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NCERT encourages original and critical thinking in education. JIE provides a forum for teachers, teacher educators, educational administrators and researchers through presentation of novel ideas, critical appraisals of contemporary educational problems and views and experiences on improved educational practices. Its aim include thought-provoking articles, challenging discussions, analysis challenges of educational issues, book reviews and other related features.

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## EDITOR'S NOTE

The educational accomplishment of children not only depends on their abilities, but factors like peers, school, family, community and teachers also have a crucial role in their success. The school needs to provide the child an environment that helps to engage the learner with stimulating activities, appropriate interactions and ample opportunities for learning through experiences. Central government, through its various flagship programmes like *Sarva Shiksha Abhiyan* (SSA) and *Rashtriya Madhyamik Shiksha Abhiyan* (RMSA), has been working for quality improvement of school education, particularly expansion of our public education system. The concept of inclusive education has been discussed much and we are in the process of implementing the same in our school system. The articles and research reports in the present issue discuss some of these issues and provide useful recommendations for improvement in our education system.

The psychological factors like affective environment, emotional intelligence and motivation have a crucial role in the overall development of a child and it has been studied and reflected by many researchers in the recent past. Two articles and two empirical studies in this issue discuss about these variables. Amit Ahuja explores the idea of Emotional Intelligence (EI) and its implications on teaching and learning. The article narrates the importance of EI in the job performance of an individual and elaborates the various models that enhance the emotional intelligence in practical situations and their implications for creating EI environment in schools. The article by Ruchi Shukla is on various alternatives of creating conducive learning environment through motivational approach. The author discusses about the theoretical underpinnings of motivation and the role of intrinsic motivation in creating a functional autonomy among learners with its implications on learning.

An empirical study by Abdul Gafoor K. and Sarabi M.K. reveals the significance of an affective environment in school and home-related beliefs in the learner in improvement of achievement in mathematics of low achievers in mathematics. Hemlata Patel and Vivek Singh compare the role of working and non-working mothers on the academic achievements and adjustment of their children. The study shows a significant difference in the adjustment of children of non-working mothers.

Public education system has been under criticism due to many reasons in the recent past. There has been a trend among parents to admit their wards in private schools rather than in public schools. The result of a survey done by K. Sreeja Sukumar and Santhosh Kumar S. on satisfaction of parents of the students studying in the Higher Secondary School in Kerala shows that most of the parents are satisfied with the teaching-learning environment of public schools but they are not satisfied with the infrastructural facilities. Naresh Kumar and

Sonali Hazra come up with a descriptive picture of educational participation in the State of Jammu and Kashmir through a survey which reveals the unparalleled growth of educational participation with respect to social, gender and regional lines. The article highlights some of the factors which show the gaps in educational participation and provide practical suggestions for improvement of the system.

The role of prerequisite knowledge in construction of various concepts is crucial. If a student studying in 6th grade is not able to solve a problem which a 4th standard student is expected to do, it indicates that the basic concepts which are essential were not grasped by the children. The article by Mamta Singhal on understanding of Nature of Science (NOS) among pre-service teachers and teacher educators is an attempt to familiarise the pre-service teachers and teacher educators about NOS and how to transact effectively to the children for realising the goal of scientific literacy.

Generic issues like inclusion, multilingualism, gender, etc., have also been included in this issue. The exploratory study by Nageswara Rao Ambati, focuses on how the students studying in higher education institutions visualise the disability in an intelligent way. Pallavi raises the concern that most of the teachers are often unaware of the theoretical underpinnings about multilingualism for its proper realisation in classroom. Through her research paper, she has made an attempt to provide a comprehensive overview of the field for practising multilingualism effectively. An empirical study about the functioning of Kasturba Gandhi Balika Vidyalayas (KGBVs) has been done by Sarita Anand and Bidisha Das.

The scheme of Mid-Day Meal has been introduced for better retention and to increase enrolment and nutritional status of school children. Seepana Prakasam has done a study on the perception of parents on implementation of mid-day meal scheme in the Union Territory of Chandigarh. The study comes up with many challenges faced by stakeholders in the implementation of scheme.

The last article discusses about Madrasas in India. The article by Aliya Khatun introspects the functioning of Madrasas with a view to see how the organisational structure influences the outcome. The article explores the need of a comprehensive reform in the organisational structure as per the societal demands for ensuring fruitful outcomes of educating the Muslim minorities in India.

We hope that the articles and research papers presented in this issue will give the readers some insights about the practical reality of various schemes and activities happening in our school education sector. We invite teachers, teacher educators and other stakeholders to contribute to the journal by sharing their knowledge in the form of papers and articles, classroom-based action research reports, book reviews, etc. We also request the readers to provide their valuable suggestions and comments for improving the quality of *Journal of Indian Education*.

*Academic Editor*

# Emotional Intelligence

## Concept, Paradigm and Implications

AMIT AHUJA\*

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### Abstract

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*Emotional intelligence is an ability of a person to unite emotions into thought and is an integrated concept that links cognitive and affective domains. Emotional intelligence helps people to solve real world problems, manage stress and in decision-making, as emotions facilitate cognitive processes to adapt to different situations, thus play a crucial role in life, learning and lifelong learning. For professionals, emotional intelligence is a powerful predictor of job performance. Having self-regard, courage for reality testing, control on impulse and being happy are the identifying features of an emotionally intelligent personality. But valid instruments related to measurement and developmental aspects of emotional intelligence are not exclusively available. The ability and mixed models work out as theoretical paradigms to explain emotional intelligence. The ability model describes emotional intelligence as a kind of pure form of general mental ability, and mixed models visualise the synchronization between general mental ability and personality characteristics of an individual like his/her state of being well and extent of optimism. These models further emphasise upon the recognition of certain central components with respect to emotional intelligence. Regarding implications with respect to the learners, their exposure is a dynamic learning scenario, where they may show stability in their social relationships and persistence in odd situations may ease the situations. Schools can foster emotional literacy, as a component of the school curriculum, where students may be provided an environment where they learn to control and manage their emotions and hence develop empathy towards others.*

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## INTRODUCTION

Emotional intelligence refers to the ability of a person to unite emotions into thought, combine intuition and logic together or undergoing problem-solving along with taking wise decisions in a situation so that he/she may comprehend, perceive and control emotions in him/herself and others. Emotional intelligence is an integrated concept that links cognitive and affective domains and facilitates a person to make sense of his/her deeds, actions, thoughts, feelings, etc., and through effective communication enables him/her to be empathetic towards others. Emotional intelligence helps people to solve real world problems, manage stress and in decision-making, etc., and it acts as an indicator of an individual's social interaction (Kanoy, 2011). The concept of emotional intelligence in some theoretical forms was floated around 1920s when Thorndike articulated the concept of intelligence quotient and he opined that some other types of abilities exist and are needed to be differentiated by cognitivists in comparison to general intelligence. He suggested that the understanding and perception of an individual's emotions as well as those of other individuals' emotions and feelings refer to another type of intelligence which could be distinguished from general intelligence. He further added that social intelligence, in general sense, was an aspect of intelligence quotient. But the concept of social intelligence

went unnoticed over the years until Gardner (1983) elaborated the idea of intelligence quotient in his multiple intelligence theory. He deliberated that brain works to acquire skills and knowledge in diverse ways or modes and with respect to this aspect, individuals differ from one another. As per multiple intelligence theory, there are seven domains that are inter and intrapersonal, musical, linguistics, spatial, bodily kinaesthetic and logical mathematical. Specifically speaking, mind learns and interacts in multiple ways and hence, in general, it leads to human learning. The construct foundations of emotional intelligence are laid by inter and intrapersonal relationships. The term construct, with reference to psychological aspects, means some theoretically intangible quality and with respect to which individuals differ from one another also (Gregory, 2007). The construct itself is not explicit in nature but its effects may be evident. After years, in 1990, Jack Mayer and Salovey (1997) coined the term emotional intelligence and explained that it is a form of social intelligence which stands for the ability on the part of individual to reason something with emotions. Later on, Daniel Goleman (1995) popularised the concept of emotional intelligence in 1995 and he was of the view that emotional quotient is more important than intelligence quotient. As an exponent, he propounded the significance of feelings and emotions in learning process because to ensure



happiness in life and achieve success, one must realise that learning does not take place in exclusion but in inclusion with emotions at central place and the same individual must be able to manage his/her own and others' emotions also. According to him, emotional intelligence stands for understanding an individual's own emotions, feelings, having empathy for feelings of other persons and regulation of emotions in some ways to enhance living happily. As emotions facilitate cognitive processes to adapt to different situations so thereby with respect to emotions, he identified some domains of emotional intelligence like knowing and managing one's own emotions and thereby motivating him/herself, recognising others' emotions and thus controlling, managing and handling relations with others, and all of these play an instrumental role in enabling the person to tackle, resolve or overcome the dilemma, problem or any trivial issues. Though it is a known fact that human beings are social in nature but at the same time they are emotional animals also since emotions play a crucial role in life, learning and lifelong learning as emotions like fear, different moods, pleasure, anxiety and anger affect the way(s) people think, decide, reflect and perform different kind(s) of day-to-day tasks (Mayer and Bremer, 1985; Forgas and Moylan, 1987; Salovey and Birnbaum, 1989). Some people are emotionally more intelligent in comparison to others and people can

develop their emotional intelligence as it increases with age also (Van Rooy, Alonso and Viswesvaran, 2005). If an individual is able to monitor his/her own as well as others' emotions and can discriminate among them to use this, as information, in guiding own thinking then it can be inferred that the personality of individual is enriched with an utmost important life skill which in the long run further enriches the personality with self-esteem. Having self-regard, courage for reality testing, control on impulse and being happy are the identifying features of an emotionally intelligent personality. However, valid instruments related to measurement and developmental aspects of emotional intelligence are not exclusively available (Robbins and Judge, 2009) as nature wise, emotional intelligence is a multi-dimensional construct. In attaining success at the workplace, Goleman (1995) attributed the role of emotional quotient more than intelligence quotient, however, Mayer and Salovey (1997) weighed the same at a somewhat less proportionate level, as intelligence quotient determines the eligibility of students at entry level of some course but emotional quotient reflects the competence of those students to complete that course. Even for professionals, emotional intelligence is a powerful predictor of job performance (Law, Wong and Sang, 2004) and is a key factor through which one can discriminate between successful and unsuccessful

people (Greenstein, 2001). To a large extent, success in life depends upon emotional intelligence and as an individual advances in his/her career, it becomes, as a skill, somewhat more imperative (Kolb and Hanley, 2003) than before and as predictors of success, the characteristics like ability to control anxiety, frustration, anger and getting along with others all belong to the domain of emotional intelligence (Snarey and Vaillant, 1985). Emotional intelligence has been found positively correlated with academic achievement of students (Parker et al., 2005; Kattekar, 2010; Ogundokun and Adeyemo, 2010; Fayombo, 2012; Chamundeswari, 2013) and emotional skills, as its sub-components like self-control, confidence, persistence and tendency to undertake responsibility, crystal clear communication, etc., ultimately enable the students to learn how to learn at their end (Low and Nelson, 2005).

### **THEORETICAL PARADIGMS OF EMOTIONAL INTELLIGENCE**

At the conceptual level, the ability and mixed models work out as theoretical paradigms to explain emotional intelligence. The ability model by Mayer and Salovey (1997) describes emotional intelligence as a kind of pure form of general mental ability, so nature wise it is a pure intelligence, but mixed models visualise the synchronization between general mental ability and personality characteristics of an individual

like his/her state of being well and extent of optimism, etc. Further, there are two kinds of mixed models that have been proposed and both differ conceptually. With reference to personality theory, Reuven Bar-On (2002) postulated that ability aspects of emotional intelligence and personality traits are co-dependent upon each other and they must find application in the life of an individual to keep him/her in a state of well-being. On the other hand, another type of mixed model was proposed by Goleman (1998) in which he opined the significance of workplace where the performance of an individual matters a lot, as it determines the worth of an individual in a scenario. He emphasised on the integration of personality and abilities of a person and their cumulative effect on his/her performance at workplace. All of these three models, that is ability model of emotional intelligence by Mayer and Salovey (1997), mixed model of emotional intelligence by Bar-On (2002) and another mixed model by Goleman (1995), globally share some common aspects like all of these models aim at understanding of components involved in identifying and regulation of an individual's own as well as others' emotions. These models further emphasise on the recognition of certain central components with respect to emotional intelligence and have common consensus on them also, as these models cite perception, awareness and management of emotions as

imperative features in the personality of an individual with enriched component of emotional intelligence. The following section discusses these three models and their nature.

### **1. Ability Model of Emotional Intelligence by Mayer and Salovey (1997)**

Mayer and Salovey propounded pure theory of emotional intelligence which incorporates, in an integrative manner, central ideas from the domains of emotion and intelligence. As per the intelligence theory, intelligence means the capacity to work out reasoning at abstract level or in some abstract form, and researches in the domain of emotion point out that universally there is a large quanta of basic emotions which, in a general sense, signal consistently the relationship in some meaningful way(s) which are explicit also. There are individual differences between persons with respect to their processing capacities of some emotion-oriented information and their abilities to link cognition, in wider sense, with emotional processing also. Such abilities in the long run manifest in adaptive behaviour of individuals. The model of intelligence gives foundation to the ability model of emotional intelligence in the sense that emotional intelligence has been defined within the realm of intelligence and comprises two areas namely experiential and strategic ability. Former stands for all those abilities concerned with perception,

response and manipulation aspects related to emotional information which may or may not involve proper understanding of the feelings, and the latter refers to those abilities which facilitate an individual to comprehend and manage emotions without proper perception or experience of the same. These two areas have further two sub-divisions which mainly focus on psychological processes which may range from basic to complex nature wise, but both comprise cognition and emotion in an integrated manner. The experiential ability related to emotional intelligence is channelised into emotional perception and assimilation. As an aspect of emotions, emotional perception refers to the ability to be self-aware and assertive with respect to emotional needs, and it also stands for those abilities which differentiate between perfect and imperfect emotional expressions on the part of individuals. Emotional assimilation means those abilities which distinguish among emotions, of different nature, which an individual feels and identify those emotions which are influencing the underlying thought process. The strategic ability related to emotional intelligence has two sub-streams that are emotional understanding and management. Emotional understanding branch of strategic ability pertains to understanding of complex emotions, like perceiving, feeling two emotions at a time, and be aware of shifting from one emotion, being felt, to another. Emotional management, as

a sub-domain, comprises the abilities to disconnect or connect from some emotion by taking into account its worthiness with respect to a situation. Table 1 summarises the underlying core components in experiential and strategic ability domains of emotional intelligence.

This model is an information processing model which links emotional and cognitive aspects of an individual together and emphasises that an emotionally intelligent person has considerable understanding of emotions which support him/her to cope up with adverse emotional states.

## 2. Mixed Model of Emotional Intelligence by Bar-On (2002)

In the mixed model of emotional intelligence developed by Reuven Bar-On (2002), the word emotional quotient was used for the first time as one of the measures to explain emotional intelligence. This model unites potential for success and performance together instead of success or performance alone, hence nature-wise it is process-oriented rather than product-oriented. The model focuses on social and emotional abilities of an individual which include ability to comprehend, assert, be aware of, manage powerful emotions, to adapt, undergo problem-solving,

**Table 1**  
**Ability-wise Sub-domains and Core Components of Emotional Intelligence**

S. No.	Domain	Sub-domain	Core Components
1.	Experiential ability	Emotional perception	Self-awareness, assertion
		Emotional assimilation	Identification, discrimination
2.	Strategic ability	Emotional understanding	Emotional understanding at abstraction, flexibility
		Emotional management	Decision-making

**Table 2**  
**Emotional Intelligence at Component and Corresponding Sub-component Levels**

S. No.	Components of Emotional Intelligence	Sub-components of Emotional Intelligence
1.	Interpersonal	social responsibility, empathy, interpersonal relationship
2.	Intrapersonal	assertion, self-esteem, independence
3.	General mood	happiness, pleasure, optimism
4.	Adaptability	problem-solving, non-rigidity
5.	Stress management	stress control and tolerance

etc. According to him, there are five components of emotional intelligence namely interpersonal, intrapersonal, general mood, adaptability and stress management. Each sub-area has further sub-components also, which are mentioned in Table 2.

He pointed out that emotional intelligence can develop over time and therapies and training programmes may prove instrumental enough in achieving so. According to Bar-On (2002), cognition and intelligence both contribute equally to an individual's general intelligence which acts as an indicator of success for him/her. Individuals with higher emotional quotient, in comparison to those with average emotional quotient, attain more success in life and resolve problems dynamically. A person with low emotional quotient has feeble chances of success and faces emotional problems.

### **3. Mixed Model of Emotional Intelligence by Goleman (1995)**

This model focuses on four major emotional intelligence constructs namely self-awareness, self-management, social awareness and relationship management. Self-awareness, the first construct, refers to the ability to gauge one's own emotions and identify their corresponding impact while taking decisions using feelings as guiding light. The second construct, self-management is adaptive in nature and facilitates the individual in a changing scenario as it stands for those abilities

which enable him/her in controlling his/her own impulsive tendencies and emotions. Social awareness, as the third construct of emotional intelligence, means those abilities that pertain to understanding, sense-making and response aspects of emotions in relation to some social networking, that is, in responding to others' emotions. The fourth construct of emotional intelligence, that is, relationship management underlines the ability of an individual in managing some conflict or resolving any dicey situation by encouraging, influencing and thus facilitating others to develop also. Each of these constructs of emotional intelligence entails assemblance of emotional competencies which are learned by the individual over time, that is, such competencies are not innate in nature. These competencies are organised as symbiotic groupings or coherent structure, that is, their organisation is not random and they mutually facilitate and enrich each other. The individual must perform in different situations and develop, on his/her part, by working on emotional competencies in achieving some extraordinary performance. Nature endows all with a general caliber of emotional intelligence which proves a determining factor with respect to abilities and potential of an individual in learning and developing emotional competencies over time. Table 3 illustrates the emotional competencies underlying in different emotional intelligence constructs.

**Table 3****Emotional Intelligence Constructs and Corresponding Emotional Competencies**

<b>S. No.</b>	<b>Emotional Intelligence Construct</b>	<b>Emotional Competency</b>
1.	Self-awareness	self-confidence, precise self-assessment, self-awareness (at emotional level)
2.	Self-management	diligence, perseverance, leadership, self-control
3.	Social awareness	compassion, organisational awareness
4.	Relationship management	impact, clash control, command, synergy, alliance, communication, rapport-building

This model incorporates diverse personality variables and probable associates like happiness, self-esteem, etc.

### **THE IMPLICATIONS OF EMOTIONAL INTELLIGENCE**

As emotional intelligence has relevance for education and on the other hand the traditional social set-up must grow to meet future challenges, so the students, as future citizens, need to be facilitated to grow as knowledgeable and responsible humans. To acknowledge this vision, the following section discusses some implications for students, as learners, and teachers as facilitators for the same.

#### **1. Implications for Learners**

Emotional intelligence as a skill helps learners to excel at schools in academics and in establishing better social relationships with peers. So, the learners need to be motivated to take responsibility for their formal learning and hence performance in examinations. Their exposure in a dynamic learning scenario, where

they may show stability in their social relationships and persistence in odd situations, may ease the situations. Under the guidance of teachers, some activities may be organised within class or schools so that learners feel free to assert themselves. The teachers must respect their assertion and if required confidentiality of the same may be maintained and a proper feedback should be given to them. By assigning tasks regarding some organisation of school activities, the learners should be trusted with zeal so that they may realise that teachers are concerned about them and nothing wrong will happen even if they commit some mistakes. Such practices, in the long run, may develop self-confidence among students. In case of argument/debate among themselves, if possible without teachers' interference, they may be given opportunity to resolve the matter amicably so that they learn to manage their emotions and support fellows to do the same.

#### **2. Implications for Teachers**

Schools, as an organisation, can foster emotional literacy, as a component of

school curriculum, where students may be provided an environment where they could learn to control and manage their emotions and hence develop empathy towards others. Teachers should not discriminate among students on any criteria/bases like their achievement or intelligence, etc., as it may lower their self-esteem. Schools may emerge as emotionally positive workplace for students. Due emphasis must be given on organising community functions pertaining to different religions, as such practices facilitate students to share common emotional platform where they feel happiness and develop a spirit to contribute. Teachers need to adopt positive attitude towards students

and their problems, and should regularly interact with them to probe, gauge or assess the students and their emotions.

