2) Factors associated with the problem solver (Mangal, 2017). Factors depend on the nature of the problem includes:

- 1) Complexity of the problem-** Complexity of problem plays important role in solving any problem. If the problem is more complex, the participants are less likely to solve the problem.
- 2) Improper perception of the problem-** If a problem is not perceived as problem or perceived as a small problem as bigger one, then there are fewer chances to solve the problem.
- 3) Misinterpretation of the problem-** It happens when a person is unable to understand the nature of a problem. Hence, he cannot find any solution of it.
- 4) Lack of resources in the solution of the problem-**Resources are also very important part in solving the problem. If proper resources are missing, then the solving any problem becomes a difficult task and
- 5) Unfavourable circumstances to solve the problem-** Apart from the factors mentioned above, if the circumstances are not in favour then the problem solving becomes a difficult task.

Factors associated with problem solver, on the other hand, include

- 1) Intelligence of the problem solver-**Person who is not intellectually superior would not be able to identify exact problem or core issue;
- 2) Interest and motivational level of the problem solver-**A person's interest and motivational level helps the person to strive for solution of the problem;
- 3) Mental Set-**It is the tendency of a person to use the old strategies or use past experience to resolve problem. There could be possibility that old strategies might be applicable for the current problem, and;

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**4) Functional fixedness-** This refers to the fixedness in our ways of thinking. People have fix pattern of resolving the problem and are unable to think of alternative or new solution.

**Strategies for problem-solving-** After numerous researches, psychologists and educationalist have derived few strategies to resolve problem. The effective strategies for problem solving are:

**1) Trial and error method-** It involves attempting one by one all possible solution until the problem gets resolved.

**2) Testing hypotheses-**It is a systematic way of problem solving involves establishing a relation between problem and its possible solutions with finding the solution of a problem.

**3) Algorithm-** It is a strategy for arriving at a solution that involves a specific order to all possibilities of coming to a solution.

**4) Heuristics-** It is a use of some mental short cut or rules for restructuring a problem in such a way to arrive to a solution. The most commonly used heuristics are:

Sub-goal analysis: A bigger or larger problem is reduced to smaller easily solvable problems.

Means-end-analysis: The identification of the difference among current state and that is desired in relation to the problem and taking proper steps to reduce the difference between the two.

Using an analogy: Using the solution to a previous problem to solve a current one. The previous experience helps the person to solve the problem.

Working backward: Starting with a specific end then working backward until solution is obtained.

Problem solving ability plays an important role in the academic achievement of students. Developing problem solving ability enhances the student's ability to approach problems systematically and tackle the problems effectively.

In the present study attempt has been made in the direction of exploring the impact of regularity on problem solving ability.

### 1.5.3.1 Review of Studies on Problem Solving Ability

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There are many studies which support that problem solving ability positively relates with academic achievement. Improvement in any subject can be achieved by sharpening problem solving approach. A study was conducted by Gupta, Pasrija, and Kavita (2015) to assess the effect of problem solving ability on the academic achievement of 250 (165 males, 85 females) 10<sup>th</sup> standard high school students of Rohtak district. The marks obtained by the students in 9<sup>th</sup> class (previous class) were considered as the academic achievement of students. Statistical analyses revealed that the problem solving ability had a significant effect on academic achievement of high school students. Similar study was conducted by Gupta (2013) in Government High Schools of Jammu District. Sample of 100 scheduled tribe and 100 scheduled caste students studying in 10<sup>th</sup> standard were randomly selected for the study. The objective of the study was to find the effect of gender and caste on the problem solving ability and academic achievement of students. Interactional effect of gender and caste on the problem solving ability and academic achievement of students was also analyzed. The findings showed that gender and caste had significant impact on the problem solving ability of students. Gender did not significant impact on the academic achievement of students whereas caste had significant impact on the academic achievement of students. Lastly, no interactional effect of gender and caste was found on the problem solving ability and academic achievement of students.

A study in Maldives high school was done to see if there existed any relation between academic achievement in relation to their problem solving ability and exam anxiety (Bala & Shaafiu, 2016). A sample of 100 male and 100 female students from secondary school of Maldives were randomly selected. Scores achieved by students in previous years were also analyzed. The study revealed that there was no significant difference between gender of the students in academic achievement, problem solving ability and examination anxiety. But there was positive correlation between academic achievement and problem solving ability.

Problem solving ability is used in different subject such as mathematics, science, physics and also in day to day life. A study was carried out in Thailand to see the factors influencing mathematics problem solving

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ability of sixth grade children (Pimta, Tayruakham, & Nuangchalerm, 2009). Total 1028 students were taken as sample by using stratified random sampling technique. The findings revealed that direct factors influencing mathematic problem solving ability were attitude towards mathematics, self-esteem, and teacher's teaching behaviour. The indirect factors influencing mathematic problem solving ability were motivation and self-efficacy. It was concluded that teacher's behaviour affects problem solving ability of children and hence teachers need to encourage children and develop good attitude towards the subject.