Thus, linking emotions and intelligence together and harnessing the resultant for the optimum utilisation of human resources can pave the way for growth and development. Students of today are citizens of tomorrow so as a long-term goal, the spirit of communal harmony and educational practices at global level can materialise by proper addressal of the concept of emotional intelligence since very beginning in the life of an individual which with respect to age and stage are childhood and school respectively.

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# Learning Environment

## An Intrinsic Motivational Approach

RUCHI SHUKLA\*

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### Abstract

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*The lack of fun in learning process has resulted in learning becoming a forced, extrinsically driven activity in contrast to the earlier fun-filled years of learning and growing. Children by nature are intrinsically motivated to learn; this is because they want to learn about the surroundings they live in so that they can deal effectively with the environment. The intrinsic motivation to learn also exists because children want to know about themselves, develop a sense of self-efficacy in order to effectively handle and manipulate the environment. However, this natural curiosity or intrinsic motivation in the child often remains curbed and results in a disinterested student at school. Social psychological impact of educational load and current problems with early childhood education can be understood within the existing psychological theories of personality and motivation. A theory which has been specifically found to be suitable for educational context is Ryan and Deci's Self-determined Theory (SDT). To differentiate autonomous from controlled intentions, Deci (1980) adopted the term self-determination (in contrast to intentions that were externally determined, reward determined, guilt determined, etc.). Analysis of the relationship between schooling experiences and parental expectations and the experience of educational stress can be understood in the SDT framework in which sense of autonomy, self-efficacy or competence and relatedness can be said to affect the degree of internalisation of the motivation for school-related performance which in turn would be related to experiencing educational stress.*

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## INTRODUCTION

The child who earlier indulged in the act of learning because of the intrinsic satisfaction and motivation that he/she got from learning itself, has now come to bank on the extrinsic rewards first by the parents and the significant others and later by the society at large (in the form of degrees, medals, jobs, awards, etc.). The loss of this intrinsic motivation has cost very dearly to the school-going child. It has taken away all the fun from the learning process. This lack of fun in the learning process has resulted in learning becoming a forced, extrinsically driven activity in contrast to the earlier fun-filled years of learning and growing. Absence of intrinsic motivation has resulted in learning becoming a stressful activity. This stress has gained dangerous dimensions where it is expressed in the form of low self-esteem, worth and efficacy. The result of non-adjustment to this stress sometimes expresses itself as depression and suicide attempts amongst school-going children.

## UNDERSTANDING MOTIVATIONAL DYNAMICS OF SCHOOL LEARNING

Motivation refers to the initiation, direction, intensity and persistence of human behaviour. Motivation is a word used to refer to the reason or reasons for engaging in a particular behaviour. These reasons may include basic needs such as food or a desired object, hobbies, goal, state of being, or ideal. The motivation for a behaviour may also be attributed

to less-apparent reasons such as altruism or morality.

Intrinsic motivation is defined as engagement in actions for their own sake with the only tangible benefit being outcomes such as pleasure, learning, satisfaction, interest, or challenge. Extrinsic motivation occurs when learners engage in activities for the purpose of reward from an external source, for example, running a race to win a prize, attaining rewards, such as praise or high grades (Alderman, 1999). Engaging in behaviour to avoid punishment is also regarded as an extrinsic motivation.

There have been several theories of motivation such as need theories and drive theories. None of them however deals with the concept of intrinsic motivation in specific and basically discuss what motivation is and how it can be enhanced. It was later that the concept of intrinsic motivation came into the theoretical framework. "Koch (1956) was the first to make assertions that motivational theory needs to include intrinsic motivation" (Deci, 1975). The concept and some of the theories of intrinsic motivation have been discussed next.

## INTRINSIC MOTIVATION

Woodworth (1918) developed the behaviour-primacy theory in which he mentioned intrinsically motivating behaviour. He proposes that one's behaviour is aimed at producing an effect on the environment around. He views people as competent organisms

that act on the environment. He noted that behaviour is capable of producing its own drive like curiosity and self-assertion and constructiveness. These he called 'native equipment' or innate capacity. Allport (1937) talked of 'Functional Autonomy', i.e., an activity which irrespective of its initiating motive can become intrinsically interesting.

Some psychologists believe that a significant portion of human behaviour is energised and directed by unconscious motives. According to Maslow, "Psychoanalysis has often demonstrated that the relationship between a conscious desire and the ultimate unconscious aim that underlies it need not be at all direct". In other words, he stated that motives do not always match those inferred by skilled observers. For example, it is possible that a person can be accident-prone because he has an unconscious desire to hurt himself and not because he is careless or ignorant of the safety rules. Similarly, some overweight people are not really hungry for food but for attention and love. Eating is merely a defensive reaction to lack of attention. Some workers damage more equipment than others because they harbour unconscious feelings of aggression towards authority figures.

Psychotherapists point out that some behaviour is so automatic that the reasons for it are not available in the individual's conscious mind. Compulsive cigarette smoking is an example. Sometimes maintaining

self-esteem is so important and the motive for an activity is so threatening that it is simply not recognised and, in fact, may be disguised or repressed. Rationalisation, or 'explaining away', is one such disguise or defence mechanism, as it is called. Another is projecting or attributing one's own faults to others. 'I feel I am to blame', becomes 'It is her fault; she is selfish'. Repression of powerful but socially unacceptable motives may result in outward behaviour that is the opposite of the repressed tendencies. An example of this would be the employee who hates his boss but overworks himself on the job to show that he holds him in high regard.

Intrinsic motivation is the natural inclination towards mastery, spontaneous interest, assimilation and exploration that is so essential to social cognitive development and that represents a principal source of enjoyment and vitality throughout life (Csikszentmihalyi and Rathunde, 1993; Ryan, 1995).

### **ENHANCING INTRINSIC MOTIVATION**

Some researchers believe that intrinsic motivation can be enhanced through the use of particular strategies, and have sought to correlate the design of specific educational materials and an increase in learning performance. Thus far, studies have found no evidence to establish that the interest value of material is a determinant—as opposed to a consequence—of learning (Parker and Lepper, 1992). However, some useful strategies that

can promote intrinsic motivation have been proposed. Lepper and Hodell (1989) suggest the following four methods for enhancing intrinsic motivation

*Challenge:* Design challenging activities which convey the message to the learners that they have competitive skills. It is essential to find a balance between learner competence and the difficulty of the goals. Overly difficult goals are unlikely to increase learner motivation to continue the task as the learners perceive they will never reach the goal. Likewise, goals that are too easily attained do not sufficiently challenge learners to encourage skill development.

*Curiosity:* Activities that create disequilibria for the learners can elicit curiosity. Presenting discrepant ideas—those that conflict with their prior knowledge or beliefs—can prompt students to seek information that will resolve the discrepancy. As with challenge, moderate discrepancies are most effective because they are easily incorporated into an individual's mental framework; large discrepancies may be rapidly discounted (Pintrich and Schunk, 1996, p. 277).

*Control:* A sense of responsibility will be better fostered in learners if they are allowed to make meaningful choices in the learning process.

*Fantasy:* The design of simulations and games that involve fantasy can increase intrinsic motivation.

Unconscious motives add to the hazards of interpreting human behaviour and, to the extent that they are present, complicate the life of the administrator. On the other hand, knowledge that unconscious motives exist can lead to a more careful assessment of behavioural problems. Although few contemporary psychologists deny the existence of unconscious factors, many do believe that these are activated only in times of anxiety and stress, and that in the ordinary course of events, human behaviour—from the subject's point of view—is rationally purposeful.

Researchers found that some intentional behaviours were initiated and regulated autonomously when the person was intrinsically motivated, whereas in other cases they were initiated and regulated by coercive and pressurising environment and intrapsychic forces (Deci and Ryan, 1985).

**Table 1**  
**Approaches to Intrinsic Motivation and their Primary Proponents**

Approaches	Proponents
Drive naming <ul style="list-style-type: none"> <li>• Exploratory</li> <li>• Manipulation Sensory</li> <li>• Visual</li> </ul>	Montgomery, 1954 Harlow, 1953 Isaac, 1962 Butler, 1953

Optimal Incongruity (psychological processes)	Hunt, 1955; Dember and Earl, 1957
Optimal arousal (physiological processes)	Hebb, 1955
Uncertainty reduction	Kagan, 1972; Festinger, 1957
Competence and self-determination	Deci et al., 1973

Source: Deci (1975, p. 58).

### **INTRINSIC MOTIVATION AND EDUCATION**

Children by nature are intrinsically motivated to learn; this is because they want to learn about the surroundings they live in so that they can deal with the environment effectively. The intrinsic motivation to learn also exists because children want to know about themselves, develop a sense of self-efficacy in order to effectively handle and manipulate the environment. However, this natural curiosity or intrinsic motivation in the child often remains curbed and results in a disinterested student at school. One of the important ways that have been seen to be effective in sustaining and nurturing this intrinsic motivation is by leaving the child free of the external rewards and punishments (Bruner, 1962). It is found that giving reward and punishment to children leads them into a pattern of doing things and this pattern leads to 'learning' being viewed as something they do for the sake of the reward it brings. As cognitive evaluation theory says, the locus of causality of learning which originally is internal gradually becomes external through reward and punishment. Bruner states "... to the

degree that one is able to approach learning as a task of discovering something rather than 'learning about' it, to that degree there will be a tendency for the child to work with the autonomy of self-reward or, more properly, be rewarded by discovery itself" (1962, p. 88). The intrinsically motivated child in the long run learns to interpret success and failure as information, rather than reward and punishment and is therefore less ruled and hence not stressed.

Contemporary educational system has burdened the children so much that it has affected their mental health and has changed their lifestyle totally. Most of their time is spent on academic activities and the remaining time is spent on several other structured activities of learning such as dance or a musical instrument. The rigid time-bound and disciplined way of doing nearly everything around the child has made activities and specially education very mechanical. Moreover, the increase in number of rules, do's and don'ts in a child's life has made things very externally determined. The joy of just doing things or intrinsic motivation is totally lacking. It is partly because

of this that schooling and education have become a burden to the child as they are externally determined. The self-determination theory discusses intrinsic motivation and its role in education.

Social psychological impact of educational load and current problems with early childhood education can be understood within the existing psychological theories of personality and motivation, etc., such as Bandura's theory of personality and self-efficacy concepts like competence, mastery and locus of control also help in understanding the processes of stress in early childhood education and the impact of the same on children's mental health (Bandura, 1993). A theory which has been specifically found to be suitable for educational context is Ryan and Deci's self-determined theory (SDT). To differentiate autonomous from controlled intentions, Deci (1980) adopted the term self-determination (in contrast to intentions that were externally determined, reward determined, guilt determined, etc.).

### **SUMMING UP**

One can sum up the preceding review, to suggest that mental health and stress among students, particularly those in the adolescence phase and facing major school-related burden and pressure of examinations can be understood from a motivational perspective. Among the various approaches to student motivation, the SDT by Ryan and Deci (2000) seem

to be quite promising in offering a framework of motivational dynamics in terms of variables like self-esteem, competence, sense of autonomy and relatedness.

Analysis of the relationship between schooling experiences and parental expectations and the experience of educational stress can be understood in the SDT framework in which sense of autonomy, self-efficacy or competence and relatedness can be said to affect the degree of internalisation of the motivation for school-related performance, which in turn would be related to experiencing of educational stress. Ryan and Deci suggest that children's school experience is both a cause and consequence of the degree to which they assume agency of their academic endurance, or the degree to which their academic efforts continue to be regulated by external contingencies of reward and punishment. To the extent that children are able to perceive the outcomes of academic effort as externally controlled, they will lead to a sense of uncertainty and stress. However, the closer the child moves towards the direction of internal self-regulation and intrinsic motivation, the better would he/she be able to ascribe school-related effort to internal satisfaction and interest. Thus, persistence in academic tasks can be clearly related to the degree of intrinsic motivation amongst students.

The SDT recognises the inevitable condition of academic performance

as externally regulated. That school performance could continue to be associated with external reward conditions such as marks and grades and tangible future returns, is an inescapable aspect of modern schooling. Therefore, assumption of internally driven agency is not possible by simply negating or ignoring the external contingencies, rather as SDT suggests, it is necessary to internalise through cumulative processes of introspection and self-regulation to progressively internalise the causation of academic effort. In other words, while emphasis on marks/grades, competition and other indicators of school success is a fact of modern school experience, the key to a sense of well-being and moderate stress experience of children lies in the extent to which conditions favourable for motivational internalisation are available to children.

According to SDT, the degree of internal regulation of any motivated action springs from three need sources—autonomy, competence and relatedness—to the extent that the child has a sense of self-efficacy, belief in one's competence and perception of self-esteem. A child would be prone to deriving internal satisfaction and assuming greater autonomy, when perception of self-efficacy, competence is higher. As has been discussed earlier, a number of studies show a clear relationship between competence and intrinsic motivation. Apart from the theoretical formulations of Ryan and Deci (2000) and the empirical

research in the SDT framework, there is also a substantial body of literature relating to overlapping concepts such as self-efficacy as in Bandura's theory discussed earlier and self-esteem, relating them to intrinsic motivation and sense of well-being (Bandura, 1993). It is also necessary to appreciate that agentic self-perception is possible only when a person's actions are perceived to be under internal rather than external control. The more one is able to take initiatives and feel that he/she is able to decide, engage in or refrain from specific action, the more would be the sense of self-control and agentic belief. Thus, when a classroom experience is such that a child is able to exercise independent choice, it would promote a greater degree of internalisation. Independent choice would be reflected in the belief of self-control. In the SDT, this as a source of internal self-regulation comes from the perception of autonomy. When a child feels that s/he has some autonomy in engaging in classroom and academic activities, greater internalisation of the motivational contingencies would be possible. Thus, the degree of intrinsic motivation in academic activities would depend on the extent to which a child's academic environment is autonomy supportive. Such autonomy support is primarily related to two sources for a school-going child. Sense of autonomy in classroom activities is related to the degree to which the teacher is able to create a classroom wherein the pupils feel that they have some independence

and initiative in engaging in specific academic activities. Thus, an autonomy supportive classroom is likely to lead to higher levels of intrinsic motivation. The other source for autonomy perception is the family itself. Parenting styles are known to be either authoritarian or liberal and parents either exercise greater control over child's actions or allow the child a greater freedom of choice. When a child perceives autonomy, rather than parental control, agentic self-belief would lead to intrinsic motivation. Thus, autonomy support both in the family and classroom is a major contributing factor to the degree of

internalisation in academic efforts. The third need, state Ryan and Deci, relating to intrinsic motivation is the need for a sense of relatedness. A greater degree of interpersonal relationships and a sense of security in the availability of social support would facilitate greater degree of intrinsic motivation. Thus, SDT offers a framework to understand how the experience of academic stress and internal motivation are inter-related through the mutual interacting effect of the three contributing factors in the child's environment, namely autonomy, competence and relatedness.

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# Significance of Affective Factors in Mathematics Learning of Low-achievers

## An Analysis of Barriers in High School Mathematics Achievement from Kerala

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### Abstract

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*This study administered a questionnaire on classroom and instructional factors, learner cognitive and affective factors and familial–parent relational factors affecting mathematics learning, and an achievement test in mathematics to 720 Grade 9 students of Kerala, to identify barriers that interfere with their achievements in mathematics. Chi-square analyses of the frequencies were followed up through comparison of proportions, and calculation of Risk Ratio and Odds Ratio. The findings indicate that, as against the customary belief that it is the learner-cognitive, classroom-instructional, and parental active involvement and support that distinguishes low–high achievement continuum in mathematics, it is infact the affective environment in school and at home and the related beliefs in the learner that make difference between high and low achievers in mathematics. The study implies that schools with large share of low-achievers in mathematics need to realise that students’ performance cannot be raised in the long run as long as the focus is mainly on curricular and instructional factors and classroom management techniques.*

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## INTRODUCTION

Learning and achieving in mathematics continues to be a problematic area for students in Kerala, like elsewhere in the country and across the globe. Among high school students in Kerala, reportedly, 88 per cent selected mathematics as the most hated subject as they feel difficulty in understanding it; whereas only 6 per cent mentioned they like mathematics. They also attribute teacher or instructional factors for feeling difficulty in understanding the subject. For one-fifth of them, mathematics is a very difficult subject and more than half face medium-related difficulties. About 42 per cent fail to identify the ways to solve problems provided in their textbook. These students reportedly use blind strategies and hold less adaptive self-efficacy and epistemological beliefs in mathematics (Gafoor and Kurukkan, 2015).

Significant factors influencing achievement in mathematics include learner factors, curriculum factors, instructional strategies and methods, school context and classroom facilities, and home factors. For sorting out achievement challenge, especially so in mathematics, more consideration is given to school and instructional factors, learner cognitive factors and parental support and assistance. Rather less and irregular attention is paid to the affective experiences, socio-emotional aspects of teacher–student relations and peer

relations in and out of classrooms. Taking the opinions of students on what factors they perceive as limiting their achievement in mathematics, is important. Hence, this study counts on learner perception of both cognitive–instructional and affective relational factors in the learner in relation with their teachers and peers and parents that co-occur with low achievement in mathematics of high school students of Kerala. Cognitive abilities of the students and their family background are important predictors of achievement. Recently, affective variables have emerged as salient factors affecting success and persistence in mathematics (Singh, Granville and Dika, 2002). Investigating affective factors responsible for low achievement will contribute to better understanding of how cognitive factors affect mathematics learning as well (McLeod, 1992). Further investigation of these three factors will enable policy-makers, curriculum-makers, instructional designers, school administrators and mathematics teachers to work towards improving mathematics instruction.

## LEARNER AFFECTIVE FACTORS AND MATHEMATICS ACHIEVEMENT

In the total variance in mathematics achievement, 68.8%, 14.2% and 17.0% respectively are effected by factors related to student, classroom and school levels (Kiwanuka et al., 2015). Traditionally, student factors denoted cognitive factors.

The affective domain is not even clearly defined. The main aspects of the affective domain, particularly in relation to mathematics education, are beliefs, attitudes and emotions including mathematics anxiety (Grootenboer and Marshman, 2016). Students' belief about mathematics and about themselves play an important role in the development of their affective responses to mathematical situations. Likewise positive and negative emotions, and positive or negative attitude towards mathematics are part of it (McLeod, 1992).

A major aspect of students' belief is self-concept. Students' self-concept and expression of confidence in learning mathematics are significant predictors of their performance. Self-concept is also associated with other affective dimensions of mathematics like perceived importance of mathematics (Kupari and Nissinen, 2013). Mathematics achievement is closely related with self-concept, academic self-concept and attitude towards mathematics (Wong, 1993). Another belief area known to affect mathematics learning is mathematics self-efficacy. Mathematics performance is correlated moderately with mathematics self-efficacy, as both are related to the attitude towards Mathematics. Mathematics self-efficacy has supremacy over even mathematics performance and achievement and in predicting and choosing further mathematics-related programmes too (Hackett and Betz,

1989). There is positive correlation of mathematical achievement with perceived usefulness of mathematics (Khine, Al-Mutawah and Afari, 2015) and students' perceived confidence (Bouchey and Harter, 2005; Grootenboer and Hemmings, 2007). There is high relationship between the anxiety, a debilitating emotion, and self-confidence measures (Goolsby, Dwinell, Higbee and Bretscher, 1988). Other affective determinants of mathematics achievement include students liking mathematics learning (Khine et al., 2015). A third category of affective factor influencing mathematics achievement is attitude which is extensively studied for long. There is strong positive correlation between mathematics attitude and mathematical achievement (Grootenboer and Hemmings, 2007). Attitudinal factors in mathematics education are highly important in mathematics education because these variables are amenable to change by educational interventions.

### **SCHOOL AND CLASSROOM EXPERIENCE DIFFERENCES IN MATHEMATICS LEARNING**

It is known that attention should be given to school context and facilities to improve students' mathematics achievement. Though extent and type of influence may vary in different contexts, school differences explain variance in mathematics achievement in countries across the globe (Shin, Lee and Kim, 2006). School contexts like features of the school building,

facilities and student strength of the school and classes (Sa'ad, Adamu and Sadiq, 2014) influence the achievement of students. Classroom physical environment, i.e., lighting, temperature, ventilation system, size of the room, has a significant positive effect on the efficiency of instruction and learning activities. Unconducive physical environment results in fatigue and frustration among the students (Suleman and Hussain, 2014).

Instructional strategies and methods, teacher competency in mathematics education, and motivation or concentration (Saritas and Akdemir, 2009) also affect mathematics learning. However, there is an emerging recognition that affection seems to be the single most important characteristic that should be used to define school, or a classroom environment, in particular (Pooja and Shraddha, 2015). There is a strong consensus that interacting with the teacher leads to enhanced academic performance, motivation and attitude (Winheller, Hattie and Brown, 2013). While student's motivation and negative class atmosphere significantly affect achievement, effect of positive teacher-student relations on achievement could not be confirmed (Shin et al., 2006) by all.

A disruptive classroom climate can hinder the learning process and lower the achievement of the whole class, irrespective of the behaviour of any individual student. Student reports of classmates' disruptive behaviour are negatively related to

student achievement, even when controlling for student, classroom and school characteristics, including students' prior achievements (Blank and Shavit, 2016). Disruptions not only damage students' confidence and trust in teachers (Kitsantas, Cheema and Ware, 2011) but can also lead to negative teacher attitude towards the classroom (Blank and Shavit, 2016). Ill-equipped teachers, poor teaching methods, inadequate teaching materials were some other causes of poor performance in mathematics (Sa'ad et al., 2014). Factors contributing to poor performance include understaffing, inadequate teaching/learning materials, lack of motivation and poor attitude by both teachers and students, and retrogressive practices (Mbugua, Kibet, Muthaa and Nkonke, 2012).

Supportive instructional discourse that focus on student understanding, student autonomy and motivation affect self-regulation and positive coping (approach behaviour). Motivational support provided through instructional practices, might be related to student outcomes in high-mastery/high-performance classrooms (Turner, Meyer, Midgley and Patrick, 2003). Positive teacher-student relationships are classified as having the presence of closeness, warmth and positivity and are known to affect student's beliefs, emotions and attitude. Positive relationships with teachers is a secure base for students to academically and socially explore the classroom and school setting, to take on academic

challenges and to work on social-emotional development. Positive teacher-student relationships thus help in relationships with peers, and developing self-esteem and self-concept. Secure relationship also communicates academic expectations and how to achieve these expectations. Students in low-income schools can especially benefit from positive relationships with teachers. Positive behaviour of their teachers correspond with academic achievement (Shah, 2011), through students' motivation and desire to learn.

Positive, warm and close relationship with their teacher motivates students to engage more in school and thus improves their achievement (Hughes, Cavell and Wilson, 2001). Students' motivation to learn is greatly helped by a caring and supportive teacher. Motivation is closely linked to students' perceptions of teacher's expectations. Educational expectations of middle and high school students shape from how they perceive their teachers' expectations. If students perceive high expectations from their teachers, they are motivated to meet those expectations and perform better academically; than their peers who perceive low expectations from their teachers (Muller, Katz and Dance, 1999). Expectations are important as they influence motivation and thus academic achievement. The element of student closeness was the highest, followed by cooperation, fairness, teacher support and involvement.

Nidzam, Kamsiah and Lilia (as cited in Adnan, Abdullah, Puteh, Ahmad and Maat, 2014) suggest that a conducive learning environment promotes learning and students' development, which includes intellectual activities, friendship, cooperation and support.

Thus, effective classroom environments are characterised by the following: (1) students help and support one another (Student closeness), (2) teachers helping and supporting students, and paying attention to students' problems (Teacher support), (3) students interested to pay attention, participate in classroom and work with other students (Involvement), (4) students cooperating with one another during activities (Cooperation), and (5) teachers treating all students equally, including giving compliments, asking questions and providing opportunities to participate in discussions (Fairness) (Fraser, 1998, cited in Adnan et al., 2014). Student closeness, involvement and cooperation can contribute to achievement in mathematics. Students perform better when they are positively influenced by their classmates and/or schoolmates. Peer support is expressed in study groups, discussion, advice and encouragement. Achievement of one's peers is positively correlated with a student's performance and such relationship is causal. That is, the improvement in peer quality enhances a student's performance (Kang, 2007).

### **HOME-RELATED FACTORS IN MATHEMATICS LEARNING**

Parents and home are part of students' existence. Calls for parental involvement in schooling are not new. Parental involvement represents many different behaviour and practices of parents in relation to their children's education. They include parental attention to the children's basic needs; parental encouragement towards learning; parental aspirations for their children's academic achievement; communicating such aspirations to their children; parents' communication with children about school; parents' participation in school activities; parents' communication with teachers about their children; parents setting physical and other facilities for learning; and parental rules imposed at home that are related to education.

Parental assistance is related to performance of their children in mathematics. Family's socio-economic background had a significant effect on students' achievement in Korea and Finland (Shin et al., 2006). Self and parental expectations were the most influential factors among the affective variables (Wong, 1993). Parental assistance in solving mathematics problems at home is related to the performance of their children in mathematics (Imam and Singh, 2015). Parental support realised through payment for extra tuition, buying textbooks, encouragement to

work hard, involvement in activities such as attending Parent-Teacher Association meetings, helping with homework and counselling relate positively with students' performance in Mathematics (Kiwanuka et al., 2015). Children who received more support and stimulation at home and whose parents had higher quality interactions with the school, had higher quality relationships with their teachers (O'Connor, 2010). Though parental support is important for students' achievement, what form it needs to take is not very clear. Improvement in students' achievement when parents allocate time for homework and monitor it, may be less than generalisable (Kiwanuka et al., 2015). Nevertheless, achievement gaps diminished with the increase in availability of homework resources (Kitsantas et al., 2011). Parental involvement was positively related to procedural mathematics achievement and negatively related to mathematics anxiety (Roberts and Vukovic, 2011). Also, there was positive correlation between the home environment and attitudes of the students towards mathematics (Mahanta, 2014). Among parental involvement factors, parental aspiration or parental expectation for children's education has the strongest relationship with academic achievement. Among these small to moderate yet practically important relationships, parental home supervision has the weakest relationship (Fan and Chen, 2001).

A congenial home environment is an essential factor in moulding the appetite of the students towards mathematics, which influences their overall academic achievement in the long run. Despite this, as with school and learner factors, relative importance of direct instructional and indirect nurturing and supportive roles of parents in mathematics learning is not yet clear.

### RESEARCH QUESTIONS

What factors in schools, learners and at home are associated with low achievement in mathematics of secondary school students of Kerala? Do affective factors in teacher-pupil relations and peer relations match with school-instructional factors in being barrier for achievement in mathematics of these students? Whether students' self-belief, emotions and attitudes are more than self-perceived cognitive abilities in impacting students' low achievement in mathematics? Do more affective parent-relational factors than direct parent involvement factors impact low achievement in mathematics of their children?

### METHODOLOGY

Descriptive Survey procedure comprising questionnaire and achievement test and percentage analysis and chi-square test of independence were employed.

### RESEARCH INSTRUMENT

Questionnaire on Factors affecting Mathematics Learning (Mumthas, 2016) was used for finding out the various factors affecting mathematics learning. The questionnaire took students' response (Yes/No) on an array of 87 factors related to: affective relation with teacher (16), classroom (16) and instructional (23), learner cognitive and affective factors (13) and familial-parent relational and parent involvement factors (19).

The second instrument, Test on Achievement in Mathematics for Grade 9 (Mumthas, 2016), is a test with 60 multiple-choice questions for measuring achievement among secondary school students in Kerala. It has questions on concepts taught in grades lower than 9, and hence tests achievement of mathematics concepts up to Grade 9. The sample group was categorised into high and low achievers by using first and third quartile as cut points.

### PARTICIPANTS

The initial sample of 720 Grade 9 students (327 boys, 393 girls) were drawn from eight government (388 students) and five government-aided schools (332 students) of Kerala, India. The analysis sample for identifying the barriers for mathematics achievement included upper (Mathematics Achievement > 38, n=183) and lower quartile groups (Mathematics Achievement <24, n=194) based on the achievement test score (377 students; Boys=166; Girls=211).



### STATISTICAL ANALYSIS

Chi-square analyses were followed up by comparison of proportions, and calculation of Risk Ratio and Odds value. For every factor identified as significant barrier in high school mathematics achievement, relative risk (RR) of 1.22 to 1.87 is taken as small effect on achievement and above 1.87 is taken as moderate effect (Olivier, May and Bell, 2016) on achievement.

### RESULTS AND DISCUSSION

Out of the total 87 factors, 43 factors significantly distinguish high and low achievers and the remaining 44 factors do not significantly distinguish between high and low achieving groups. Seven out of 16 factors in affective relation with teacher, significantly associate with low achievement in mathematics. Eight out of 16 classroom socio-emotional factors and 8 out of 23 cognitive-instructional factors significantly associate with low achievement. Home and parent involvement factors that associate with low achievement in mathematics, three are clearly affective-relational and one is physical facility and only two out of six of the remaining are on direct help in mathematics learning. However, of the nine remaining home and parent involvement factors, only one is clearly affective, two are on parent-school relationships and six are regulatory in nature.

*Teachers' negative emotions that too from concealed category than expressive and positive affection are*

*decisive in students' achievement in mathematics.*

Teachers neglecting the children, belittling them, or finding fault in them have high negative impact on students' achievement in mathematics, but they affect relatively fewer students, whereas low teacher expectations and students being fearful of teachers have significant negative impact, though of relatively smaller size, on mathematics achievement of around one-third to one-fourth of students. Teachers being angry or scolding the children also have significant negative impact, of relatively smaller size, on mathematics achievement of around one-tenth of students.

Lack of other more open affectionate behaviour by teachers are reported by students, however these have no significant impact on students' achievement in mathematics. Majority of students are not enquired about learning facilities at home, by their teachers. More than one-third of students feel that their teachers provide no individual attention and do not behave in a friendly way, and that they fear clarifying doubts with mathematics teachers. More than one-fourth students report that their teachers do not ask for reason when they avail leave from school and that teachers do not like them. Between 10 to 20 per cent students feel that teachers do not pay attention to them during the lessons or express happiness when they perform better in mathematics and that they even laugh at them for committing mistakes.

*Instruction and assessment by teacher with focus on structuring and anchoring the conceptual grasp and skills for all learners rather than drilling classroom group organisation and guidelines will help to improve mathematics achievement.*

The instructional acts by teachers which help structure and anchor what has been learnt, like summarising the major concepts and helping with unit end exercises, has moderate impact on mathematics achievement of around two-third to one-third of students. Not engaging slow learners in learning activities, not relating the topic to their life, or considering them while pacing the lessons or clarifying their doubts at the end of the lesson, has moderate impact on achievement in mathematics of nearly one-third of students. Lack or faulty use of blackboard also has moderate negative impact on around one-fifth of students.

*Students perceive that teachers endorse rote learning of formulae and are indifferent to co-operative and self-regulative learning strategies.*

Other instruction-related harmful behaviour of teachers are also widely perceived, but they fail to obtain significant association with the level of student achievement. Overemphasising the formulae while teaching, appointing select few students as group leader, not ensuring participation (of all) in group works, are perceived by large share of students. Their teachers not

checking if they have learnt the topic of the day, not checking homework, not reviewing the topics before exams, are perceived by more than one-fourth of students. Teachers not asking them questions, not guiding how to learn mathematics, not providing necessary instructions on group work, not giving opportunity to clear doubts are also perceived by one-fifth of students. Not praising them if they solve problems correctly, not allowing time to copy the sums from the blackboard, not explaining the lessons with examples, not explaining difficult lessons many times, are reported by around one-tenth of students.

*Obligatory physical settings impact students' learning in mathematics than social and intellectual milieu of the classroom.*

Nearly half of the students are negatively impacted especially by noise and to a lesser extent by lack of seating facilities. Classroom lighting, isolation in group work, and frequent absence from school have high negative impact on mathematics achievement of around one-fourth of students. Isolation from peers who are better achievers in all areas of learning has moderate negative impact on mathematics achievement of more than one-third of students.

But lack of many other factors, that follows, which may enrich the classroom academically and socially were found not to impact mathematics achievement level of

students. Majority of students do not have specially allotted library time for mathematics learning, nor do they borrow maths related books from library, but one-fifth students have not seen maths related titles there. About one-third of students have friends who laugh at them for paying more attention to learning and about one-fifth have friends who do so for committing mistakes in maths. About one-tenth of students perceive lack of friends who help in learning. One-fifth of students do not like group work and one-sixth feel having to do everything if they were made group leader.

*Feeling of difficulty in mathematics and many allied self-belief impact mathematics achievement of substantial number of students.*

One in four students do not like mathematics and about one-fifth of them feel that it is useless for life; and this has a major effect on their low achievement status in the subject. Feeling maths as difficult, difficulty to memorise and to comprehend questions is reported by two-third of students and each has significant but small association with math achievement level. More than one-third of students feel they cannot learn maths very well, are not learning maths everyday, and neither can they comprehend the maths textbook. All these aspects have significant, though small influence on their maths achievement.

Majority of students feel unable to follow lesson even when a single

class was missed (yes%=81.3) and do not read maths textbook (yes%= 52.9), and a considerable portion feels that maths required for daily life should only be learnt (yes%=20.1). But these two observations did not produce a significant change in student achievement levels.

*More than home-school contact, physical and psychological environment at home characterised by authoritative parenting impact students' achievement in mathematics, of a significant number of students.*

Relatively lesser number of students perceive home-related barriers to mathematics education; and irrespective of the extent of their prevalence they have small impact on maths achievement even where significant. Other than 'No one at home to teach maths' (46.9%) and 'Receiving no help from home for learning maths' (25%), barriers like 'Parents not warning even if not studying' (19.3%), and 'No one at home asking to study' (15.3%), 'Not having facilities at home to learn away from usual distractions' (13.9%), 'Parents suggesting to miss school other than for illness' (12.5%), and 'Parents enquire reasons if scoring less in maths' (12.1%), are perceived by less than one-fourth of students. Other barriers like 'Parents exhorting the importance of the study', 'Family problem', 'Feeling parents don't like them' are even lesser.

More explicit parental intervention or lack of it did not produce significant

change in students' maths achievement level. In the case of majority of students, elders do not keep a watch while they learn maths (yes%= 67.2) and they feel difficulty as others watch TV while learning at home (yes%=57.8). About one-fifth of parents do not discuss learning with teachers (yes%=18.9). For around one-tenth of them, elders at home do not check answer scripts (yes%=9.3); nor do they warn when they score less (yes%=12.8) or reprimand them if they watch TV during learning hours (yes%=9.6). Only parents of a few students do not enquire about their learning progress (yes%=7.8) and do not attend PTA meetings (yes%=7.5).

### **CONCLUSION AND IMPLICATIONS**

Students with negative affect for mathematics tend to make negative appraisals of their ability and they tend to direct time and attention away from learning. These emotions distract students from approaching and solving the problem and make them focus on their failings instead. Negative affect for failure is more common in classrooms where mistakes are linked to lower ability (Turner et al., 2003). Parents' positive attitude about their children's education is even more important than their active instructional and school contact events.

A polite, loving teacher is preferred over the one who shouts and punishes children. It is important for teachers to be sensitive towards the needs of all children. To increase mathematics

performance, teachers should focus more on enhancing the quality of learning and students' mathematics related affective experiences through acceptance and even appreciation of individual differences. Feelings of competence, self-determination and being connected to peers, need to be nurtured. When teachers form positive bonds with students, classrooms become supportive spaces in which students can engage in productive ways academically and socially.

Mathematics teachers need to create a classroom culture where students positively support each other for improving their mathematics performance (Kiwanuka et al., 2015). Students who have confidence and belief in their ability to control their engagement and learning activities, achieve more (Winheller et al., 2013; Kupari and Nissinen, 2013). Teachers should give special attention to students who have difficulty in making friends. It is important to teach some guidelines and social skills. Learning of weaker students is negatively affected as they tend to interact with other weaker students more closely than with stronger peers. In contrast, strong students are found to interact more closely with other strong students; hence their learning can be improved by the presence of best-performing peers (Kang, 2007). Guiding, encouraging and rewarding of student activity should be prioritised while teaching. Holistic development, not factual

information acquisition should be the goal of all teachers.

The feedback provided to students is very important in helping them maintain high and accurate self-efficacy beliefs. Feedback should be specific. A high rate of reprimands and low rate of praises have several negative effects. Teachers should regularly praise and encourage students for acting appropriately. Otherwise, positive student behaviour weakens for want of recognition. This may result in their eventually withdrawing from participating in the class or they may even avoid the maths class. Praise and other positive interactions between teachers and students are important. They remind the students about behavioural and academic expectations and give them clear evidence that he or she is capable of achieving those expectations (Mayer, 2000). The teachers should praise the students wherever possible without being too positive (Warwick, 2008). For every reprimand given, teachers need to have 3 to 4 positive interactions with the student (Sprick, Borgmeier and Nolet, 2002). Positive interactions might include focused, specific praise, non-verbal exchanges, smile or 'thumbs-up', encouraging note written on the student's homework assignment, etc. Such an encounter with a mathematics teacher, who embodies the joy of mathematics and encourages students to explore and experiment with mathematics, can affect students' feelings towards

mathematics in a positive way. Such encounters are rare, at present. Hence, the teacher needs to be equipped with strategies for accommodating and teaching students with differences, vulnerabilities and disabilities.

Hence, the study recommends that barriers to mathematics learning need to be identified in local contexts of the school and learners. As negative encounters with teachers do affect mathematics learning, teachers need to allow student-choice in learning activities, enhance praise and other positive interactions. Teachers should use specific praise like encouraging notes written on the students' homework assignments and non-verbal exchanges that give students confirmation that he or she is capable of achieving teacher and curricular expectations, especially with students at risk in mathematics. Teachers should reduce the rate of reprimands and other negative feedback. Further, enhancing student self-esteem via feelings of competence, self-determination and being connected to others, is recommended. This requires facilitating students' holistic development (than fragmentary discipline-specific instruction of content and strategies) through adoption of strategies to meet students' interests, attitude and other intrinsic motivational, curriculum-based methods to stimulating social emotional development, and creating a psychological sense of community in the classroom. Some guidelines for

making friends and social skills may be taught. This also implies that teacher education should further strengthen strategies for accommodating and for teaching students to compensate for differences and weaknesses.

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# Study of Academic Achievement and Adjustment of Secondary School Students in Relation to Working Status of Mothers

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## Abstract

*The present study is an attempt to identify the role of working and non-working mothers on the academic achievement and adjustment of their children. The research was conducted in Itanagar Complex, Arunachal Pradesh, India. A total of 187 students (95 boys and 92 girls) were selected from public and private secondary schools through simple random sampling, as respondents. The tools used to measure the variables under study were Adjustment Inventory for school student and academic percentage marks obtained in Class X. The students' t-test analyses were conducted to determine the association among the variables identified in the study. After the analysis of data, it was found that the academic achievement of male and female students of working and non-working mothers did not differ significantly. However, a significant difference was observed in the educational adjustment. Further, there was no significant difference in the social and emotional adjustment of boys and girls of the non-working mother.*

## INTRODUCTION

The family is one of the primary groups of society concerned with face-to-face relationship. A child receives the earliest education from the family. The basic ideas, as well as many

attitudes towards himself/herself and his/her associates, are initiated by the family, which determines how he/she adjusts in school and other out-of-home situations. The economic status, attitudes and behavioural

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experiences of parents and family environment all influence the child's behaviour and attitudes, both directly and indirectly (Goswami, 1987). In a family, the role of the mother in the development of the child is very vital. A child spends maximum time with his/her mother. Therefore, a mother leaves healthy and a long-lasting impact on the child and lays the foundation for his/her future development (Moline, 1999). The early warmth and affection of mother are associated with the calm, happy and cooperative behaviour of the child. She disciplines the child and guides towards a promising career. A mother has more opportunities than the father to influence the child's growth and behaviour.

Traditionally a woman is primarily associated with the home and the man with the outside world. In the modern era, the trend for seeking paid employment by both the husband and wife is prevalent. Therefore, the roles of men and women are also changing for their family. Dual earners face unusual challenges as they need to balance work and family responsibilities (Bose, 1985). Besides drawing satisfaction from a career and social life, effective parenting is an important goal of life. Parents play a vital role and have the single most important external influence on the behaviour of the child. In the present study, working status of mothers has been taken to mean any one of two, either full-time mother or mother with paid employment.

Panda and Samel (1995) concluded that in terms of academic achievement, there was no difference between the daughters of working and non-working mothers. Das and Debabrata (2014) found significant difference between academic achievement of male and female students of working and non-working mothers. Khurshid, Parveen and Yousuf (2014) found that there was no significant difference between psychological adjustment of adolescent children of working and non-working women.

Now when the role of women is changing both within and outside the family, the question has been raised regarding the impact of the working status of mothers on children, especially adolescents and the various aspects of their lives. It is apparent that maternal employment has profound implications for our changing social pattern. It is therefore very much relevant to study the effect of the working status of mothers on various aspects of adolescent lives.