A study was conducted in Nigeria, South-Africa to find student's ability level and their competence in problem-solving task in physics (Adeyemo, 2010). Two hundred students were selected as sample for the study. Data was collected using two basic instruments: student questionnaires and physics student achievement test. The findings showed that students' ability had significant influence on problem-solving task but there was no significant relationship between the stages of cognitive development and problem task in physics. The study suggested that children should be engaged in problem solving exercises to develop their innate abilities.

Similar study was conducted by Cornoldi, Carrett, Drusi and Tencati (2015) on 135 primary school children attending eight classes in the third, fourth and fifth grades (age range 8–10 years) in Italy. The sample was divided in two groups: Group 1 and Group 2. Initially for 3 months Group 1 was trained and Group 2 was serving as waiting list, later the role of two groups was reversed Group 2 attending training instead of Group 1. The results revealed that training on improving problem solving skills led to improvements in metacognitive and working memory tasks with positive-related effects on the ability to solve problems. The gains seen in Training Group 1 were also maintained at the second post-test (after 3 months). The study also suggested that training can bring positive changes in students weaker in problem solving skills and such training could be conducted by suitable trained class teacher and could be delivered to whole class without any need for individual sessions.



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Another research study was conducted on to find out main factors affecting problem solving and self-confidence using cooperative learning. The results indicated that ability, motivation, perseverance, sense of helplessness and inhibitor are the factors that influence problem solving ability (Mafakheri et al, 2013). If students develop good problem solving ability then they can find strategies to resolve the daily problems which they face in rural and tribal areas such as family responsibilities, long distance of schools, occupational responsibilities such as working in fields, etc.

Problem solving skills can be developed in students through proper training. A study by Dongre and Patel (2015) proved that activity based program are useful to develop problem solving skill and such program can help to bring awareness among the secondary school adolescents towards sustainable development and make them think of environment before every action they do. If the students regularly attend school and get involved in special development programs, then skills can be developed. Those students who are irregular or female students who are poor in problem solving ability might be facing similar issues like sense of helplessness, lack of motivation or low motivation. If schools conduct frequent programs or workshops on such issues, then problem solving ability of children can be addressed up-to some extent.

A child in his school age should be given opportunities to explore, read, interact and share his experiences which in future becomes his experiences that helps in problem solving.

### **1.6 PARENTS' ATTITUDE TOWARDS EDUCATION**

Parental support and involvement in students' education is very important. The home environment provides cushion for the child to grow. Parents' negative attitude towards education can result in discontinuation of child's education. With less support or poor involvement of parents in school may result in child's poor performance in exams or disinterest in education. Positive attitude of parent's in education will motivate child, create interest in studies and will boost his self-esteem. Parents' positive attitude towards

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education and awareness of importance of education will also result in children's less involvement in household activities or economic activities (Dinesh & Chandrasekhar, 2015).

There is awareness regarding importance of home environment but researches lack in the interventions taken to improve the home environment and there is also a need for research to show how home environment affects schooling. Parents' attitude towards education with reference to male child and female child also needs to be addressed. Child's personality gets affected by home experiences and it plays vital role in shaping personality (Dev, 2016). Family problems are more to be blamed for causing truancy (to run away from classes) among adolescents reveals the study conducted by Gosain (2013) who conducted research to find the factors responsible for truancy among adolescent. Parental in-differences, parental demands, criticism and lack of recognition by parents were few of the factors studied by the researcher.

Parents play a major role in development of child from birth to maturity. Similarly, family involvement is also important in child's studies as it is directly associated with children's learning, motivation to learn, attention, skill development and shaping of child's behaviour. Parents' positive attitude towards child's education is important in determining school attendance and academic achievement of the child. Favourable attitude towards schooling and education enhances parental involvement in children's present and future studies. Students have a higher probability of academic success whose parents provide additional assistance in their academics (Antonie, 2015). In a study conducted in United States of America, parents were divided into two groups. One group of parents was given a handbook, which gave tips on improving academic achievement, and other group did not receive any handbook. Children had better academic achievement whose parents received handbook and were more involved in academics of their children than those parents who did not receive handbook. The results indicated that there is positive relationship between parental involvement and academic achievement of children (Wilder, 2014).