Adolescence is the most crucial and significant period of human life. It is the period which begins at the end of childhood and ends at the beginning of adulthood. The adolescence period of secondary school students is from Class IX to Class XII. Adolescents are the energy of today and the bright hope of the future. Thus, adolescent adjustment and their academic achievement should be a matter of grave concern not only to parents, but also to

teachers, elders and other adults who look forward to the welfare of the youngsters as well as future progress of our society.

### **RATIONALE OF THE STUDY**

India is presently going through a crucial period of social change, never experienced before. Modern women know their self, and they are developing self-reliance and self-esteem by taking up jobs in various spheres. Now when the role of women is changing the world over, and particularly in India both within and outside the family, various questions have been raised regarding the impact of the working status of mothers on their children, especially adolescents and the various aspects of their lives. The findings of this study will enable teachers to develop insights into the type of parent-child relations at adolescent levels about which, the existing body of knowledge is scanty. This study would help the teachers to predict objectively, the causes of maladjustment and poor learning achievement among adolescents.

### **OBJECTIVES OF THE STUDY**

1. To study the difference in the academic achievement of the students of working and non-working mothers.
2. To study the difference in the academic achievement of boys and girls of working mothers.
3. To study the difference in the academic achievement of boys and girls of non-working mothers.

4. To study the difference in the adjustment (emotional, social and educational) of the students of working and non-working mothers.
5. To study the difference in the adjustment (emotional, social and educational) of boys and girls of working mothers.
6. To study the difference in the adjustment (emotional, social and educational) of boys and girls of non-working mothers.

### **HYPOTHESES OF THE STUDY**

1. The academic achievement of the students of working and non-working mothers does not differ significantly.
2. The academic achievement of boys and girls of working mothers does not differ significantly.
3. The academic achievement of boys and girls of non-working mothers does not differ significantly.
4. The adjustment (emotional, social and educational) of the students of working and non-working mothers does not differ significantly in their level of adjustment.
5. The adjustment (emotional, social and educational) of boys and girls of working mothers does not differ significantly in their level of adjustment.
6. The adjustment (emotional, social and educational) of boys

and girls of non-working mothers does not differ significantly in their level of adjustment.

## **METHOD OF RESEARCH**

### **Selection of Sample**

The sample for the study was selected from all the government and private secondary schools of Itanagar Complex in Arunachal Pradesh, by simple random sampling procedure. In this study, students (both gender) of working and non-working mothers were selected randomly. A sample of 187 school students was selected through random sampling technique. The present study includes the following as a sample:

1. English medium senior secondary school of Itanagar Complex.
2. School-going adolescents (boys and girls) in the age group of 16–18 years. The educational standard of the school-going adolescents is Class XI.
3. Altogether, 187 adolescent school-going children (95 boys and 92 girls) were taken into consideration for the study.
4. Out of 95 boys and 92 girls, 46 boys and 47 girls had working mothers and 49 boys and 45 girls had non-working mothers. A total of 187 subjects were taken for the study or investigation.

### **Variables**

There were two independent variables, and each had two levels.

The two dependent variables have been as follows.

1. Academic achievements
2. Adjustment

The independent variables of the present investigation have been as follows:

1. Mother's employment status, i.e., working or non-working
2. Gender, i.e., boy or girl

### **Tools Used**

The following tools were used to measure the variables under study.

1. Adjustment: Adjustment inventory for school student tool, developed and standardised by A.K.P. Sinha and R.P. Singh (2005).
2. Academic achievement: Academic percentage aggregate of numbers obtained in Class X were taken as the measure of academic achievement.

### **DATA COLLECTION**

For data collection, authors visited the selected schools of Itanagar Complex and took permission. After getting the permission of the Principals and winning the cooperation of the teachers, all possible efforts were made to ensure the best possible conditions for administering the tests and students' ease. Efforts were made to get maximum cooperation from students.

### **DATA ANALYSIS**

The data analysis was performed using the IBM SPSS statistical package (Version 22.0) and Microsoft

Excel software. Firstly, exploratory data analysis (EDA) was performed. Secondly, the normality of the variables was verified using the Kolmogorov-Smirnov test. The numerical determinants like mean and standard deviation were estimated to study the general nature of the sample about scores of different variables taken in the present study, i.e., adjustment and academic achievement. Score on the adjustment scale is indicative of poorer adjustment. To analyse the data obtained by adjustment and academic achievement, the scores of the whole sample were examined through a t-test for boys and girls of working and non-working mothers.

## RESULTS AND DISCUSSION

### Academic Achievement of Boys and Girls of Working and Non-working Mothers

Table 1 shows that mean values are 74.61 and 72.06 with a standard

deviation of 11.76 and 14.24 for students of working and non-working mothers, respectively. The t-value in the above case is 1.334, which is lower than the tabulated t-value (1.98) required for significance at 0.05 levels. Hence, the null hypothesis "The academic achievement of the students of working and non-working mothers do not differ significantly" is accepted. It indicates that academic scores of students whose mothers are working are similar to the students of non-working mothers. This finding is similar to previous studies by Taori (1986) and Trivedi (1988), but differs from others like Sultana (1988), Srivastava (1993) and Saini (2005).

### Academic Achievement of Boys and Girls of Working Mothers

Table 2 shows that mean values of boys and girls are 73.98 and 75.11 with a standard deviation of 11.87 and 11.97, respectively. The t-value in the above case is 0.456, which is

**Table 1**  
**Summary of Mean, SD, df and t-value for testing the significant difference between academic achievement of adolescent students of working and non-working mothers**

Mothers' status	Mean	SD	df	t-value	p-value
Working	74.61	11.76	185	1.334	0.184 <sup>NS</sup>
Non-working	72.06	14.24			

<sup>NS</sup>: Not significant

**Table 2**  
**Summary of Mean, SD, df and t-value for testing the significant difference between the academic achievement of adolescent students of working mothers**

Students	Mean	SD	df	t-value	p-value
Boys	73.98	11.87	91	0.456	0.649 <sup>NS</sup>
Girls	75.11	11.97			

lower than the tabulated t-value of 1.98 required for significance at 0.05 levels. This indicates that overall the academic scores of boys and girls whose mothers are working do not differ significantly.

### **Academic Achievement of Boys and Girls of Non-working Mothers**

Table 3 shows that mean values for boys and girls are 70.22 and 72.58 with a standard deviation of 13.05 and 13.12 respectively. The t-value

in the above case is 0.871, which is lower than the tabulated t-value of 1.98 required for significance at 0.05 level. This indicates that overall the academic scores of boys and girls of non-working mothers do not differ significantly. The present study disagrees with the result of Query and Kuruvilla (1988) which supports the view that there is no significant difference in the performance of male and female children of non-working mothers.

**Table 3**  
**Summary of Mean, SD, DF and t-value for testing the significant difference between the academic achievement of adolescent students of non-working mothers**

Students	Mean	SD	df	t-value	p-value
Boys	70.22	13.05	92	0.871	0.386 <sup>NS</sup>
Girls	72.58	13.12			

<sup>NS</sup>: Statistically not significant

**Table 4**  
**Summary of Mean, SD, df and t-value for testing the significant difference between adjustment scores of adolescent students of working and non-working mothers**

Adjustment	Mothers' status	Sample	Mean	SD	df	t-value	p-value
Emotional	Working	93	7.65	3.06	185	0.473	0.637 <sup>NS</sup>
	Non-working	94	7.86	3.19			
Social	Working	93	8.75	3.15	185	0.355	0.723 <sup>NS</sup>
	Non-working	94	8.60	2.89			
Educational	Working	93	8.10	2.74	185	0.298	0.766 <sup>NS</sup>
	Non-working	94	8.22	3.05			
Overall	Working	93	8.16	3.01	185	0.243	0.809 <sup>NS</sup>
	Non-working	94	8.23	3.05			

<sup>NS</sup>: Statistically not significant

### **ADJUSTMENT OF STUDENTS OF WORKING AND NON-WORKING MOTHERS**

Table 4 shows a comparison of students of working and non-working mothers in various areas of adjustment. The higher score on the adjustment scale is indicative of poorer adjustment.

Table 4 shows that in emotional adjustment, the difference between students of working and non-working mothers is not significant ( $t = 0.473$ ) for 185 degrees of freedom at 0.05 level of significance. This insignificant difference in emotional adjustment for students of working and non-working mothers provide a vital clue that mothers' working status does not play any significant role in respect of their emotional adjustment. The present finding is in disagreement with the findings of Kaur (1992) and Barua and Barua (1999) who show significant difference in the emotional adjustment of children of working mothers and of non-working mothers.

Table 4 reveals that average social adjustment of students of working and non-working mothers is not significant ( $t = 0.355$ ) for 185 degrees of freedom at 0.05 level of significance. This insignificant difference provides a vital clue that mothers' working status does not play any significant role in respect of their social adjustment.

The comparison of educational adjustment shows that the difference between students of working and non-working mothers is not significant ( $t = 0.298$ ) for 185 degrees of freedom at 0.05 level of significance. This insignificant difference in educational adjustment suggests that mothers' working status does not play any significant role in respect of their educational adjustment.

In overall adjustment, the  $t$ -value has come out to be 0.243 which is not significant at 0.05 level of significance. This means that the two groups, working and non-working mothers, do not differ significantly in their overall adjustment.

### **ADJUSTMENT OF BOYS AND GIRLS OF WORKING MOTHERS**

Table 5 shows the average emotional adjustment scores of the boys and girls. The higher score on the adjustment scale is indicative of poorer adjustment. It is clear that in emotional adjustment, the difference between students' score is not significant ( $t = 0.029$ ) for 91 degrees of freedom at 0.05 level of significance. This insignificant difference in emotional adjustment for boys and girls of working mothers provide a vital clue that gender does not play any significant role in respect of their emotional adjustment.

**Table 5**  
**Summary of Mean, SD, df and t-value for testing the significant difference between adjustment scores of adolescent students of working mothers**

Adjustment	Students	Sample	Mean	SD	df	t-value	p-value
Emotional	Boys	46	7.13	3.12	91	0.029	0.977 <sup>NS</sup>
	Girls	47	7.15	2.95			
Social	Boys	46	8.50	3.38	91	0.763	0.447 <sup>NS</sup>
	Girls	47	8.00	2.92			
Educational	Boys	46	8.70	3.15	91	3.170	0.002 <sup>**</sup>
	Girls	47	6.77	2.70			
Overall	Boys	46	8.11	3.27	91	2.199	0.030 <sup>**</sup>
	Girls	47	7.30	2.89			

**\*\***: Statistically significant at 0.05 level; **NS**: Statistically not significant

It is clear that in social adjustment the difference between students' score is not significant ( $t = 0.763$ , Table 5) for 91 degrees of freedom at 0.05 level of significance. This insignificant difference for social adjustment for boys and girls provide a vital clue that gender does not play a significant role in respect of their social adjustment. This is similar to the study by Jain and Jandu (1998) which also shows that there was no significant difference between boys and girls of employed mothers.

The comparison of educational adjustment shows that the boys' mean value is 8.70 with a standard deviation of 3.15 and the girls' mean value is 6.77 with a standard deviation of 2.70. It is clear that the difference between boys and girls is significant ( $t = 3.170$ , Table 5) for 91 degrees of freedom at 0.05 level of significance. Gender plays an important role in respect of the

educational adjustment for students of working mothers. It shows that adjustment of girl students of working mothers is better than that of their counterparts.

In overall adjustment, boys' and girls' mean and SD values was found to be  $8.11 \pm 3.27$  and  $7.30 \pm 2.89$  respectively. The t-value has come out to be 2.199 (Table 5), which is significant at 0.05 level of significance. It shows that the two groups—boys and girls—differ significantly in their overall adjustment. Further, the difference in mean scores goes in support of girls.

#### **ADJUSTMENT OF BOYS AND GIRLS OF NON-WORKING MOTHERS**

The t-values were computed to check the significance of differences between different adjustments. A perusal of Table 6 shows that average emotional adjustment score of the boys ( $M = 7.39$ ) is marginally more when



compared to girls ( $M = 7.38$ ). The higher score on the adjustment scale is indicative of poorer adjustment. It is clear that the difference between students' score is not significant ( $t = 0.015$ ) for 92 degrees of freedom at 0.05 level of significance. These insignificant differences provide a vital clue that gender does not play a significant role in respect of their emotional adjustment.

respectively. It is clear that the difference between boys and girls is significant ( $t = 2.734$ , Table 6) at 0.05 level of significance. The findings of the present study are supported by the studies of Jain and Jandu (1998) and Barua and Barua (1999) which too illustrate that there was significant difference in the educational adjustment of boys and girls of non-working mothers.

**Table 6**  
**Summary of Mean, SD, df and t-value for testing the significant difference between adjustment scores of adolescent students of non-working mothers**

Adjustment	Students	Sample	Mean	SD	df	t-value	p-value
Emotional	Boys	49	7.39	3.28	92	0.015	0.988 <sup>NS</sup>
	Girls	45	7.38	3.05			
Social	Boys	49	8.63	2.60	92	1.793	0.076 <sup>NS</sup>
	Girls	45	7.56	3.21			
Educational	Boys	49	8.65	3.24	92	2.734	0.007 <sup>**</sup>
	Girls	45	6.98	2.63			
Overall	Boys	49	8.22	3.10	92	2.583	0.011 <sup>**</sup>
	Girls	45	7.30	2.96			

**\*\***: Statistically significant at 0.05 level; **NS**: Statistically not significant

Table 6 shows that the social adjustment average scores of the boys ( $M = 8.63$ ) are marginally more than girls ( $M = 7.56$ ). It is clear that the difference between students' score is not significant ( $t = 1.793$ ) for 92 degrees of freedom at 0.05 level of significance. Therefore, it is concluded that gender does not play any role in social adjustment. The comparison of educational adjustment shows that the boys' and girls' average value was found to be  $8.65 \pm 3.24$  and  $6.98 \pm 2.63$

In overall adjustment, boys' average value is  $8.22 \pm 3.10$  and that of girls is  $7.30 \pm 2.96$ . The t-value has come out to be 2.583 (Table 6), which is significant at 0.05 level of significance. It implies that the two groups—boys and girls—differ significantly in their overall adjustment.

### IMPLICATIONS

In India, although the number of working women is increasing, yet there are many misconceptions that there is a negative impact of

working women in the family, that it influences the rearing practices leading to the negative growth of children. It is believed that working women are not able to manage the family as that of full-time non-working mothers. However, the results of this study clearly indicated that adolescent children of working mothers have a higher level of emotional maturity, self-confidence and security. So, the present study

suggests that the stereotype thinking and the inhibitions regarding the working parents, especially mothers, need to be shed off. The study also implies that there is a need to develop a responsive environment to nurture the self-confidence and instill the feeling of self-reliance. The study also indicates that girls' adjustment is better than that of boys', so more focus should be given on boys' adjustment, especially in education.

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# What Parents Think about Higher Secondary Schools in Kerala, India

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## Abstract

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*An intriguing look deep into the realities of quality of education in Kerala is depressing, even though quantity-wise the progress is astounding, as evidenced through the study reports of NCERT and such other agencies and individual research endeavours. There is a steady flight of students from the mainstream public educational facilities towards private education at extremely higher costs. Are the stakeholders of public education really unsatisfied? Is it not necessary to assess their opinion so that the government recognises the worth of public spending on education? This paper assesses the satisfaction of parents of the students studying in the higher secondary schools in Kerala, on different variables such as: infrastructure, teachers and their attitude, attitude of the principal of the school towards the parents and other supporting system; covering aspects like conduct of parent-teacher meetings, teacher-student ratio, number of working days in a year, permanency of faculty, selection of teachers, counselling for students and parents, career guidance, academic achievements of the school, and importance given to co-curricular and co-academic activities. The opinion of the parents was collected using a pre-tested structured survey schedule constructed based on a five-point Likert-type scale. Percentage analysis and descriptive statistics were computed for identifying the nature of the data. The hypotheses are tested using Z-test, one sample t-test, one way analysis of variance (ANOVA) along with least significant difference test for comparison between more than two groups and independent t-test for comparing between two groups and also correlation. The studies found that the parents are satisfied with the teaching-learning environment of government and government-aided schools but were dissatisfied with the infrastructural facilities.*

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## INTRODUCTION

Improving the quality of education has been the agenda of the governments from a very early age. The Education Commission, while describing the role of education in the social and economic transformation of India had suggested that the destiny of India would be shaped in her classrooms (NCERT, 1966). Kerala stands miles ahead of the other States of India in terms of number of important social development indicators, education being one of them (Government of Kerala, 2011). Kerala has attained this growth in education, not in a short period of time, but through the enlightened efforts of the rulers, from the very early times and the intellectual pursuit of the people, spread through several centuries (Menon, 2007). The central and state governments as well as other educational agencies have been incessantly churning out quality improvement programmes and schemes for the purpose of improving the educational quality. An intriguing look deep into the realities of quality of education is however depressing (Government of Kerala, 2004), even though quantity-wise the progress is astounding, as evidenced through the study reports of NCERT and other such agencies and individual research endeavours. Studies on an all-India basis, conducted by National Institute of Educational Planning and Administration (NIEPA) and other studies like the Midterm Assessment Survey (MAS), conducted in 1997, show that there is improvement in

the average performance of students in language and mathematics from 1994 to 1997, but still, the mean score across the states is low and far below the expectations. The situation in Kerala is no different. The percentage of students in Kerala not achieving 'minimum levels of learning', is high. This is further confirmed through the surveys conducted by voluntary agencies like Kerala Sasthra Sahitya Parishat (NCERT, 1966; Kumar, 1998; Ramakrishnan, 1998; Prakash, Gautam, Bansal and Bhalla, 1998). Parents and people in general are not satisfied with the achievements made by government-run schools and aided schools. This is one of the reasons for the flight of students in search of quality to other schools and for the increasing number of uneconomic schools (Prakash et al., 1998).

The above scenario called for a drastic change in each of the components of the system of higher secondary education, starting from the administration, right down to the individual schools. It is in this background that the applications of the concepts of Total Quality Management in education are being experimented on a large scale in Kerala. The government has been taking initiatives for imparting training and education to teachers for imbibing the philosophy of TQM into them; significant changes were made in the curriculum and in the administration of the education system. Much effort is also being given to building infrastructural

facilities. In 2004, following the 'Total Quality' envisaged by the educational authorities, a vision-mission statement was developed in a Training Need Analysis (TNA) Workshop, and ever since it has been used in all official documents (Government of Kerala, 2012). The vision envisages a central agency of the state government to promote all-round excellence in higher secondary education, by establishing appropriate philosophies, adequate institutional network, effective administrative systems, and well-qualified, competent and motivated staff necessary to carry out academic and administrative responsibilities. The mission provides to serve as a professional institution in formulating and maintaining the standards of higher secondary education and in providing need-based, time-bound, effective and sustainable services to the students and teachers (Government of Kerala, 2012). It is indispensable for our education system to achieve success in its quality pursuit with the wholehearted support of the teachers and other stakeholders. The satisfaction of the students, parents and other stakeholders are to be given prime importance, so that they continue to enjoy the benefits of one of the world's largest, reasonably priced, more or less free education, equitably provided to all sections of the society, whether rich or poor, to all types of castes and creed. It is important to sustain the life of this unique system of education. Of late,

observations show that there is a burgeoning tendency for the people to seek education in private schools which boast of finest infrastructure often foregoing the quality and experience of teachers and the parents are willing to bear the cost. This paper examines the satisfaction of the parents of students of higher secondary schools in Kerala belonging to the government and private-aided and private-unaided sectors.

### **OBJECTIVES AND HYPOTHESES**

The study has been designed with the objective of examining the satisfaction of parents of the students of higher secondary schools in Kerala. Based on this objective, the following hypotheses were formulated for the study.

1. The overall satisfaction level of parents achieved, as part of application of TQM in the higher secondary schools in Kerala, is moderate.
2. The overall satisfaction of parents is the same, irrespective of the type of ownership, studentship and location of schools.

### **METHODOLOGY**

The study is descriptive in nature examining the application of TQM in higher secondary schools in Kerala. The sample of the study comprises parents of the students belonging to the government, aided and unaided higher secondary schools coming under the Directorate of Higher

Secondary Education in Kerala. There were 760 government higher secondary schools, 686 aided and 461 unaided higher secondary schools in the state in the year 2010–11, making it 1,907 higher secondary schools in all (Government of Kerala, 2011). From the total number of schools in the state, about 1.5 per cent (30) schools were selected for the sample through a multi-stage sampling process. Schools were included in the sample proportionately from government, aided and unaided sector. Thus, 13 schools were included from government, 11 from aided and 6 from unaided higher secondary schools. For getting a complete representation of the state (14 districts in all), it was divided into three zones—northern, southern and central. From each of these zones, a district was selected and from each district government, aided and unaided higher secondary schools were selected proportionally. Thus, altogether 10 schools were selected from each district. From each of the school selected, 10 parents were

selected, totaling to a sample size of 300 parents, one of the parents of a student was selected.

The opinion of the parents was collected using a pre-tested structured survey schedule constructed based on a five-point Likert-type scale. Percentage analysis and descriptive statistics were computed for identifying the nature of the data. The hypotheses were tested using Z-test, one sample t-test, one way analysis of variance (ANOVA) along with least significant difference test for comparison between more than two groups and independent t-test for comparing between two groups and also correlation. The level of significance was fixed at 5 per cent.

## DISCUSSION

### General Profile of the Parents

When the parents were classified as per age, it was found that 82 per cent of the 'father parent' belonged to the age group of 40–50 years and majority of the 'mother parent' came under the age group 'up to 40 years of age' (Table 1).

**Table 1**  
**Classification of Parents based on Age**

Age group (years)	Father		Mother	
	Number	Per cent	Number	Per cent
Up to 40	33	11.0	159	53.0
40–50	246	82.0	139	46.3
50–60	21	7.0	2	0.7
Total	300	100	300	100

Source: Primary data.

The educational level of parents was studied and it was found that most of the parents had completed their studies till the high school level. In the case of the mother parent, majority had completed high school. However, it is interesting to note that mother parents who had completed degree (21.3 per cent) are more than father parents (15.7 per cent) (Table 2).

(Covering such aspects like conduct of parent-teacher meetings, teacher-student ratio, number of working days in a year, permanency of faculty, selection of teachers, counselling for students and parents, career guidance, academic achievement of the school, and importance given to co-curricular and co-academic activities)

**Table 2**  
**Classification of Parents based on Education**

Education	Father		Mother	
	Number	Per cent	Number	Per cent
Up to High School	59	19.7	66	22.0
High School Completed	121	40.3	106	35.3
Diploma	20	6.7	14	4.7
Degree	47	15.7	64	21.3
Post Graduation	26	8.7	28	9.3
Others	27	9.0	22	7.3
Total	300	100	300	100

Source: Primary data.

### **Descriptive Statistics on Satisfaction of Parents**

The satisfaction of the parents was assessed on different variables such as:

1. Infrastructure
2. Teachers and their attitude
3. Attitude of the Principal of the school towards the parents
4. Other supporting systems

The percentage score depicting the satisfaction level of parents are given in Table 3. The results show that the parents are least satisfied with infrastructural facilities when compared to the satisfaction level of the other variables. The overall satisfaction of the parents is at 62.91.

**Table 3**  
**Descriptive Statistics on Satisfaction of Parents**

Variables	No. of items	Mean	Std Error	Percentage score
Infrastructure	11	32.93	0.56	59.87
Teachers and their attitude	9	30.30	0.43	67.33
Attitude of Principal	4	12.91	0.24	64.55



Other supporting systems	12	37.11	0.44	61.85
Overall satisfaction of parents	36	113.24	1.23	62.91

Source: Primary data.

**Satisfaction of Parents under Various Dimensions of Study**

The satisfaction level of the parents was assessed under various dimensions like ownership of the school, location and type of school. The schools are classified based on gender-wise combination of students; like boys only, girls only and co-educational schools. The parents of

students belonging to government, aided and unaided schools have the same level of satisfaction in the case of ‘teachers and their attitude’, ‘attitude of principal’, and ‘other supporting systems’. However, it is found that there are significant differences in the matter of satisfaction on ‘infrastructure’ and ‘overall satisfaction’.

**Table 4**  
**Satisfaction of Parents based on Ownership of Schools**

Variables	Type of Schools	N	Mean	Std Error	F-value	P-value
Infrastructure	Govt.	130	28.94 <sup>c</sup>	0.71	26.116 <sup>**</sup>	<0.001
	Aided	110	34.74 <sup>b</sup>	0.87		
	Unaided	60	38.27 <sup>a</sup>	1.30		
Teachers and their attitude	Govt.	130	30.57	0.74	0.169 <sup>NS</sup>	0.845
	Aided	110	30.16	0.65		
	Unaided	60	29.95	0.83		
Attitude of Principal	Govt.	130	13.11	0.35	1.252 <sup>NS</sup>	0.287
	Aided	110	12.43	0.43		
	Unaided	60	13.35	0.47		
Other supporting systems	Govt.	130	36.40	0.69	2.323 <sup>NS</sup>	0.100
	Aided	110	36.96	0.56		
	Unaided	60	38.92	1.20		
Overall satisfaction	Govt.	130	109.02 <sup>b</sup>	1.86	6.421 <sup>**</sup>	0.002
	Aided	110	114.29 <sup>ab</sup>	1.79		
	Unaided	60	120.48 <sup>a</sup>	3.05		

Source: Primary data.

Notes: <sup>NS</sup>: not significant at 0.05 level; <sup>\*\*</sup>: significant at 0.01 level; Means with same letter as superscript are homogeneous.

In case of 'infrastructure', the parents of unaided school students (mean=38.27) were more satisfied than aided school students (mean=34.74) and they were in turn more satisfied than parents of government school students (mean=28.94). The parents of government school students were, thus, lesser satisfied than the other two groups with regard to infrastructural facilities (p-value less than 0.001). In the case of 'overall satisfaction', there is significant difference between the parents of government school students and unaided school students, but, there is no significant difference between the parents of aided school students and government school students (p-value=0.002). In the case of 'overall satisfaction', the parents of unaided school students were more satisfied than parents of government school students. It is interesting to point out here that the difference in the satisfaction level is not due to differences in the level of satisfaction on 'teachers and their attitude', 'attitude of Principal' or satisfaction on 'other supporting systems', but on a more rectifiable factor, 'infrastructure'. If the satisfaction was less due to teachers and their attitude, then the problem of attaining quality through teacher development is an uphill task. There is question of upgrading teachers and also terminating those who are not

up to the mark, which again invites collective restraints from the part of the teachers' union. Correction of infrastructure is only a matter of identifying new sources of finance. This finding emphasises the teaching-learning quality of government and aided schools.

### **Satisfaction of Parents based on Type of Schools—Gender-wise**

The satisfaction of the parents may change according to the student-gender combination of the school. The study found that there is significant difference in the satisfaction level and the differences in the satisfaction level is found to be highly significant in the case of all variables. Parents of students of girls-only schools were found to be more satisfied than parents of students of boys-only and co-educational schools, in the case of all the variables except in the case of 'teachers and their attitude'. The parents of boys-only schools were found to be the least satisfied in the case of the variable 'teachers and their attitude' (p-value=0.001). In the case of 'overall satisfaction', the differences in the level of satisfaction of parents is highly significant and thus the parents of students in girls-only schools were found to be more satisfied than parents of students in boys-only and co-educational schools.

**Table 5**  
**Satisfaction of Parents based on Type of Schools — Gender-wise**

Variables	Type of Schools	N	Mean	Std Error	F-value	P-value
Infrastructure	Boys-only	40	30.38 <sup>b</sup>	1.19	11.619**	<0.001
	Girls-only	90	36.84 <sup>a</sup>	1.02		
	Co-educational	170	31.46 <sup>b</sup>	0.73		
Teachers and their attitude	Boys-only	40	26.13 <sup>c</sup>	0.97	11.651**	<0.001
	Girls-only	90	32.64 <sup>a</sup>	0.74		
	Co-educational	170	30.04 <sup>b</sup>	0.57		
Attitude of Principal	Boys-only	40	12.28 <sup>b</sup>	0.63	9.492**	<0.001
	Girls-only	90	14.44 <sup>a</sup>	0.38		
	Co-educational	170	12.24 <sup>b</sup>	0.32		
Other supporting systems	Boys-only	40	34.50 <sup>b</sup>	1.05	22.928**	<0.001
	Girls-only	90	41.30 <sup>a</sup>	0.73		
	Co-educational	170	35.51 <sup>b</sup>	0.55		
Overall satisfaction	Boys-only	40	103.28 <sup>b</sup>	3.27	25.308**	<0.001
	Girls-only	90	125.23 <sup>a</sup>	1.91		
	Co-educational	170	109.24 <sup>b</sup>	1.55		

Source: Primary data.

Notes: \*\* : significant at 0.01 level; Means with same letter as superscript are homogeneous.

### Satisfaction of Parents based on Location of Schools

The satisfaction level of parents was found to be different depending on the location of the school.

The parents of urban school students were found to be more satisfied than rural school students in the case of all variables used

for assessing satisfaction. The differences in the satisfaction level of parents are highly significant in the case of 'overall satisfaction' (p-value less than 0.001). In the case of 'overall satisfaction', the parents of students in urban schools were found to be more satisfied than parents of students in rural schools.

**Table 6**  
**Satisfaction of Parents based on Location of Schools**

Variables	Location	N	Mean	SE	t-value	P-value
Infrastructure	Urban	150	34.15	0.64	2.205*	0.028
	Rural	150	31.71	0.90		
Teachers and their attitude	Urban	150	31.47	0.60	2.770**	0.006
	Rural	150	29.12	0.60		
Attitude of Principal	Urban	150	13.67	0.30	3.280**	0.001
	Rural	150	12.14	0.36		
Other supporting systems	Urban	150	38.36	0.57	2.896**	0.004
	Rural	150	35.86	0.65		
Overall satisfaction	Urban	150	117.65	1.44	3.671**	<0.001
	Rural	150	108.83	1.93		

Source: Primary data.

Notes: \*significant at 0.01 level; \*\* significant at 0.01 level.

### Overall Satisfaction of the Parents

The overall satisfaction of the parents was subjected to Z-test. The Z-value, 4.276 is found to be significant at 0.01 level of significance (Table 7).

The mean value 3.1456 is considered to be higher than the central value (3) of the five-point Likert-type scale of measurement. Therefore, it can be inferred that the overall satisfaction of the parents of the students of higher secondary school education in Kerala, is above moderate.

### CONCLUSION

The new method of activity-oriented student-centered learning replaced the traditional teacher-centered education system in the higher secondary school education in Kerala from the year 2005 onwards. As part of this, the continuous and comprehensive internal evaluation introduced, emphasises on the assessment of the multi-dimensional competencies of the learner. Efforts are also made by the government to improve the infrastructural facilities.

**Table 7**  
**Hypothesis Testing of Overall Satisfaction of Parents**

Variable	Mean	Z-value
Overall satisfaction	3.1456	4.276**

Note: \*\* significant at 0.01 level.

The government is also investing in providing training and education to the teachers so that they could engage the classes in a more efficient manner. These efforts indicate customer focus and the intention of the government to

enhance the quality of education for the satisfaction of all the stakeholders of education. This study shows that the satisfaction of parents of the higher secondary school education in Kerala is above moderate.

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# Education, Participation and Disparity

## A Descriptive Picture of the State of Jammu and Kashmir

NARESH KUMAR\* AND SONALI HAZRA\*\*

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### Abstract

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*The descriptive picture of the educational participation helps to identify gaps which need to be filled by appropriate policy. National Sample Survey maps the participation of the population within the age group of 5–29 years, thereby inviting state-specific initiatives to overcome the hindrances. The State's strength lies in the huge demographic dividend which has almost remained unexplored in the absence of innovative policies and programmes. Untapped youth dividend often poses a challenge and demand resource investment for a longer period. One important investment which every State has to plan very prudently is for the educational participation and completion of the children. The paper takes cognizance of these concerns and provides the descriptive picture of the educational participation in the State of Jammu and Kashmir. It points to the fact that educational participation in the State has seen unparallel growth on social, gender and regional lines. The private unaided schools are the popular choice among the urban parents, while government schools usually cater to the rural demand. The household expenditure which has been relatively higher for the State would be a possible obstacle to improve the rural participation in education. Financial constraints have been identified as the prominent factor for discontinuation. The paper invites state initiatives to address factors of the non-enrolment vis-à-vis discontinuation which has peculiar nature in rural and urban area.*

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## **INTRODUCTION**

Jammu and Kashmir (J&K) is the tenth most populated and the tenth largest State of the Indian Union, consisting around 1.25 crore population with an average sex ratio of 889 (Census of India, 2011). The population density of J&K is relatively lower than the national level as most part of the State is on a high altitude. The total population of J&K constitutes only 1.04 per cent of India's population with a decadal growth of 23.64 per cent (Census of India, 2011). National Sample Survey (NSS) provides socio-economic and demographic profile of the sample household where Jammu and Kashmir has been identified as one of the major States of India. The unique characteristic of J&K is uneven topography and extreme climatic conditions, making schooling less accessible for many children. The unfavourable environment like adverse geography and extreme climatic conditions are the impediment for unleashing the holistic growth of the State. Since education has been considered as one of the important development indicators, therefore "the educational system has to be more positive and dynamic to meet the challenges of transforming the personality of the children into productive citizen" (Government of J&K, 2000–01). Though the state government has been introducing many educational programmes to improve the participation of disadvantaged groups, but hurdles of various nature inhibit their growth.

The present paper seeks to explore the participation level of J&K's population within the age group of 5–29 years while inferring the educational statistics from NSS rounds (mainly 64th round). It also focuses on the adverse situations impinging on the educational system of the State, especially in the rural areas. The NSS 64th round (2007–08) titled 'Education in India: Participation and Expenditure' draws a broader picture of the educational status of the State as well as identify the factors which keeps J&K trailing other States of the Union of India. The report depicts the picture of social, regional and gender disparity within the State and provides a comprehensive picture of educational status of Indian States on some of the important themes considered to be critical for overall educational development. Therefore, inferences could be drawn to understand the particular context of J&K to achieve the desired results of the policy initiatives.

## **ATTENDANCE AND PARTICIPATION**

Attendance neither ensures quality learning nor successful completion of schooling. It cannot be accepted as a valid parameter to ensure successful completion of school education for most of the children, especially the vulnerable groups (girls, SC/ST) having the tendency to discontinue and then dropout. NSS defines attendance rate as the 'percentage of children who are attending education'. In this regard,

NSS provides detailed attendance status indicating 'whether a person is currently attending any educational institution or not'. The paper explores various dimensions of the attendance including gender, age, region, social category, school management, etc., to identify those areas which have weaker performance in the State. NSS 64th round identifies around 40 per cent of the total population of J&K within the age group of 5–29 years. Out of the identified population (aged 15–29 years), around 60.8 per cent are attending educational institutions and remaining are either not enrolled or not attending institutions in spite of being enrolled. It needs to be mentioned that 'not enrolled' population is relatively higher in rural areas which constitute mostly female population, whereas the percentage of 'enrolled but not attending' population is from the urban areas

(see Table 1). The reasons for being absent after getting duly enrolled are not clear from the available data.

### Rural–Urban Attendance Variation

The National Sample Survey clearly demonstrates that rural–urban variation has hardly any kind of bearing on the school participation of the children within the age group of 6–13 years. It epitomises the State's initiatives to increase school accessibility at the primary level *vis-à-vis* awareness of the masses to get education. The age-wise participation has remarkable rural–urban difference above the age of 13 years. It could be seen in Figure 1 that participation from rural sector decreases with the increase in the age of the children. It indicates proportionately less chances of educational mobility after elementary schooling in the rural areas. Though

**Table 1**  
**Attendance Status in J&K (Age Group 5–29 years)**

		Rural	Urban	Total
Female	Currently Not Enrolled	40.5	30.4	38.9
	Currently Enrolled but Not Attending	1.7	5.8	2.3
	Currently Attending	57.6	63.7	58.8
Male	Currently Not Enrolled	35	28.2	33.8
	Currently Enrolled but Not Attending	1.9	8.6	3.1
	Currently Attending	63	63.3	63
Total	Currently Not Enrolled	37.7	29.2	36.3
	Currently Enrolled but Not Attending	1.8	7.2	2.7
	Currently Attending	60.5	63.5	60.8

Source: NSS 64th Round.



on an average, J&K has performed relatively better in bringing students to educational institutions than the national average, but disparity in the attendance prevails across rural–urban spaces. Regional disparity seems to have impeded the educational growth of J&K at the secondary level. The normative recommendations of establishing schools within a particular distance often restrict the accessibility of a child in the rural area which is mainly hilly. The harsh topographical picture of J&K presents many challenges for the educational planners. For example, NSS 61st round informs that during the year 2000–05 around 56.5 per cent of the households had to travel 2–5 kms to reach secondary school in the State (NSSO, 2006). This seems to be a huge percentage in comparison to an all-India average of 35.5 households.

NSS 64th round also reveals the average distance which a household has to cover to reach the school. The average distance varies across educational levels: primary, middle and secondary level. State norms have prescribed the average distance within which schools should be located from the household. It is usually 1 km for every primary school, 5 kms for secondary schools and 7–10 kms for higher secondary schools. In J&K,

the maximum percentage of students have to travel a distance of less than 1 km both in rural and urban area to avail primary and middle level education. Though there is not much gap between the rural and urban households to reach primary schools, but the gap does persist at the secondary level. At the secondary level, maximum percentage (56.5 per cent) of rural students travel around 2 to 5 kms to reach the school. Besides this, around 9.4 per cent of rural households have to travel more than 5 kms making it unviable for a girl child to reach school, therefore resulting into dropout after elementary level (see Table 2). In urban areas, children have to travel lesser distance to access middle and secondary education, while the maximum percentage of rural children have to cover more distance to access middle and secondary schooling. Longer distance to reach educational institution becomes a barrier and directly affects the enrolment, attendance and participation of students. And the long distance between schools and households affects girls severely, raising many safety concerns for the parents. However, reducing the distance between school and households has helped to decrease gender disparity in enrolment.

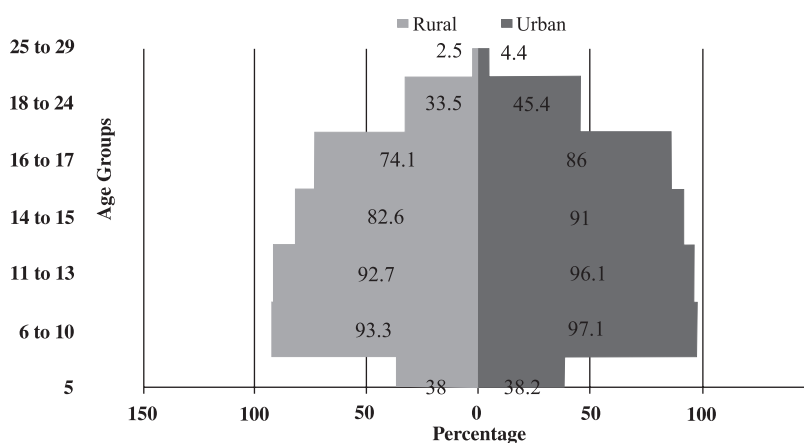


Figure 1. Age Distribution of Currently Attending Students in J&K

Source: NSS 64th Round.

**Table 2**  
Percentage Distribution of Household Distance from Schools

		Jammu and Kashmir		India	
		Rural	Urban	Rural	Urban
Primary	Less than 2 km	98.6	99.7	98.2	99
	2-5 km	1.3	0.1	1.4	01
	More than 5 km	0.1	0.2	0.1	0
Middle	Less than 2 km	72.2	99.7	78.7	96.6
	2-5 km	27.1	0.2	18	3.2
	More than 5 km	0.7	0.2	3.1	0.2
Secondary	Less than 2 km	34.1	89.6	47.3	90.7
	2-5 km	56.5	10.2	35.5	8.1
	More than 5 km	09.4	0.1	17.1	01

Source: NSS 64th Round, 2007-08.

### Management-wise Attendance Variation

In Jammu and Kashmir, the maximum percentage of students (84 per cent) attend government and local body managed schools, while at the

national level the percentage is only 59 per cent. Per 1000 distribution of students at different levels of educational institutions shows a very interesting picture. Preponderant majority of rural students are

enrolled in government schools, whereas the 'currently attending' per 1000 distribution of urban students are very less in government schools. One can observe an obvious tendency among the urban households to enroll their children in private unaided schools and the choice of private unaided school is very high at the primary and middle school levels. Unlikely to this, urban households prefer government schools at the secondary level. In the process of school selection, the gender biases of the households could be seen very clearly. Rural girl child has the highest possibility to get into government school; while the urban male child has the highest possibility to get into private unaided school. Inferences from some data sources like U-DISE (2015) show that enrolment share of government higher secondary schools in urban areas is relatively higher than their rural counterparts.