A study was conducted in Odisha to assess attitude of parents towards the education and schooling of their children. The sample of 145 parents

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consisted of tribal and non-tribal parents belonging to Santoshpur village of Sundargarh district in Odisha. A questionnaire was used pertaining to schooling and education of children. The result showed that attitude of parents was moderately favourable and positive towards schooling and education. There was no significant difference in the attitude of tribal and non-tribal parents and gender difference was also found to be non-significant (Samal, 2012). Similar finding is seen in study Sonapur village of Kamrup district in Assam (Bordhan, 2014).

Another study was conducted to examine the extent of parent's attitude on education of different groups of population of Haryana. The sample consisted of 283 parents belonging to rural areas and 317 families belonging to urban areas of Haryana. A 25-item questionnaire was used for collecting data along with personal interview. The finding showed that overall the attitude of the respondents was positive towards education and there was no significant difference in the attitude of rural and urban parents. Also gender difference was not significant (Mor & Sethia, 2015).

Similar study was conducted in Channageri Block of Davanagere district in Karnataka to find parents' attitude and perception towards primary education. The sample of 145 parents belonged to tribal and non-tribal population. A 23-item questionnaire was used for collecting data along with personal interview. The findings showed that there was no difference in attitude of tribal and non-tribal parents and found gender difference to be non-significant (Dinesh & Chandrasekhar, 2015).

Parents involvement in education leads to positive results in academic achievements of child. In this context a study to find the relationship between Indian parents' education level and their involvement in their children's education was carried out in National Schools in the Kerian district located in the state of Perak Darul Ridzuan, Malaysia where the sample was 150 Indian students studying in National schools. The finding of the study indicates a moderate relationship between the parent's education level and the strategies the parent implemented such as discussion of school activities or future planning. It also states the parents with high education held higher academic

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aspirations for their children used various strategies for excellence in studies at home and at school (Vellymalay, 2011).

Roy and Bondapadhyaya (2016) conducted study to explore the effect of parental involvement on the academic achievement of the children. The research was conducted in Purulia District of West Bengal. A sample of 100 students of 10<sup>th</sup> class of secondary schools (public and private) was taken as the respondents. The findings showed that even though there was healthy parental support, academic achievements of the students were not up to the mark and students from lower socio-economic background had to help family to provide financial support.

Similar study was conducted in two districts of Tamilnadu on sample of 1007 students of 10<sup>th</sup> grade. The aim of the study was to find the influence of home environment on academic achievement in mathematics. The findings suggested that there is a positive relationship between knowledge of mathematics, understanding as well as application of the subject and home environment. The study suggested that parents should give healthy environment to children, which would help them to attain academic goals (Jayanathi & Srinivasan, 2015).

A study was conducted in five states of India (Miller, 2007). The findings revealed that importance of girls' education is related to marriage. Girls' education is highly dependent on the boys' education in surrounding village or pool from where the parents seek match for marriage of daughters. Mid-day meal and financial aid schemes have made positive impact on girls' attainment of school (Miller, 2007). Illiteracy of parents, parents' experience of unemployment after getting education, poor health condition of children, negative and in-different parents' attitude towards education of girl has resulted in student absenteeism (Khatoon, 2015).

The present study also aims to examine whether the tribal and non-tribal parents, today, exhibit a positive and favourable attitude towards their children's education because of increasing awareness of values of education through Government endeavors and initiatives.

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### **1.7 IMPORTANCE OF REGULARITY AND FACTORS AFFECTING REGULARITY**

Early childhood education is important for physical, intellectual and social development of a child. Early childhood education helps the child to use the skills he learns in his daily life and provides a base for higher education. One of the most important aspects of education is attendance. Children need to attend school regularly. Every day is learning in school. Good attendance is important as it is linked with future career of child and poor attendance is linked with poor grades and disruptive behavior of child. The actual reason for irregularity in school needs to be investigated to address the cause of the problem. The study conducted by Malcolm, Wilson, Davidson, & Kirk (2003) revealed that poor attendance results in career damage of students studying in higher classes, friendship among peers is broken due to absence and results in isolation to a child. Loss of confidence in a child due to absence leads to disruptive behavior and teachers are unable to give required help in studies to an irregular student. Therefore, regular attendance is required in school.

Regular attendance in school is one of the good study habits. If a child wants to excel in academics, he has to be attentive in class. The interest in studies is maintained by regularly attending school. A study conducted by Siahhi and Maiyo (2015) revealed that there is positive relationship between study habits and academic achievement. According to the study, good study habits are attending school regularly, concentrating on studies, facing problems regarding home environment and planning, facing challenges at school and studying with an aim to get knowledge and not cramming.

The study conducted by Bhattaria (2017) in Kathmandu, Nepal revealed that factors positively affecting school attendance are home environment, educated mother and employed mother and factors that negatively affect school attendance are distance to school, presence of siblings, and lack of computers.

In another study conducted on male students at Kingdom of Saudi Arabia showed positive correlation between attendance and final exam performance in all courses, which indicates attendance, is important for good

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performance (Fadellelmoula, 2018). A survey was conducted in Ethiopia to see the effects of pre-school attendance on the cognitive development of urban children at the age of 5 and 8. The results showed that there was positive impact of attendance on cognitive development of children at the age of 5 and 8 years. It also showed positive impact on later age as well as on the progression of grades (Woldehanna & Gebremedhin, 2012). There is a need to study few of the psychological factors which could determine student's regularity in school. The researches emphasize that school should work on improving study habits as it positively effects academics.

The study conducted by Prajina and Godwin (2015) revealed that as tribal people are in transitional state from forest life towards urban or rural life, it has resulted to change in socio-economic condition and psychological distress. The study recommended teaching life skills to tribal adolescents as there was significant correlation between academic achievement motivation and life skills. If students gain more life skills, then their academic achievement motivation would also increase. World Health Organization defines life skills as the behaviour that enables individuals to effectively deal with challenges of everyday life. The ten core life skills recommended by WHO are; self-awareness, empathy, critical thinking, creative thinking, decision making, problem solving, effective communication, interpersonal relationship, coping with stress and coping with emotions. Motivation and skills can be considered as interrelated. Motivation results in skill achievement and acquired skills make people self- motivated (Prajina & Godwin, 2015).

Poor school attendance is a result of multiple reasons such as distance to school, student physical health, academic problems such as boredom, lack of interest in studies, parents' related issues such as their attitude, financial problems and student mental health problem (Erbstein & Olagundoye, 2016). Irregular attendance leads ultimately to wastage and stagnation of resources provided by Government (Rama, Anitha, & Reddy, 2014). Those students who remain absent or irregular for a long time in school are prone to poor academic performance which leads to loss of interest in studies, low self-confidence, and low self-esteem and finally the child may decide to dropout. Many studies have been conducted to find reasons for absenteeism. There is

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need to conduct research on those factors which could result in improvement of regularity among tribal students. Hancock, Shepherd, Lawrence and Zubrick (2013) noted in their research that irregularity affects academic achievement in numeracy, reading and writing skills of a student not only for the current year but it also affects the future years. Attendance in school also reflects participation of a child in education and students at risk of dropouts can also be identified. Educational achievements, learning outcomes and his overall development are also important for a child.

Major reasons for dropouts and irregularity identified through various researches and reports which would be described in detail in further sections of the study are given below:

1. Lack of adequate facilities in school
2. Distance to the school
3. Teacher shortage, teacher absenteeism and overcrowded classrooms
4. Children helping in household work and take care of their sibling at home
5. Children helping parents in their occupation like farming or looking after a shop or participate in income generation activity
6. Seasonal migration of parents
7. Children's disinterest in studies
8. Boredom at school
9. Unhappy with teaching methods
10. Unable to do homework given by teachers
11. Parent's disinterest in studies
12. Low level of parental education
13. Lack of motivation from parents to attend school
14. Lack of parental help in school work
15. Compulsion for children to attend family functions like marriage

### **1.8 ISSUES RELATED TO TRIBAL AND RURAL EDUCATION**

Across India many researches have been carried out on different issues related to tribal and rural education. These researches help in reforms of

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education policy by pointing the issues in current policies, strengths of the schemes and policies, areas where attention is required and evaluation of success and failure of a scheme or program.

The study conducted by Rajam and Malarvizhi (2011) on educational status of tribal children in the Nilgris district showed that parents educate their children to get good job, to raise income capacity and personal development. People were not fully aware about the education facilities, concessions and reservations in government offices. The findings also revealed that there was lack of achievement drive in respondents as they thought it was their birth right to get job and financial assistance from government as they belonged to scheduled tribe. Study conducted by AzimPremji Foundation (2012) revealed that India has progressed in universalization of elementary education where there is an increase in girl child enrolment, improved attendance in schools and literacy level but the problem of absenteeism, dropouts still exists mainly because of socio-economic conditions of rural India. The report also said that caste system in India has created unequal educational access for backward class and Scheduled Tribe. Therefore, issues like social oppression, gender discrimination and poverty also needs to be addressed.

The study conducted by Sahu (2014) showed that major challenges of tribal education were medium of language, the location of the village, economic condition, attitude of the parents, teacher related problems and lack of proper monitoring. Anbuselvi and Leeson (2015) revealed that lack of school facilities, frequent absence of teachers, inadequate parental support, lack of transport and poverty were main problems faced by students in family and school. Gandhi and Patel (2016) conducted a study to evaluate the school dropout rate of girls and the reasons for dropouts. This study was carried out in rural areas of Vadodara district. The results revealed that, main reasons for dropout were social restrictions (menarche and marriage), long distance to reach school, sibling care, helping parents in their profession, unavailability of school for higher studies. Out of the total dropouts, nearly 52 % of the girls were attending special classes organised by State government but the study suggested for more remedies to deal with problem. Similar study conducted by Vijayasree and Sarada (2018) on Yanadi Tribe of Andhra Pradesh showed



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that reasons for not attending school were mainly long distance of school and Aganwadi from home, poverty and fear of punishments in school.