Also the growth of higher secondary schools in urban areas is faster than in rural areas. These trends show the pattern of household choices as well as the rural-urban school scenario. Thus, the overall comparison of figures demonstrates that the average percentage of students attending private unaided schools is higher in Jammu and Kashmir than the national average up to the level of middle school, whereas the relative share of students attending private unaided schools from secondary level onwards is lower in the State.

#### **HOUSEHOLD EXPENDITURE ON EDUCATION**

Private expenditure on education could be a possible factor limiting the household's accessibility to get education, whereas low cost could be an enabler for the poor. Private expenditure which is defined as a student's or parent's investment on

**Table 3**  
**Percentage Distribution of Currently Attending Students**

<b>Level of Education</b>	<b>Management</b>	<b>J&amp;K (in %)</b>	<b>India (in %)</b>
Primary Level	Govt. + local body	66	73
	Private aided	7	7
	Private unaided	26	20
Middle Level	Govt. + local body	70	70
	Private aided	7	12
	Private unaided	23	17
Secondary & Higher Secondary	Govt. + local body	84	59
	Private aided	6	21
	Private unaided	10	18

Source: NSS 64th Round.

education has possible bearing on the attendance. Therefore, low cost schooling can help in accomplishing the goal of complete attendance. This section of the paper attempts to draw insights from the NSS 64th round about the possible effects of the household expenditure on student attendance and mobility. Usually parents bear the indirect burden of school education which goes as a private expenditure. This expenditure is levied in the form of monthly fee by private schools, and as an indirect fee by most of the government schools. Burden of private expenditure increases at the higher levels of school education, and is relatively very high for private schools. Private expenditure could have severe consequences for the marginalised children, especially the girl child, which probably could restrict their education mobility. It has been found in many research studies that the chances of boys' dropout at the middle school level is higher as he could be a potential member to earn livelihood for a poor household. NSS 64th round provides some fascinating insights on this issue. Jammu and Kashmir has often been acclaimed as the State which provides free education to all its citizens, however, household survey shows that on an average each household spends much higher amount than the national average. The expenditure has bearing on parents at the secondary level, which means higher chances of dropout of the children from the

marginalised communities. A rural-urban contrast again informs that the rural households spend around three times higher amount on school education than rural household at the national level, while the amount spent by the urban households of the State is only about one time higher than the national average of urban households. This shows the high possibility of dropout in the rural areas of the State. Again, at the higher levels of education, surprisingly the average expenditure incurred by the households on vocational education is much higher than the national average, whereas at the national level figures show higher average expenditure on the technical education.

### **Component of Private Expenditure on Education**

Major components of private expenditure which NSS 64th round counts are tuition fees, examination fees, books and stationary costs, uniform, conveyance, private coaching, etc. It needs special focus to generate either free or affordable fees to motivate parents to send their children to schools since the fee is relatively high in J&K when compared to the national level. Except tuition fees, all other expenses are higher in J&K than the national average. It has been revealed that out of all the expenses, the average annual expenses on books and stationary are relatively higher in J&K followed by the tuition fees, exam fees and

other fees, uniform, private coaching, transport, other expenses, etc. Educational fee is very high in urban areas of the State. It has also been found in NSS 64th round that male students pay higher fees than females in J&K. Much before the coming of RTE, the percentage of children getting free primary education was relatively less (only 61 per cent) than the national average which was 71 per cent in 2007, surely the situation might have improved a lot after 2010. The NSS 64th round surprisingly informs about the higher percentage of students availing free secondary education in the State (70 per cent) than the national average (48 per cent). One important reason which could be identified would be that the maximum percentage of students are enrolled in private schools at the primary level in the State, whereas at the secondary level most of the households opt for government schools.

### **Different Type of Incentives**

Taken together all the general education students within the age group of 5–29 years, only 2 per cent of them are availing scholarship incentives from the State. The number is far less than the national average (14.2 per cent). On the other hand, 43.2 per cent are getting free or subsidised books and stationary and 28 per cent has been provided mid-day meal by government and other organisations. In addition, 15.4 per cent students are availing

concession in public transport. It is important to point out that all these percentages are below the national level, except concession in public transport. The State's inability to provide scholarship and other incentives has possible bearing on the attendance and education completion rate. The status of other States is far better where high percentage of students from Gujarat, Chhattisgarh, Madhya Pradesh, Lakshadweep pursuing general education are getting various incentives to complete their education. One of the major purposes of these incentives is to promote educational opportunities of marginalised children, especially the girl child. For example, Bihar provides bicycle to a girl child as an incentive to attend the school. The scheme has been successful in improving the household accessibility to the school, whereas hardly any initiative is taken to address such intricate issues in J&K. While the majority of beneficiaries of these incentives are from rural areas but barely any attention is given to the girl child. Figures depict that per 1,000 male and female beneficiaries are almost same which implies that female students are not getting any extra incentives which can motivate them for higher education.

### **NEVER ENROLLED**

There is a huge chunk of population in Jammu and Kashmir who are never enrolled in any educational

institution. National Sample Survey provides age-wise classification of the never enrolled population as well as the possible reasons for their non-enrolment. Survey shows that relatively higher percentage of non-enrolled children are under the age of 5 years, while at the higher ages, the State's performance is better than the national average (see Table 4). It also identifies three most common and popular reasons for non-enrolment in the State which include: 'parents not interested in studies', 'financial constraints' and 'education is not considered necessary'. Out of these three popular reasons, 'Parents are not interested in studies' has been identified as the most commonly given reason for non-enrolment both in rural and urban areas of J&K. While identifying reasons for male and female non-enrolment, Survey identifies 'financial constraint' (36.7 per cent) as the most potent reason for male non-enrolment, while for female non-enrolment 'parents

are not interested in studies' (35.9 per cent) emerged as the popular reason along with 13 per cent also pointing 'education is not necessary' for females. The qualitative difference in the household opinion regarding the non-enrolment informs that the major obstacle which the girl child encounters is from household indifference towards girl education. The NSS also provides very stark insights for non-enrolment in the rural areas which is qualitatively very different from urban areas. For example, 'inadequate number of teachers', 'school is far off', 'to work for wage salary', 'for participating in other economic activity', 'to attend other domestic chores', 'for helping in household enterprises', 'language medium of instruction', etc., are the most popular reasons given by households for non-enrolment. The variation of reasons pointed out demand appropriate action from the State to reduce the possible number of non-enrolled population. It becomes

**Table 4**  
**Never Enrolled Population in Different Age Groups**

Age Group (years)	J&K (%)	India (%)
5	44.8	38.5
6-10	4.9	8.8
11-13	2.8	6.1
14-17	7.3	8.5
18-24	14.5	16.6
25-29	24.8	24.1
5-29	11.6	13.8

Source: NSS 64th Round.

quite clear from the household survey that the onus to reduce the number of 'never enrolled population' by promoting incentives and facilities lies more with the State. Again, there is a need for the targeted approach to differentiate between the rural and urban factors of non-enrolment.

### **DISCONTINUANCE OF EDUCATION**

The percentage of those who discontinue or dropout is relatively higher in Jammu and Kashmir as compared to the national level. NSS 64th round has reported mainly two categories of discontinuation: first those who have 'achieved desired level of education' and, others who have 'neither completed their desired level nor even completed the last enrolled level due to some reason' (see Table 5). In Jammu and Kashmir, maximum percentage (23 per cent) has reported to have achieved their desired level which is higher secondary level, whereas those who reported to have achieved upper primary as their desired level of education is only 1 per cent. The percentage of responses who are supposed to have discontinued after secondary level without achieving their desired level of education is substantially high, i.e., 63 per cent. This remarkably high percentage of population which seems to have high aspiration to move upward to the higher education is a serious point of consideration

for the state government. NSS also identifies various reasons for educational discontinuance which include 'financial constraints', 'child not interested in studies', 'unable to cope up or failure in studies', 'completed desired level or class', 'parents not interested in studies', 'for participating in other economic activities', 'to work for wage/ salary', 'to attend other domestic chores', 'for helping in household enterprises', 'other reasons' (including marriage, etc.). In J&K, for all categories of population (rural-urban and male-female) financial constraints have been the most common reason for dropping out. 'Child is not interested in studies' is the only reason of dropout between the age of 5 and 9 years in J&K. At higher ages (25 to 29 years), the main reason of discontinuance is 'completed their desired education level'. However, it has been found that some reasons emerge very prominently for educational discontinuance in the rural areas which include 'school is far off', 'for participating economic activities', 'failure in studies', 'non availability of ladies toilet', etc. These are also the reasons which could be mainly held responsible for non-enrolment in the rural areas. Therefore, the State needs to heed to these issues very seriously to achieve complete educational participation.

**Table 5**  
**Persons Enrolled in the Past but Currently Not Attending Educational Institutions (in per cent)**

Level of Education	Having achieved desired level/ class		Neither completed desired level/class nor completed last enrolled level	
	J&K	India	J&K	India
Primary	2	2	48	48
Middle	1	4	54	61
Secondary	10	8	63	53
Higher Secondary	23	15	46	37
All	13	10	52	49

*Source: NSS 64th Round.*

### CONCLUSION

This paper attempted to draw a comprehensive picture of the educational participation of the population (5–29 years) in Jammu and Kashmir. Primarily gathering data from NSS 64th round, it points out the major hurdles in the educational participation. The analysis from the data informs about the huge proportion of the population (around 39 per cent) either not enrolled or not attending educational institutions in spite of being enrolled. The participation pattern again shows that most of the rural female population is not enrolled in any educational institution, whereas the percentage of 'enrolled but not attending' is higher in urban areas. The participation pattern shows that majority of the rural students are enrolled in the government schools, whereas the currently attending per 1,000 distribution of urban students are very less in government schools. One can

observe an obvious tendency among the urban households to enroll their children in private unaided schools and the choice of private unaided school is very high at the primary and middle school levels. Unlikely to this, urban households prefer government schools at the secondary level. In the process of school selection, the gender biases of the households could be seen very clearly. Rural girl child has the highest possibility to get into a government school, while the urban male child has the highest possibility to get into a private unaided school. Thus, the overall comparison of figures demonstrates that the average percentage of students attending private unaided schools is higher in J&K than the national average up to the level of middle level, whereas the student attending private unaided secondary schools onwards is lower in the State.

Regional disparity seems to have impeded the educational



growth of most of the rural pockets of the State. This disparity comes up very sharply at the secondary level, where most of the rural households have to travel longer distance to reach to the school. This remoteness makes it unviable for the girl child to reach school, thereby promoting gender inequality at the higher levels between rural and urban areas. The paper identified household expenditure as one of the potent factors for non-enrolment. Households in the State spend relatively higher amount on education than the national average. In the case of rural households,

spending on education is three times higher than rural households at the national level. Except tuition fee, all other expenses are higher in J&K. This has consequences for the girl education where Survey also points that male students pay higher fee than the female students in the State. Non-enrolment could also be the possible outcome of household perception about the education of boys and girls. Survey informs that financial constraints are mainly held responsible for the non-enrolment of boys, whereas parents' indifferent attitude towards girls' education is a major hurdle.

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# Understanding of Nature of Science (NOS) among Pre-service Teachers and Teacher Educators

MAMTA SINGHAL\*

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## Abstract

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*The place of Nature of Science (NOS) in science curricula has been emphasised worldwide. NOS is considered an important component of scientific literacy. Science educators and researchers have given various arguments to support the inclusion of Nature of Science as an important component in science education. The policy frameworks and the researches in the field of science education have indicated the need to conduct systematic research on Nature of Science at all levels—school, college and teacher education—and disseminate the findings widely at the national level. In India, the concerns about NOS are being raised at the level of curriculum reforms. Position paper (1.1) on Teaching of Science, NCERT (2006) advocated scientific literacy; distinction between science and technology; relationship of science, technology and society; process of science; and understanding the historical and developmental perspectives of science at all levels of school education. These goals cannot be accomplished without an emphasis on Nature of Science. Despite these recommendations, the traditional pedagogical approach, lack of resources and lack of support to the teachers lead to no significant changes in the practical scenario in terms of inclusion of NOS. The teacher education programmes have also recognised the need of developing an understanding of NOS among prospective teachers and hence included some units on Nature of Science in their syllabi. However, most teacher educators and prospective teachers do not seem to give enough importance to this. The study explored the understanding of NOS among pre-service teachers and teacher educators of Bachelor of Education (B.Ed.) programme of three universities in Delhi.*

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## INTRODUCTION

Nature of Science (NOS) has been emphasised by several curricular reforms worldwide over the last hundred years. In two major reports, 'Science for All Americans' (AAAS, 1990) and 'Benchmarks for Science Literacy: Project 2061' (AAAS, 1993), the importance of understanding NOS for different stages of school education is emphasised. According to AAAS (1993), the study of science as an intellectual and social endeavour, the application of human intelligence to figuring out how the world works, should have a prominent place in any curriculum that has science literacy as one of its aims. Driver, Leach, Millar and Scott (1996) present the following five arguments in favour of NOS as a goal of science education—

**Utilitarian:** Understanding NOS is necessary to make sense of science and manage the technological objects and processes in everyday life.

**Democratic:** Understanding NOS is necessary for informed decision-making on socio-scientific issues.

**Cultural:** Understanding NOS is necessary to appreciate the value of science as part of contemporary culture.

**Moral:** Understanding NOS helps in developing an understanding of the norms of the scientific community that embody moral commitments that are of general value to society.

The arguments in favour of teaching NOS are supported by several other researchers. According to Duschl (1994), "Knowledge about

the scientific enterprise is potentially more important than knowledge content". He further asserts that students are learning 'what' of science but are not learning the 'how' of science.

The teacher education programmes have also recognised the need of developing an understanding of NOS among prospective teachers and hence included some units on Nature of Science in their syllabi. However, most teacher educators and prospective teachers do not seem to give enough importance to this. The study explored the understanding of NOS among pre-service teachers and teacher educators of Bachelor of Education (B.Ed.) programme of three universities in Delhi, India.

## OBJECTIVES OF THE STUDY

1. To explore understanding of Nature of Science (NOS) among pre-service teachers pursuing B.Ed. programme.
2. To explore understanding of Nature of Science (NOS) among teacher educators teaching in B.Ed. programme.
3. To suggest a theoretical framework for developing an understanding of Nature of Science (NOS) among pre-service teachers and teacher educators.

## DESIGN OF THE STUDY

In the current study, the researcher used the mixed method research design (embedded form). Both the qualitative and quantitative

tools were used for data collection simultaneously. The data was triangulated to arrive at the interpretations and findings. The researcher used the following tools and techniques to collect data.

- Understanding of Science and Scientific Inquiry (SUSSI, 2008) scale.
- Semi-structured interviews with pre-service teachers and teacher educators.

### **SAMPLE**

- **Pre-service Science teachers in the B.Ed. programme** — A total of 70 students from the B.Ed. programme of three universities located in Delhi participated in the study. These students had opted for at least one Pedagogy of Science course in the B.Ed. programme. While the data using the standard tool SUSSI was collected from all 70 students, interviews were conducted with only 40 of them.
- **Teacher Educators in the B.Ed. programme** — A total of 30 teacher educators from the pedagogy of science courses in the B.Ed. programme of the three universities participated in the study. While the standard tool SUSSI was administered to 30 teacher educators, interviews were conducted with only 15 of them.

### **INSIGHTS FROM DATA COLLECTION AND ANALYSIS**

The data was collected using the standardised test SUSSI (2008),

developed by Ling L. Liang, Sufen Chen, Xian Chen, Osman Nafiz Kaya, April Dean Adams, Monica Macklin and Jazlin Ebenezer of La Salle University, Philadelphia, USA. The test had both subjective and Likert-type items which were analysed separately, following the guidelines given by its authors. The SUSSI instrument used for data collection consisted of 24 Likert-type items categorised under six themes. Each of these items was marked from SD (strongly disagree) to SA (strongly agree) on a five-point Likert scale. Also, each item was marked as positive or negative as per the scoring guidelines given by the authors. The positive items scored from 1 (for SD) to 5 (for SA). The negative items scored from 5 (for SD) to 1 (for SA). For the Likert items, the subjects' views were classified as naïve views if none of the four responses received a score > 3 within each theme. The subjects' views were classified as informed views if all the four responses received a score > 3 within each theme. Further interviews were conducted to gain deeper insights about the various aspects of NOS.

The following aspects of NOS were examined using SUSSI as well as interviews.

**Aspect 1: Observations and Inferences** — Science is based on both observations and inferences guided by scientists' prior knowledge and perspectives of current science. Multiple perspectives can lead to multiple valid inferences.

**Aspect 2: Tentativeness of Scientific Knowledge**

— Scientific knowledge is both tentative and durable. Scientific knowledge is reliable; though it may be abandoned or modified in light of new evidence or re-conceptualisation of existing evidence and knowledge. The history of science reveals both evolutionary and revolutionary changes.

**Aspect 3: Scientific Laws and Theories**

— Both scientific laws and theories are subject to change. Laws describe generalised relationships, observed or perceived, of natural phenomena under certain conditions. Theories are well-substantiated explanations of some aspect of the natural world. Theories do not become laws even with additional evidence; they explain laws.

**Aspect 4: Social and Cultural Embeddedness in Science**

— Science is a part of social and cultural traditions. People from all cultures make contributions to science. As a human endeavour, science is influenced by the society and culture in which it is practised. The values and expectations of the culture determine what and how science is conducted, interpreted and accepted.

**Aspect 5: Creativity and Imagination in Science**

— Scientific knowledge is created from human imagination and logical reasoning based on observations and inferences of the natural world. Imagination and

creativity are used in all scientific investigations.

**Aspect 6: Scientific Method**

— There is no single universal step-by-step scientific method that all scientists follow. Scientists investigate research questions with prior knowledge, perseverance and creativity. Scientific knowledge is constructed and developed in a variety of ways including observation, analysis, speculation, library investigation and experimentation.

The data collected using Sussi and interviews was triangulated to arrive at the interpretations. For this purpose, the researcher calculated the weighted average of percentages obtained on the basis of Sussi score on quantitative aspect, written responses on qualitative aspect of Sussi and the interview responses. The Sussi score was assigned a weightage of 40 per cent, written responses on Sussi a weightage of 20 per cent and the interview responses a weightage of 40 per cent.

**(A) Quantitative Analysis of Pre-service Teachers' (B.Ed. Students') and Teacher Educators' Understanding of NOS based on Sussi**

The percentage of B.Ed. students and teacher educators on each aspect of NOS under the three categories— Naïve, Transitional and Informed — on the basis of their scores on Sussi, is shown in Tables 1a and 1b.

**Table 1a**  
**Percentage of B.Ed. Students in Each Category based on SUSSI**

	Aspect 1	Aspect 2	Aspect 3	Aspect 4	Aspect 5	Aspect 6
Naïve	10%	19%	80%	57%	44%	24%
Transitional	55%	28%	18%	28%	34%	28%
Informed	35%	53%	2%	15%	22%	48%

**Table 1b**  
**Percentage of Teacher Educators in Each Category based on SUSSI**

	Aspect 1	Aspect 2	Aspect 3	Aspect 4	Aspect 5	Aspect 6
Naïve	25%	17%	76%	58%	30%	29%
Transitional	45%	28%	13%	27%	25%	28%
Informed	30%	55%	11%	15%	45%	43%

**(B) Qualitative Analysis of B.Ed. Students' and Teacher Educators' Understanding of NOS on Various Aspects of SUSSI**

The qualitative analysis included the responses to the subjective part of SUSSI. The responses on each dimension were studied thoroughly

and compared with a rubric constructed by the researcher for each dimension on similar lines as suggested by researchers of SUSSI (see Tables 2a and 2b). The rubric had four categories—'Naïve views', 'Informed views', 'Transitional views' and 'Not classified'.

**Table 2a**  
**Percentage of Pre-service Teachers in Each Category based on Written Responses**

	Aspect 1	Aspect 2	Aspect 3	Aspect 4	Aspect 5	Aspect 6
Naïve	25%	25%	58%	44%	45%	28%
Transitional	32%	22%	12%	16%	28%	35%

Informed	18%	48%	2%	18%	19%	30%
Not Classified	25%	5%	28%	22%	8%	7%

**Table 2b**  
**Percentage of Teacher Educators in Each Category based on Written Responses**

	Aspect 1	Aspect 2	Aspect 3	Aspect 4	Aspect 5	Aspect 6
Naïve	22%	10%	68%	51%	32%	30%
Transitional	40%	24%	18%	27%	18%	35%
Informed	27%	54%	6%	15%	40%	30%
Not Classified	11%	12%	8%	7%	10%	5%

### (C) Interviews with B.Ed. Students and Teacher Educators

The researcher conducted in-depth interviews based on various aspects of NOS with the participants in order to supplement the data collected through Sussi. The interviews were semi-structured in nature. The researcher prepared 4–5 questions on each aspect of Nature of Science. The questions were prepared after going through the subjective dimensions of Sussi so that some questions that could not be addressed through Sussi can be understood through interviews. The

same set of questions was used with students as well as teachers; however, a flexible approach was used both with the teachers and students. Before administering the interview questions to the actual sample, the interviews were pilot tested on a similar sample of teachers and students. The students and teachers were categorised into naïve (N), transitional (T) or informed (I) category based on their responses.