Students' and parents' attitude towards education and self-motivation play major role in determining school attendance. After independence, literacy rate, numbers of schools and sex-wise enrolment in schools have increased, yet there is a persistent problem of school dropouts occurring more in education. Among Scheduled Tribe children, this ratio is 55% (Ministry of Tribal Affairs Statistic Division, 2013) is much higher.

Irregularity and school dropouts have been major concern in universalization of education. Dropout is a student who leaves a specific level of educational system without achieving the qualification. The child might have left the school immediately after enrolment, before completing the year or at any other time during the course of the standard. Apart from financial reasons, studies also show that boredom or dislike for subjects like English, Mathematics, lack of educational guidance, poor study habits, attitude, perceptions and morale of students and teachers are also reasons for dropouts and repeaters (Dhawan, 2005). The reasons behind lack of tribal education are medium of teaching, child labour, lack of motivation from parents, absenteeism of teachers, sibling care, gap between seasonal holidays and summer vacation, financial reasons such as uncertainty of income and language problem (Rani, 2009; Chattopadhyay & Durdhawale, 2009). Other researches show that major problems in Tribal education are poverty, language problem, lack of school facilities and lack of teachers in remote areas, socio-cultural issues, aversion towards formal education, scarcity of Scheduled Tribe teachers, habitation problem and poor role of family in education (Chantia & Misra, 2011; Chugh, 2011). Baruah and Goswami (2012) identified household work, lack of parental guidance in studies, large family size, poor economic condition of the family, failure in examination, lack of time for study, punishment by teachers, lack of interest in studies, dislike of teachers as reasons for dropouts. Singh (2013), in his study identified poverty, family issues like abusive family and gender discrimination, lack of motivation from parents, less favourable attitude of teachers, lack of basic facilities at school as reasons for dropout. Studies also show that some intrinsic factors such as poor

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study habits, students and parents' attitude towards education, perception and moral of teachers and students, motivation are also responsible for irregularity and dropouts in schools. To enhance the situation of tribal education, government has launched various schemes and special programmes for education of Scheduled Tribes and Scheduled Caste.

Irregularity refers to students' consistent absenteeism in the classes and in the surrounding of the school. They are enrolled in the school register yet hardly seen as regular student. In one of the studies conducted in Rajasthan, it was revealed that there was equality among male and female students for their irregularity and scheduled tribe students were most irregular among all (Bhatt, Singh, & Swanson, 2014). Unlike dropouts, these students never left the school but they are not attending the schools regularly due to various reasons. Various studies have been conducted to understand the possible reasons behind the irregular attendance in school. Like dropouts, the most common reasons for irregularity are lack of awareness about education among the parents, economic problems and quality of education provided to the students, lack of interest in studies, responsibility of siblings, household responsibility and poor and ineffective parental involvement in School Management Committee (SMC) (Bhatt, Singh & Swanson, 2014).

Maheshwari and Singh (2014) carried out study to know the rural girl students' attitude towards education. They conducted study on 370 respondents belonging to Pennagaram block of Dharmapuri district, Tamil Nadu. The students belonged to 12<sup>th</sup> grade Government Higher Secondary Schools. Among the selected sample 61.9% girls had negative attitude towards education.

Another study conducted by Puan (2016) focused to examine actual condition of tribal women education, majors taken by government to improve the status of education and its effectiveness for decadal literacy change on girls' education in tribal areas of Keonjhar district. The findings by the researcher disclosed that mostly financially well to do families had positive perception for girls' education and those families that had financial problems and lack of education had negative perception towards girls' education. The

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study also suggested that there was severe scarcity of human resource and physical infrastructure which government had to work on.

Gender disparity in education results in dropout or absenteeism also suggested that the development of tribal community can be boosted by increasing literacy among tribal women. This would result in economic development and their participation in decision making among all aspects of life would also increase (Das, 2015). Gender disparity in education could be due to culture, financial crises, family's attitude towards education or student's own attitude towards education. Apart from this, other major reasons like harvest seasons, poverty, visits of guests, taking care of siblings, lack of interest in studies, frequent class test, homework given by teacher, not prepared for examination are reasons for irregularities (Rama, Anitha, & Reddy, 2014).

It is equally important to understand factors that shape healthy personality of a child, attitude of child towards education, self-esteem, need for achievement, problem solving ability, creativity, critical thinking and self-concept to name a few. A study was conducted by Padmanabhan and Kumar (2014) in Wayanad district of Kerala state on tribal students belonging to secondary section of school. This study was conducted on sample of 515 tribal students. The study revealed that attitude towards education plays important role in determining the self-concept. There was significant gender difference in self-concept and attitude towards education but there was no significant difference in self-concept and attitude towards education among government and aided secondary tribal students. Strong remark was made by the study that there is need for healthy self-concept for tribal students.

In an article, Nair (2010) writes that main cause of truancy (absenteeism) and disruptive behaviour among children over 7 years of age in rank order are: (i) the influence of friends and peers, (ii) relations with teachers, often those lacking in respect for pupils, (iii) the content and delivery of the curriculum, (iv) family aspects – parents' attitudes, domestic problems, (v) bullying and (vi) the classroom context, for example lack of control or pupils' learning difficulties. He pointed out that truancy from school is a serious public health issue, which should be addressed by mental health

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professionals, physicians and educators. According to him, a child could be absent in school because of major childhood behavior disorders and is a key risk factor for violence, injury, substance use, psychiatric disorders, and economic deprivation. In the context of mental health, a study was conducted by Makwana and Kaji (2014) on adjustment of secondary school students in relation to their gender. The study intended to see how well the student handles his conflicts or how a person adjusts or compromises to his conflicts which is important to maintain peace and harmony at school, home and society. The main purpose of the study was to see the difference related to the home, school, social and emotional adjustment of secondary school students in relation to their gender. The sample selected for study was 60 boys and 60 girls studying in secondary school of Ahmedabad District, Gujarat. The findings of the study showed that there was no significant difference in home, school and emotional adjustment of boys and girls of secondary school. However, there was significant difference in social adjustment of boys and girls secondary school students at 0.05 level which meant that boys social adjustment was better than girls. Other reasons for irregularity could be lack of parental and teacher motivation to help students, home environment, lack of interest in studies, alcohol consumption in families, laziness, household responsibilities, economical burden which can further result in drop-out.

School environment and classroom environment should be favourable for students to develop interest in studies. Good communication with teachers will also help to identify learning problems with the students. Study conducted by Brahmanandam and Babu (2016) showed that tribal groups perform lower when compared to other group such Scheduled Caste or other Backward Caste because the curriculum does not address to the need of practical capabilities and skills of tribal group. The efforts to enhance tribal education do not achieve its objectives because in many cases the educational needs and problems of tribal communities are not properly identified (Rami, 2012). Factors like timing of teachers, number of teachers, instruction method, syllabus content and parents' educational background, play an important role. A careful study is required and corrective measures are required to be taken (Rami, 2012). There is need to develop curriculum which is in state language

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as well as in tribal language, improving community participation by training tribal teachers and youth, Sensitization of teachers about tribal children's cognitive and behavioral strength motivates teachers to generate interest among tribal children for education (Pradhan, 2015).

Studies conducted on absenteeism show that along with economic and social problems, factors such as lack of interest in studies, bad physical health, lack of proper study room or privacy for study at home and lack of motivation are also responsible for irregularities (Khatoon, 2015). Due to health problems or lack of essential facilities, there is a possibility that the child might not be able to concentrate on studies.

### **1.9 TRIBAL DEMOGRAPHY IN GUJARAT AND VADODARA**

The literacy rate in Gujarat has seen an upward trend and is 79.31% as per 2011 population census. Compared to the situation in 1951, the improvement in literacy in Gujarat is phenomenal. From literacy rates of barely 29 and 12 per cent for men and women, respectively according to 1951 Census it has increased to 87.23% for males and 70.73% for females by 2011. In actual number of population total literates in Gujarat stands at 41,093,358 of which males were 23,474,873 and females were 17,618,4856. Some of the districts in Gujarat have comparatively higher literacy rate such as Surat (85.53%), Ahmedabad (85.31%), Anand (84.37%), Gandhi Nagar (84.16%) and Navsari (83.88%). Dahod district has the literacy rate of 60.60% and stands first from the bottom. The male and female literacy rate in Dahod is 72.14% and 49.02% respectively.