The analysis of participants' responses during interviews on various aspects is presented in Tables 3a and 3b.

**Table 3a**  
**Percentage of Pre-service Teachers in Each Category based on Interviews**

	Aspect 1	Aspect 2	Aspect 3	Aspect 4	Aspect 5	Aspect 6
Naïve	23%	27%	81%	55%	44%	30%
Transitional	50%	23%	17%	25%	33%	41%
Informed	27%	50%	2%	20%	23%	29%

**Table 3b**  
**Percentage of Teacher Educators in Each Category based on Interviews**

	<b>Aspect 1</b>	<b>Aspect 2</b>	<b>Aspect 3</b>	<b>Aspect 4</b>	<b>Aspect 5</b>	<b>Aspect 6</b>
Naïve	23%	14%	74%	51%	32%	30%
Transitional	47%	30%	14%	30%	22%	37%
Informed	30%	56%	12%	19%	46%	33%

#### **(D) Overall Analysis**

As discussed earlier, the SUSSI score was assigned a weightage of 40 per cent, written responses on SUSSI a weightage of 20 per cent and the interview responses a weightage of 40 per cent to arrive at the final score under each category (Table 4).

#### **FINDINGS**

##### **Aspect 1 — Observation and Inference**

A very significant percentage of respondents (48 per cent students and 45 per cent teacher educators) showed transitional views on the aspect Observations vs Inferences. These participants indicated that

**Table 4**  
**Overall Analysis (Based on Weighted Average of Responses under A, B and C)**

<b>Category</b>	<b>Aspect 1</b>		<b>Aspect 2</b>		<b>Aspect 3</b>		<b>Aspect 4</b>		<b>Aspect 5</b>		<b>Aspect 6</b>	
	<b>S</b>	<b>TE</b>	<b>S</b>	<b>TE</b>	<b>S</b>	<b>TE</b>	<b>S</b>	<b>TE</b>	<b>S</b>	<b>TE</b>	<b>S</b>	<b>TE</b>
Naïve	18%	24%	23%	15%	76%	74%	54%	54%	44%	31%	27%	30%
Transitional	48%	45%	25%	28%	16%	14%	24%	28%	32%	23%	35%	33%
Informed	29%	29%	51%	55%	2%	10%	18%	17%	22%	44%	37%	36%
Not Classified	5%	2%	1%	2%	6%	2%	4%	1%	2%	2%	1%	1%



observation and inference could be different for different people, but the reason was often thought to be the change in external conditions of an experiment. Also, they believed that newer observations are made by scientists with time that often add to the scientific knowledge. Inference can be different as that depends upon how one interprets the theory. Participants in this category were not able to understand the limitations of observation and what led to the difference in observation or inference by different people.

The participants in the 'naïve' category equated observation in science to facts. They believed in the objectivity of scientific knowledge. Any observation that contradicted previous observation was considered an error or limitation of the instrument and should be discarded. Some of them mentioned that interpretation/inference could be different but the reasons were not clear. Some of them equated inference with perception.

The interviews indicated that most students and teacher educators fail to appreciate the significance of observation in science. For them, it is related to verifying theories given in the textbooks. If they come across any discrepant observation, they usually discard it or repeat it. Although some teacher educators said they encouraged students to think about the difference in their observations, however the teacher educators agreed that they were also not able to follow up and discuss their views.

The respondents in 'informed' category (29 per cent students and 29 per cent teacher educators) indicated that observation as well as inference depended upon the previous knowledge and background of the person. This meant that observation is theory laden. These participants understood the limitations of observation and why generalisations based on observations were problematic. They also mentioned fallibility of observation and limitation of inductive method in science. They were likely to be aware of the problem of inductive method in science, as has been emphasised by Popper. In a similar study, Liu and Lederman (2002) explored pre-service teachers' conceptions on various aspects of NOS. The study indicated that only 40 per cent participants held adequate conceptions about NOS. The majority of the participants held naïve views about the role of observation and difference between observation and inference in science. Some of the participants even believed that they can actually see atoms through microscopes. Similar responses were indicated by participants in the current study also.

### **Aspect 2 — Tentativeness of Scientific Knowledge**

This particular aspect indicated maximum number of participants (both students and teacher educators) in the 'informed' category. Approximately 51 per cent B.Ed. students and 55 per

cent teacher educators were found in the 'informed' category. The participants believed that scientific knowledge is tentative and were able to give examples of replacement or modifications in scientific theories. However, the change was reported as a series of discarding or modifying one theory due to some deficiency. The process, problems, reasons and time taken in the change were not usually understood. Some students and teachers were able to discuss Kuhn's paradigm shift in relation to this aspect. Both students and teacher educators were able to give examples related to the tentativeness of scientific knowledge. Most common examples given by both students and teacher educators included replacement of geocentric theory by heliocentric theory, changes in theories of evolution, changes in the solar system and various atomic models. Many of them were able to cite only these examples as these are commonly given in textbooks. The reason for the change was often cited as the deficiency in the previous model, but hardly an explanation of what factors, including technological and theoretical advancements or social and cultural influences, could have affected these changes. The interviews suggested the need to incorporate these aspects in the curriculum if one desires to develop students' understanding of NOS. The study by Liu and Lederman (2002) also showed that all pre-service teachers who participated

in their study believed that theories do change, but the majority related the change with new information and technology. The explanations for change were not adequate, as is found in the current study as well.

### **Aspect 3 — Scientific Laws and Theories**

This particular aspect had maximum number of participants in the 'naïve' category. The informed view was indicated by only a very small percentage of participants (only 2 per cent students and 10 per cent teacher educators). This showed lack of understanding about the process by which laws or theories may get established in science. For most of them, laws are supposed to be crisper and simpler form of theories. A vast majority of students and teacher educators believed that laws have higher credibility than theories, as theories are tentative. Most students and teacher educators believed that laws are universal and cannot change, whereas theories may get modified. The laws were supposed to be mathematical proofs of theories. Theories were not proved as per most students and teacher educators. All of them were able to give some examples of laws or theories they have studied in science, but none of them was able to explain the process through which a law or theory would have got established. Some said that, it was the first time they were thinking about these issues. As they said, this has never been taught but

it may be interesting to know the history or the work scientists would have done in order to establish a law or theory. The responses mostly were in conformity with the responses on SUSSI.

#### **Aspect 4 — Social and Cultural Embeddedness in Science**

The 'naïve' category had maximum number of respondents on this aspect. Almost 54 per cent B.Ed. students and 54 per cent teacher educators exhibited naïve views as per the interviews. These respondents held the belief that scientists work to provide explanation to the natural phenomenon or for the benefit of the society without any bias and their work is not affected by the society and culture. Scientists are supposed to be objective and hence scientific knowledge is universal. The respondents with transitional view appreciated the role of science (per say technology) in the progress of society. They were also aware of the negative impacts of these technological developments, but they failed to appreciate scientific research as a social activity. Scientific research was supposed to produce universal and reliable knowledge as scientists' work is not affected by their personal choices and their culture. Less than 20 per cent participants belonged to 'informed' category on this aspect.

During interviews, almost all students as well as teacher educators indicated influence of science on society. However, the examples that

they gave only meant to support how technology affected the society or how the demands of society may have triggered technological advancements. None of them understood how science may influence people's thought and decision-making in general. For most of them, science is a value neutral and objective enterprise. Scientists are logical and objective in their approach. They may use their imagination and creativity while forming hypothesis, but their aim is to arrive at unbiased and universal conclusions. Only very few students and teacher educators mentioned that scientific activity gets influenced by the funds a country may give for research, or gender biases in the society in general may have deterred women to participate in scientific activity. However, many students (including girls) said that males have a more scientific bent of mind by birth only and hence are more suitable for scientific research.

#### **Aspect 5 — Creativity and Imagination in Science**

About 44 per cent students exhibited naïve views on this aspect. According to them, scientific knowledge is strictly based on experimentation and logic. Imagination and creativity are not the forte of scientists as they were supposed to be rational and objective. Scientific knowledge is based on facts. It is reliable and reproducible and hence cannot be based on scientists' imagination and creativity. Only 22 per cent students had informed views and were able to give examples to support

that scientists can be imaginative and creative. In fact, scientists' creativity and imagination are essential for the growth of science and it is not the antithesis for logic and rationality. The teacher educators' understanding on this particular aspect was shown to be better and about 44 per cent of them were found to have informed views. The interviews also indicated that the respondents who had informed views felt that even though there is scope of imagination and creativity in real scientific investigations in the field, the science classrooms do not have such possibility. The students could not be expected to work like scientists at least at school level as they are too young. This was commonly stated by both B.Ed. students and teacher educators.

#### **Aspect 6 — Scientific Method**

About 26 per cent students and 33 per cent teacher educators had transitional views on this aspect. Most respondents agreed that scientists use multiple methods, and there is no universal step by step method, but they were not able to give examples other than the experimental method to support their views. A considerable number also exhibited informed views. The discrepancy indicated that though students appreciated the need and significance of multiple methods for scientific investigations, their practical exposure in classrooms was limited to experimental method and hence they were not able to support their views with examples.

During the interviews, almost all students and teacher educators

denied a universal step by step scientific method, however, on probing what methods were used by the scientists, experimental method was the most common response. One teacher educator mentioned that on the one hand we have experimental science and on the other hand we have theoretical science, but she was not able to explain their nature or scope. Some awareness was indicated among students and teacher educators about multiplicity of methods in science but experimental method seemed to be the most common response on further probing. In fact, experiments and activities seemed to be the most dominant way of teaching science. Also, it indicated that experiments were used as means of verifying the theory given in the textbooks. Students and teacher educators indicated lack of awareness about how scientists conduct experiments in the field. They had not thought about what it takes to design an experiment in the field like techniques used, hypothesis making, controlling the variables, observations, interpretation of results and time taken. The experiments that the students conduct in the laboratories use well-established processes and focus on getting desired results. However, in a real scientific investigation the scientists may struggle for years to design and conduct a successful experiment.

The responses of both students and teacher educators on each aspect were very similar to their response on SUSSI, and interview data supported

the results and conclusions obtained through SUSSI instrument. Since the participants were free to express and counter question the researcher in the interviews, sometimes the responses digressed from the actual question, nevertheless it has helped the researcher to develop a more holistic view. For example, many B.Ed. students mentioned that they joined B.Ed. as they lacked interest, conceptual clarity or skills in science. Such responses pointed towards the sad state and some of the problematic assumptions associated with science teaching in school. The pre-service teachers believed that teaching science did not require much interest, skills or conceptual clarity. They considered teaching school students as an easy job as there were laboratory staff in the schools to conduct experiments, etc. Though these responses were not directly related to the current study, but definitely require attention by teacher education programmes.

### **CONCLUSION**

The overall analysis suggests that the maximum number of B.Ed. students and teacher educators were in 'naïve' category on Aspect 3 (Scientific Laws and Theories). Laws and theories form the core of knowledge in science and also the teaching-learning process. However, laws and theories are often taught as products of science without any attempt to understand the process. As a result, most students as well as teacher educators failed to distinguish between laws and theories. The most informed views

were exhibited by the participants on Aspect 2 (Tentativeness of Scientific Knowledge). Both students and teacher educators were aware of the tentative nature of science and could give examples of change and modification in scientific knowledge. Some of them could also refer to Kuhn's work (1962) while explaining the reasons. A relatively high percentage of participants was found in the transitional category on Aspect 1. This reflects that though students and teacher educators recognised the importance of observation and inference in science but they were not clear of the distinction, role and limitation of both. On Aspect 4, maximum number of students and teachers educators were found in the 'naïve' category. They also believed in the relationship between science, technology and society but understanding about the nature of this relationship was limited. Most of them equated science with technology. Though there were variations in pre-service teachers' and teacher educators' understanding of NOS on various aspects, both the groups lacked in their understanding of NOS.

### **SUGGESTIVE FRAMEWORK FOR PROMOTING NOS UNDERSTANDING IN TEACHER EDUCATION**

Though the pre-service teacher education curriculum had some topics that are supposed to help in developing NOS understanding among pre-service teachers and teacher educators, but that did not seem to be the reality. There was a lack of

NOS understanding in general among the groups. Following are some suggestions to improve the place of NOS in curriculum and develop a better understanding of NOS.

- **Historical Case Studies and History Rich Material** — Use of historical case studies and history rich material is very helpful for developing better understanding of NOS. However, if history of science is presented as a sequential chain of scientific developments, the desired impact cannot be achieved. For historic cases to be effective, science educators need to revive the sense of being present at the moment and making sense of events in the historical contexts. Allchin (2012) mentioned that sociologist Bruno Latour called this Situated Perspective ‘Science in the making’ as contrasted to retrospective ‘readymade science’. Usually this readymade science forms the content of our curriculum books about history of science. Reconstructing historical perspective is challenging and requires a lot of research and trial by the science educators. It may not be feasible or even necessary to discuss all historical case studies in the discipline. However, a few of these such as ‘History of DNA replication’ or ‘Copernican Revolution’ could be accommodated as part of classroom experiences and the rest can be referred as sources of reading.
- **Authentic Scientific Practice** — Authentic science practice means involving the students in the scientific investigations in the field. The students can work in collaboration with a group of scientists or researchers and learn authentic science practice from the field. However, it is important that after such experiences, students are asked to reflect on their own learning with respect to different aspects of NOS.
- **Inquiry-based Contexts** — Inquiry-based contexts that provide an explicit opportunity to reflect and discuss on the various aspects of nature of science are helpful in developing students’ understanding of NOS. However, inquiry alone, without any specific focus on NOS aspects, is not a very effective way of developing NOS understanding. Abell, Martini and George (2001) and Clough (2006) in their independent studies have indicated the importance of inquiry-based contexts.
- **Argumentation, Discussions and Debates** — An understanding of different philosophical perspectives on nature of science helps to improve learners’ understanding of nature of science. This teaching of various philosophical positions by Popper, Bacon, Kuhn, Lakatos and Feyerabend, etc., could be an important aspect of science curricula. However, instead of direct teaching about these philosophical perspectives, debates, discussions and argumentation among the

students are suggested with reference to some pre-determined issue. The explicit NOS instruction and argumentation is useful in improving pre-service teachers' conceptions of NOS (McDonald, 2010).

- **Science–Technology–Society (STS) Approach** — An STS curriculum that can be offered as a separate course or could be integrated as a unit in the methods course in teacher education is an effective strategy for teaching nature of science according to several researchers. An STS curriculum involves an interactive set of concepts, content and skills that demonstrate how science and technology affect each other and are mediated by society and are value laden. Through the STS curriculum, the students should be able to examine the actual science, technology and society interaction in the world around them. The study by Bradford, Rubba and Harkness (1995) compared the outcomes related to NOS understanding among university level students enrolled in STS course and general physics course. The STS course was found to be effective in enhancing students' understanding of NOS.
- **Assessment** — For NOS to gain a significant place in curriculum, it is important to assess students' as well as teachers' understanding of Nature of Science. Some of the assessment strategies that can

be used for assessing students' understanding of NOS are as follows:

- **Standardised Assessment Tools based on Research** — Research in the area of NOS has led to the development of various assessment instruments on NOS. The teachers can select the suitable assessment instrument for testing students' understanding of NOS. Such instruments can be effectively used to assess students' understanding pre and post instruction to determine the effectiveness of instruction. However, these assessment instruments should be used in combination with other qualitative assessment techniques like interviews, observations during laboratory and field work, students' reflective writings, etc.
- **Self-assessment (Create your own Nature of Science profile)** — It is important for teachers to examine their own understanding of Nature of Science and make attempts to improve it suitably. Nott and Wellington (1993) suggest the use of self-assessment techniques for this purpose. The assessment of teachers' understanding of NOS can be done by self-administration or peer administration of such tools.

- **Using STS Approach for Assessment** — An STS approach could also be used as an effective assessment strategy for NOS. Students could be given individual or group assignments that involve analysis and reflection on a number of STS issues. The purpose is to promote thinking skills about a particular topic and also about the nature of knowledge itself.
- **Making Lesson Plans based on NOS Aspects** — Lesson planning is an integral part of any pedagogy course in most teacher education

programmes. These lesson plans focus on concepts, skills and values that the pre-service teachers intend to teach. Therefore, if NOS is to be emphasised as an important aspect of science education at school level, pre-service teachers can be encouraged to make model lesson plans for teaching NOS. These lesson plans should include activities and concepts that would explicitly relate to NOS. Assessment of students could be done on the basis of these lesson plans and their execution.

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# Students Disclosing Disability and its Impact on their Educational Experiences in Higher Educational Institutions

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## Abstract

*This study attempts to understand the factors that influence Students With Disabilities (SWDs) to disclose their disabilities and special needs and strategies adopted by them to manage their higher educational experiences. The study is exploratory in nature. To answer the research questions posed in this study, the researcher has used mixed methods. Three universities were selected through purposive sampling, so as to gain maximum diverse variation. For this study, in-depth interviews were conducted with a hundred SWDs in the selected universities in Andhra Pradesh, India. These findings of the study also emphasised how students took responsibility, understood the term disability, developed support systems, and disclosed their special needs to seek out services to overcome academic, as well as physical, barriers. This, in turn, helped in improving their educational experiences in higher education institutions and to pursue higher education successfully.*

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## INTRODUCTION

Students with Disabilities (SWDs) in higher education institutions are considered a vulnerable population because of the impact of intrinsic and extrinsic stressors associated with

their impairment. These students not only experience functional limitations, but also face many hindrances in attainment of academic and social achievements (Leavey, 2005). They also face problems

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with identity formation, developing social and intimacy relations and independence (Kroger, 2007). SWDs face various barriers in pursuing higher education. As reported in Eisenberg, Golberstein and Hunt, (2009), these students receive low grades as compared to their peer group. An attempt has been made in this paper to present some aspects of their academic life. Achieving success in higher education institutions for these students not only requires an ability to manage academic challenges but also challenges faced due to their impairments. To manage the academic and social demands of higher education at the university level, students need to understand their disabilities, accept their strengths and limitations, and need to discuss their disabilities and special needs with teachers, university management for getting better educational experiences (Hendriks, 2002). However, the review of studies indicates that majority of these students do not declare that they have an impairment and require special needs (Fuller et al., 2004). Adrienne, Johnson and NCC LAC (2006) noted that, if accommodation was needed within a college setting, a student was required to disclose the disability and related needs, but multiple dilemmas arose for the students as when to disclose, how to disclose, how much to disclose and to whom to disclose. This is especially a challenging situation for students from multicultural backgrounds who

face additional discrimination based on their minority status. Further, it was also found that there is a dearth of research studies in Indian context. Therefore, the researcher has attempted to understand how far disclosing the disability has contributed to a positive or negative social experience for SWDs within higher education institutions.

### **CONTEXT OF THE STUDY**

The word 'Disclosure' means the process of making the self known (Jourard and Lasakow, 1958). Disclosure means different things to different people. With regard to persons with impairments, the disclosure of disability is the moment in which the persons communicate that they have a disability (Lynch and Gussel, 1996). Students with special needs in higher education institutions, given that there are various costs and benefits associated with disability disclosure (Corrigan and Matthews, 2003). However, disclosing a disability/impairment is an individual decision, and there is no obligation on anybody to do so. Similarly, Jourard (1971) noted that disclosure is a process where the concerned individuals decide the degree of intimacy they want to achieve with other people in society. SWDs in higher education institutions are aware that the verbal or non-verbal transmission of knowledge about their disability status could improve their learning opportunities and also alter the

behaviour of others towards them (Olney and Brockelman, 2003).

Field and Hoffman (1999) state that family members' support helps people to develop self-worth and self-awareness from the childhood. Langer (1994) also found that persons who are not supported by their family members tend to develop insufficient social skills and low self-efficacy. Further, Hoehn's (1998) study also indicates that social stigma of SWDs also leads to lower self-worth and so much hesitation to discuss their special needs and seek for help (Hartman-Hall and Haaga, 2002). Swann (2005) states that disclosing of disability with others also influenced by self-representation, i.e., the process through which individuals come to agree with significant others concerning the role that each plays in the interaction.