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### 1.9.1 Tribal Demography in Vadodara District

Table 1.2

*Vadodara District Population Facts*

Description	2011 Census
Actual Population	4,165,626
Male	2,153,736
Female	2,011,890
Population Growth	14.38%
Area Sq. Km	7,546
Sex Ratio (Per 1000)	934
Child Sex Ratio (0-6 Age)	897
Average Literacy	78.92 %
Male Literacy	85.39 %
Female Literacy	72.03 %
Literates	2,893,080
Male Literates	1,614,087
Female Literates	1,278,993

Source : <https://www.census2011.co.in/census/district/200-vadodara.html>

According to Census 2011, total population of Vadodara District is 4,165,626 out of which male population is 2,153,736 and female population is 2,011,890. There are 12 blocks in the district having 1,533 villages and among these villages 4 villages are uninhabited. The total urban population in the district is spread over in 25 towns. According to Census 2011, total 2,893,080 people are literates in Vadodara District, which constitutes 78.92 percentage of the total population. The literacy rate of male population is higher (85.39 percentages) than female population (72.03 percentages) and the gap between male and female literacy rate is 13.36 percentages.

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### 1.9.2 Demographic Detail of Dabhoi Block

Table 1.3

#### *Dabhoi Population Facts*

Number of Households	38,972
Population	1,80,518
Male Population	93,335 (51.7%)
Female Population	87,183 (48.3%)
Children Population	19,957
Area	635.44 km <sup>2</sup>
Sex-ratio	934
Literacy	70.62%
Male Literacy	76.93%
Female Literacy	63.88%
Scheduled Tribes (ST) %	32.82%
Scheduled Caste (SC) %	5.78%

Source: <https://www.censusindia2011.com/gujarat/vadodara/dabhoi-population.html>

‘Block’ is called the administrative division of District, which is headed by Mamlatdar. Dabhoi is spread in 635.44 sq. km with 118 villages, 1 town, 38,972 households and 284 per sq. km population density. According to Census of India 2011, the total population of Dabhoi block is 1,80,518 out of which 19,957 are children. From total population 32.82% population belongs to Scheduled Tribe (ST) whereas only 5.78% population belongs to Scheduled Caste (SC). The sex-ratio of Dabhoi block is 934 girl child per 1000 male child. The males are more literate i.e., 76.93% in comparing to females i.e., 63.88%, which is also higher than total literacy rate of the Block i.e., 70.62%.

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### 1.9.3 Demographic Detail of Naswadi Block

Table 1.4

*Naswadi Population Facts*

Number of Households	29033
Population	1,55,443
Male Population	78,838
Female Population	76,605
Children Population	25,450
Area	538.38 km <sup>2</sup>
Sex-ratio	972
Literacy	48.96%
Male Literacy	57.29%
Female Literacy	40.38%
Scheduled Tribes (ST) %	87.72%
Scheduled Caste (SC) %	0.88%

Source: <https://www.censusindia2011.com/gujarat/vadodara/nasvadi-population.html>

Naswadi, is spread in 538.38 Sq. KM with 218 villages, 29,033 households and 289 per Sq. KM population density. According to Census of India 2011, the total population of Naswadi block is 1,55,443 out of which 78,838 are male and 76,605 are female population. Total population of children in Naswadi block is 25,450 with sex ratio of 972 girl child per 1000 male child. The total literacy rate of Naswadi block, according to Census of India 2011, is 48.96% out of which male literacy rate is 57.29%, female literacy rate is 40.38%. In Naswadi block total literacy rate of Scheduled Caste (SC) is 0.88% .On the other hand, total literacy rate of Scheduled Tribe (ST) in Naswadi block is 87.72% .

### 1.10 NEED AND RATIONALE

Education is gaining knowledge of the world around us. It gives us a perspective to look at life and develop opinions and view point towards situation, people and different subjects. The information surrounding us can be



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converted to knowledge through education. Therefore, governments worldwide are making policies for betterment of education. In India, there have been several successful programs designed for universalization of elementary education. Identifying the reasons for dropouts and irregularity in school has been an issue of concern for educational researchers and practitioners. There are many studies which state the economical, social and cultural reasons associated with dropouts and irregularity in schools. Based on the findings of these studies, surveys and reports, government forms policy, programs and makes provision in law for improving educational status of deprived class. Right to Compulsory and Free Education Act 2009, ensures free and compulsory education to all children of 6-14 years, and Child Labour Prohibition Act states that children below 18 should not be employed for work are few of these to mention.

This fact also brings to notice that enrolment is the first step towards the goal of universalization of education and regularity is the second step. For a child, knowledge in textbooks, interactions with peers, playing sports, identifying his strengths and working on his weaknesses, developing different skills are the gains for being regular in school. Along with physical development of a child, cognitive development of child is equally important. To study the fact that regularity in school is important for psychological development of child, few of the psychological factors are selected to see how regularity effects these factors. This study is aimed at finding if the selected motivational and cognitive factors among primary school children get affected by gender of the participants, area to which they belong to and regularity of the participants. It has been also attempted to examine Parents Attitude towards Education of selected participants and further study the relationship between Parents' Attitude towards Education and Need for Achievement, Concentration, Creativity and Problem Solving Ability of the participants. The findings can be important inputs for future policy frame work in education.

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## 1.11 OBJECTIVES

The objectives of the present study are:

1. To compare the Need for Achievement among selected participants on the basis of their gender, regularity in the school and area of living.
2. To compare Concentration among selected participants on the basis of their gender, regularity in the school and area of living.
3. To compare Creativity among selected participants on the basis of their gender, regularity in the school and area of living.
4. To compare Problem Solving Ability among selected participants on the basis of their gender, regularity in the school and area of living.
5. To examine the Attitude Towards Education of the parents of selected participants.
6. To study the relationship between Parents' Attitude towards Education and Need for Achievement, Concentration, Creativity and Problem Solving Ability of the participants.

## 1.12 HYPOTHESES

Hypotheses of the study are:

1. Hypothesis  $H_01$ . There will no significant difference in the observed and expected Need for Achievement score of male and female participants.
2. Hypothesis  $H_02$ . There will be no significant difference in the observed and expected Need for Achievement score of participants living in tribal and non-tribal areas.
3. Hypothesis  $H_03$ . There will be no significant difference in the observed and expected Need for Achievement score of regular and irregular participants.
4. Hypothesis  $H_04$ . There will be no significant difference in the observed and expected Need for Achievement score of different gender and area of living of participants.
5. Hypothesis  $H_05$ . There will be no significant difference in the observed and expected Need for Achievement score of different gender and regularity of participants.

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6. Hypothesis  $H_06$ . There will be no significant difference in the observed and expected Need for Achievement score of different area and regularity of participants.
7. Hypothesis  $H_07$ . There will be no significant difference in the observed and expected Need for Achievement score of different gender, area and regularity of participants.
8. Hypothesis  $H_08$ . There will be no significant effect of gender on Concentration.
9. Hypothesis  $H_09$ . There will be no significant effect of living areas on Concentration.
10. Hypothesis  $H_{010}$ . There will be no significant effect of regularity on Concentration.
11. Hypothesis  $H_{011}$ . There will be no significant interaction effect of gender and area on Concentration.
12. Hypothesis  $H_012$ . There will be no significant interaction effect of gender and regularity on Concentration.
13. Hypothesis  $H_013$ . There will be no significant interaction effect of area and regularity on Concentration.
14. Hypothesis  $H_014$ . There will be no significant interaction effect of gender, area and regularity on Concentration.
15. Hypothesis  $H_015$ . There will be no significant effect of gender on Creativity.
16. Hypothesis  $H_016$ . There will be no significant effect of living areas on Creativity.
17. Hypothesis  $H_017$ . There will be no significant effect of regularity on Creativity.
18. Hypothesis  $H_018$ . There will be no significant interaction effect of gender and area on Creativity.
19. Hypothesis  $H_019$ . There will be no significant interaction effect of gender and regularity on Creativity.
20. Hypothesis  $H_020$ . There will be no significant interaction effect of area and regularity on Creativity.

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21. Hypothesis  $H_{021}$ . There will be no significant interaction effect of gender, area and regularity on Creativity.
22. Hypothesis  $H_{022}$ . There will be no significant effect of gender on Problem Solving Ability.
23. Hypothesis  $H_{023}$ . There will be no significant effect of living areas on Problem Solving Ability.
24. Hypothesis  $H_{024}$ . There will be no significant effect of regularity on Problem Solving Ability.
25. Hypothesis  $H_{025}$ . There will be no significant interaction effect of gender and area on Problem Solving Ability.
26. Hypothesis  $H_{026}$ . There will be no significant interaction effect of gender and regularity on Problem Solving Ability.
27. Hypothesis  $H_{027}$ . There will be no significant interaction effect of area and regularity on Problem Solving Ability.
28. Hypothesis  $H_{028}$ . There will be no significant interaction effect of gender, area and regularity on Problem Solving Ability.
29. Hypothesis  $H_{029}$ . There will be no significant difference in Attitude Towards Education among Parents of male and female participants.
30. Hypothesis  $H_{030}$ . There will be no significant difference in Attitude towards Education among Parents of tribal and non-tribal area participants.
31. Hypothesis  $H_{031}$ . There will be no significant difference in Attitude towards Education among Parents' of regular and irregular participants.
32. Hypothesis  $H_{032}$ . The parental attitude towards education will not significantly predict the Need for Achievements of participants.
33. Hypothesis  $H_{033}$ . The parental attitude towards education will not significantly predict the Concentration of participants.
34. Hypothesis  $H_{034}$ . The parental attitude towards education will not significantly predict the Creativity of participants.
35. Hypothesis  $H_{035}$ . The parental attitude towards education will not significantly predict the Problem Solving Ability of participants.