Braithwaite (1991) found that the process of disclosing of disability for SWDs is based on a variety of factors. These include: (a) their relationship with other persons, (b) dependence on situation, (c) response of able-bodied persons, and (d) their own personal feelings about their disability. In addition to disclosing information about the special requirements, one also needs to understand the factors which might improve the educational and social experiences of SWDs in higher education institutions. Jacklin, Robinson O'Meara and Harris (2007) found that the usefulness of the category of 'disabled

student' has helped the policy-makers introduce legislative changes, such as enactment of new polices, and provision of more support services to these students in higher education, and also brought about reasonable adjustments which could be enabling. Here, we should also recognise the fact that usage of a label was not always positive. Sometimes, it could lead to stigmatisation. Consequently, students would be reluctant to disclose their identity.

Adrienne et al. (2006) found that disability of students increased the perception that they were devalued and stigmatised, and sometimes they felt concerned about negative results of disclosing their disability. The researcher has suggested that, in order to resolve this problem, higher education institutions need to encourage the SWDs to disclose their disability. Similarly, these institutions should ensure that these students are treated with respect and also work towards addressing and removing all the barriers to their learning within a positive culture. Thus, there are many reasons why disclosing a disability to a teacher, university administration and the peer groups is a positive action that will empower, assist and improve an individual's educational experiences in higher education institutions (Pintrich, Anderman and Klobucar, 1992). However, the researcher could not find any research on this issue in the Indian context.

## OBJECTIVES

1. To understand the respondents' perception of the term disability.
2. To explore the impact of disclosing disability on their educational experiences in their respective higher education institutions.

## RESEARCH METHODOLOGY

The present study is exploratory in nature and the researcher used a mixed method approach. For this study, the researcher collected data from three universities (one is a Central and the other two are State universities) in different parts of Andhra Pradesh, India. The Central and one of the State universities (a) have both a disability cell as well as a coordinator to look after the needs of SWDs in their respective universities, whereas the second State University (b) has neither a disability cell nor a disability coordinator. After selecting the universities, the researcher interviewed 100 SWDs, 48 from the Central University and 26 each from the two State Universities (a and b) by using snowball sampling. For this study, quantitative and qualitative data analyses were used and in most cases quotes of real text for each theme were recorded and used extensively.

## RESULTS AND DISCUSSION

The findings of the study will be discussed under the three sections. The first section explains the brief profile of the respondents in the study. The second section deals with respondents' perception of the term

'disability'. The last section deals with the students who disclosed their disabilities and its impact on their educational experiences in their respective higher education institutions. They are as follows.

### 1. Brief Profile of the Respondents

For the study, data was collected from 100 SWDs (66 per cent males and 34 per cent females). Out of the total respondents, 72 per cent were orthopaedically impaired and 28 per cent were visually impaired. Representation of orthopaedically impaired students is nearly more than two times higher than that of visually impaired students. The researcher could not find students with other type of impairments during the study period. The fact was that some of the students actually did not want to disclose their disability. The researcher found that three students with hearing impairment [two from the Central University and one from the State University (b)] did not disclose the nature of their impairment at the time of admission. They wanted to be treated like any other student in the university. When the researcher asked them to be respondents in this study, they did not agree to do so and simply stated that they did not have any major problems related to their impairments at the university.

### 2. Understanding Disability from Students' Perspectives

Very limited research has been done on how SWDs understand the term

**Table 1**  
**Understanding Disability from Students' Perspective**

Understanding Disability	Percentage
Disability is a physical phenomenon	45
It is an impairment, but not a disabling condition	15
Extent of disability depends on the availability of support services	12
No response	28
Total	100

'disability' and how it is actually construed by them. In this study, one of the research questions was to explore how the term 'disability' is construed by SWDs in higher education at the university level. Table 1 provides a brief description of the students' understanding of the term disability.

The above data indicates that all respondents had their own individual notions about how they perceived their disability.

### **2.1 Disability as a physical phenomenon**

About 45 per cent of the respondents conceptualised the term 'disability' as a physical phenomenon. They perceived disability as predominantly physical, long term and something which affects all areas of life, including education, social life and economic and living conditions. The replies of the respondents reflect the view of medical model of disability, which is construed to mean a biological limitation or deficiency. Some of them stated that, they are facing a lot of problems such as spending time scanning, editing or

asking friends for material and also for recording the study material. They believe that all these problems are just because of their disability. Otherwise, they would have enjoyed studies along with other extra-curricular activities such as sports and cultural programmes. The following statements represent how this group of the respondents perceived the term disability, based on their impairments which have been affecting their social and educational experiences and also day-to-day activities:

*"I am a totally blind person. I cannot see anything, I cannot read by myself. I always need my friends' help or some assistive devices for my academic activities. I could not do all the activities which are considered as normal due to my visual impairment making me depend on others."*

*"Due to my disability (orthopaedically impaired student), I am not able to enjoy my social life. I miss many opportunities such as for going out with my friends. I cannot even play cricket with them, because I am a person with disability."*

## **2.2 It is impairment but not a disabling condition**

About 15 per cent of the respondents did not like to use the term 'disability'. They asserted, "We are not disabled". They believed that they are not less than anyone and can do as others are doing. These participants perceived the term disability from their own perspective.

*"I have only mobility problem due to my impairment, which is not a disability. If you think it is disability, at one or the other stage of human life, everyone will face disabilities."*

*"People used to call us disabled. However, I do not like it because I am not disabled, I am a person with visual impairment."*

These statements show that, members of this group have confidence in themselves. This was reflected in their participation in extra-cultural activities and social life. They believed that they were bestowed with multi-tasking skills and it was noticed that they had much control over their problems, which could be the reason for their logical thinking process. It shows that, overall, these group members had positive attitudes and understanding about the terms 'disability' and 'impairment'.

## **2.3 Extent of disability depends on the availability of support services**

About 12 per cent of the respondents did not consider that disability critically dominated their overall identity. They perceived that everyone is a disabled person, with a range of variations in their abilities

to perform normal functions. Furthermore, these respondents have begun to understand that the term 'disability' is not defined by solely personal and physical attributes, and that it was a complex construct including a person's physical environment and attitudes. Some respondents looked at disability in terms of psychological stress, because they are different from their peer group. They do not fit into educational institutions without physical, technical support services and thus these are perceived as problems imposed by the extant practices in the system. These responses reflect the view of social model which forces one to turn one's attention away from defining who is or is not disabled in identifying and addressing the barriers which in a given society restricts disabled people's participation in 'normal' life (Turner, 2001). Similarly, some of them described that their extent of disability depended on the availability of support services and role played by the university, which affect their day-to-day educational experiences. The following statements describe how this group feels on this issue.

*"My visual impairment is making me lag behind my friends in case of my studies, or from the academic point of view. I am trying my level best to compete with them. But it is very hard to compete with them without sight. My severity of disability depends on*

*the role of the university management in providing support services and adjustments as per my needs which would enable me to access all educational facilities, thus helping me to do well.”*

*“I have a mobility problem, which does not give any major problems to me. So I prefer to be without a label if I can.”*

As seen from Table 1, 28 per cent of the respondents did not answer the question. These respondents simply declined to answer the question and stated that disability means disability only. They stated that they did not have any kind of problems because of their impairments. Some of them also asserted that they never consider themselves as persons with disability or impairment. Interestingly, majority of these respondents, who did not define the term disability were having problem with slight mobility and partial eyesight. The statements of respondents in the first two themes reflect the perspective of a medical model which focused on individual

perceived impairments, referring to functional norms of behaviours and performance (Turner, 2001). In contrast, narratives in the third section reflect the social model, which focuses on identifying and addressing the barriers which, in a given society, restrict disabled people's participation in 'normal' life.

### 3. Disclosing Disability

Disclosure is a process where the individual determines the degree of intimacy he wants to achieve with other people (Jourard, 1971). In the current study, disclosure as understood by the researcher is the communication of information about disability by students with the concerned authorities, staff and peer group in their particular university. The researcher found that disclosing students' disabilities was a critical issue for respondents in this study. Table 2 provides a brief description of the students disclosing disability by gender, nature of impairments and type of the university.

**Table 2**  
**Students disclosing Disability by Impairment and University**

Variables		Disclosing Disability		Total (100)
		Yes (63)	No (37)	
Nature of impairment	Orthopaedic Impairment	43 (60)	29 (40)	72 (100)
	Visual Impairment	20 (71)	8 (29)	28 (100)



Type of the University	Central University	29 (60)	19 (40)	48 (100)
	State University (a)	15 (58)	11 (42)	26 (100)
	State University (b)	19 (73)	7 (27)	26 (100)

*Note: The figures in the parenthesis are percentages*

From Table 2, it can be understood that the majority (63) of students disclosed their disability during the admission process, while the rest 37 per cent of them did not. Similarly, when the students disclosing disability were looked at nature of impairment-wise, it was found that 71 per cent of students with visual impairments disclosed their disability, whereas only 60 per cent of orthopaedically impaired students disclosed their disabilities. This data indicates that more number of students with visual impairments disclosed their disability, as compared to the orthopaedically impaired students. This is perhaps due to the fact that the problems and requirements of students with visual impairments are diverse. For instance, at the time of the university entrance exam, these students have to inform the higher authorities regarding their scribe arrangement, extra time during the exam and for other support services. In order to complete the admission process, these students have to disclose their disability at one or the other time.

Further, the researcher compared students disclosing their disability type, university-wise, it was found that more number (73 per cent)

of respondents from the State University (b) disclosed their disabilities, followed by 60 per cent and 58 per cent of the respondents from the Central University and the State University (a) respectively. These data show that more number of students from State University (b) disclosed their disability than those from Central and State University (a). The findings also reveal that, despite the variability in responses given, there was no significant difference between students disclosing their disability and type of the universities. Further, the researcher identified two major factors which could have influenced their decision as to whether or not to disclose their disability. It was found that 68 per cent disclosed their disability for securing/getting their rights and support services, while 32 per cent did not disclose their disability to maintain normalcy and avoid the stigma, which they perceived was attached with a disability.

### **3.1 Getting their own rights and support services**

A study by Corrigan and Matthews (2003) indicated that disclosure means different things to different people, especially among university

SWDs, given that there are various costs and benefits associated with disability disclosure. In the current study, it has been observed that 68 per cent of the respondents reported that they disclosed their disability during the admission process in order to utilise support services, including reservations, rights and special provisions which are provided by the Government of India under Persons with Disability Act 1995, through the Ministry of Social Justice and Empowerment and University Grants Commission. They perceived that they need to get this support in order to achieve what they want to get. Without this support, they would have found it difficult to reach their educational goals. The majority of them reported that they had disclosed their disabilities to get reservations in their respective universities. The following statements reflect their thinking on this issue:

*“If I want to utilise my three per cent reservations in university admissions, I have to disclose my disability. That is my right.”*

*“I disclosed my disability in the admission application; that is why now I am exempted from payment of tuition fees.”*

*“Initially, they provided me a hostel room on the second floor, but when I went and disclosed my disability and submitted a request letter, they allotted me a room on the ground floor.”*

The positive side of having disclosed their disability was that

this facilitated access to support services and reasonable adjustments to enable these students to succeed in their studies in higher education institutions. These findings support those of the study by Braithwaite (1991) in which participants made choices about disclosing their disability in a variety of settings, but the most common setting for disclosure was to get good support, access to various facilities and academic life which could enhance their learning experiences.

### ***3.2 Desire to maintain normalcy and avoid stigma***

About 32 per cent of the respondents desired to maintain normalcy. Unlike other disabilities, certain physical disabilities, such as slight mobility impairments and partial visual impairment, were not obvious to others. Here, the students could make a choice about disclosing their disability and maintain some degree of control over its impact. Some respondents reported that disclosing their disability may make it appear that they were soliciting pity or making an excuse for themselves. It also appears from the students' narratives that they wanted to be treated like other students. They know that there were many benefits if they disclosed their disability, but they did not feel comfortable to do. That was why they had not disclosed their disability. However, respondents in the study faced some difficult situations about disclosure on a regular basis. Some of the views are as follows.

*“I didn’t disclose my disability in my application form when applying. I got admission here in the open category only. I did not want to use any reservations to gain admission. I have belief in myself and that is why I didn’t disclose my disability.”*

*“I wouldn’t like to disclose my disability because I will be perceived as doing this to get some leverage.”*

From the above descriptions, it can be concluded that SWDs, at selected higher education institutions, minimise or downplay their own disability status which they perceive devalues or stigmatises them. These findings have been supported by the study of Barnard (2010) which indicates that SWDs prefer not to disclose their disability status to minimise their disability in order to pass as able-bodied. It is

also understood that disclosing their disability seems to revolve around their own perceptions about how others would treat them. As pointed out in the study by Olney and Brockelman (2003), it is also obvious that disclosing disability depends on the severity of students’ impairment and their diverse needs.

#### **4. Students Informing Concerned Authority and Teachers**

SWDs are struggling to receive ad hoc support in higher education institutions. In this context, the researcher was interested to find out whether SWDs informed the concerned authorities and the teachers about their needs and problems. Table 3 shows the responses of the respondents on this issue.

**Table 3**  
**Percentage of Students who Informed the Concerned Authority and Teachers, by Impairment & University**

Variables		Informing Course Authority		Total (100)	Informing Course Teacher		Total (100)
		Yes (15)	No (85)		Yes (16)	No (84)	
Nature of Impairment	Orthopaedic impairments	4 (6)	68 (94)	72 (100)	-	72 (100)	72 (100)
	Visual impairments	11 (39)	17 (61)	28 (100)	16 (57)	12 (43)	28 (100)
Type of the University	Central University	14 (29)	34 (71)	48 (100)	12 (25)	36 (75)	48 (100)
	State University (a)	1 (4)	25 (96)	26 (100)	1 (4)	25 (96)	26 (100)
	State University (b)	-	26 (100)	26 (100)	4 (12)	22 (88)	26 (100)

*Note: The figures in the parenthesis are percentages*

It can be seen from Table 3 that only 15 per cent of students informed the concerned authority and 16 per cent informed their course teacher about their problems and needs in their respective universities. Similarly, when we look at students informing the concerned authorities by the nature of impairments, it is clear that more number of students with visual impairments informed the concerned authorities compared to orthopaedically impaired students. Similarly, it was also found that only students with visual impairments informed the course teachers about their problems and needs at their universities. It can be concluded from Table 3 that significantly more visually impaired students informed the course teachers regarding their problems and needs in the classroom. This is perhaps due to the fact that needs of students with visual impairments are entirely different from those of orthopaedically impaired students. Thus, they require more support services as compared to orthopaedically impaired students in higher education institutions. They have unique educational needs. In order to meet their unique needs, these students must have specialised equipment and technology and services, books and get materials in Braille to get equal access to the curriculum and enable them to participate equally along with their peer groups in higher education. Thus, these students have to meet the concerned higher

authorities, teachers and frequently discuss the requirements including study material, extra time during examinations, reader and scribe allowances, fees refund, arranging scribes and also for technical assistive devices. Similarly, when students informed the concerned authorities and teachers, it was found that female students were more informed about their needs compared to their male counterparts.

Finally, it is clear from Table 3 that a significant number of Central University students informed the concerned authorities and teachers about their problems and needs, as compared to State University students. It also shows that none of the students from State University (b) informed the concerned authorities about their needs and problems at their university. The fact is that students from State University (b) neither had a disability cell/unit nor disability coordinator to discuss their issues at their university. Therefore, it can be concluded that students who had a disability cell/unit, and a coordinator, have an opportunity to discuss their needs in order to get support services that facilitate them to pursue their studies successfully. It can also be concluded that more number of students from Central University informed the concerned authorities and teachers about their special needs and problems. Similarly, it is obvious that visually impaired students (mostly females)

were more in frequent contact with the administrative authorities and teachers to discuss their unique needs. Similarly, the research study conducted by Braithwaite (1991) also brought out that students disclosed their disabilities to the teachers in order to receive necessary facilities such as extra time during examination, teaching aids and learning resources. But all these factors are based on the assumption that the disclosure is purely voluntary in nature.

### **5. Classroom Teaching Experiences for Students with Visual Impairments**

Respondents were asked to reflect on teaching experiences they received at the university level. Keeping in view the variety of teaching contexts, they were asked about learning in lectures and support from the teachers. In this study, majority of the respondents emphasised that there were no difference in teaching strategies. They followed usual teaching strategies, treated them the same way as the rest of the students and that they had the same demands from them. It also appeared from the students' comments that they also never expected their teachers to treat them differently in class. Interestingly, it was found that 57 per cent of students informed the course teachers about their impairments and also disclosed their requirements such as teaching material, adjustments in exam timing and arranging scribes. But none

of them requested their concerned teachers regarding changes in teaching strategies, including asking the teacher to read whatever she/he wrote on the blackboard. They also stated that they never had any major problems with classroom discussions, attending and participating in classroom seminars and presentations. All the three universities had set up procedures for granting alternative exam arrangements to students who need them. Most of the respondents had no problem in getting appropriate arrangements made for their exam time and separate rooms for writing exams. Almost all the respondents stated that whenever they approached their teachers regarding arrangement of scribes and for allotting extra time during examinations, they received it. Some of them noted:

*“Before the exam day, I go to my teachers and get permission to take the help of a scribe for exams. They are always positive. Once I get it signed from my teacher, I submit that letter in the academic section. Later I get the scribe allowance to pay the person who helps me in writing exams.”*

Some teachers were also identified as being particularly approachable and helpful to students who had missed some classes, or who would like to need special classes to clear doubts. Some respondents considered their teachers to be very helpful. They noted:

*“Our teachers call us to his/her office, suggest the reading material*

and give whatever material he/she is having with him/her.”

“My teacher is very friendly to all of us. If I need to clarify some doubts I go and ask him. He gives the reading list and suggests the source from where I would get the material for the entire syllabus.”

“I informed my entire course teachers and requested them to allow me to use voice recorder in their class. They didn't object to it.”

Some respondents are proactive about negotiating their needs and problems in the class. They are very clear about their needs and have no hesitation in asking for it. They stay back in the classrooms or personally meet the teachers in their cabins, after the lectures in each course. They believe that informing the course teacher about their needs helps them to get some of the material, soft copies and follow their studies better in time like other students in their class.

## CONCLUSION

This study examined the factors that influence disabled students to disclose their special needs and strategies

adopted by them to manage their higher education experiences. The effect of understanding and labeling as a disabled person is likely to be responsible for altering their world, the way others perceive them to be as well as how they perceive themselves. The findings of the study also emphasised on how students took responsibility, understood the term disability, developed support systems and disclosed their special needs to seek out services to overcome academic as well as physical barriers. Similarly, those students who informed/ or disclosed their disabilities and special needs to their teachers and higher authorities, benefited more by getting their requirements, such as reservations, rights and special provisions, support services, extra time during exams, reader and scribe allowances and also various support services. This, in turn, helped in improving their educational experiences in higher education institutions and to pursue higher education successfully.

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# Reconsidering Multilingual Education

## An Answer to Whys and Hows

PALLAVI\*

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### Abstract

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*The importance of mother tongue education, of recognising pluralities and of integrating the school knowledge into social, economic and ethnic backgrounds of children has been posited in the foreword of India's National Curriculum Framework (NCF-2005) and reiterated throughout the document. Numerous lines in the curriculum framework have been devoted to emphasise on the significance of utilising multilingualism as a resource in the classrooms. What remains unclear though, is how teachers are to translate this vision of multilingual education provided in the curriculum framework into reality. There are several practical questions that have remained unanswered. Further, the literature existing in the field shows that teachers (especially those who are 'in-service') are often unaware of the theoretical underpinnings that support the vision that is idealised by experts who craft national documents such as the curriculum framework. Disregarding such issues, NCF-2005 seldom explicates the theories that support the model of multilingual education that it has proposed. Unwarranted by theoretical framework or research, the statements that have been given in the curriculum framework remain suspended in the air, unable to bring the required perspectival shift in teachers (Batra, 2005). It is crucial to understand that if teachers are to translate the vision of national curriculum framework into their day-to-day classroom practices, not only must they be apprised with the theories and research that argue in the favour of multilingual education, but they must also be acquainted with the methodologies that collocate with these theories. This paper therefore attempts to assist teachers by providing them an insight on the 'hows' and*

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*'whys' of multilingual education, since they, like children, cannot be assumed to be passive recipients of knowledge provided in national documents. The paper is not only a document analysis of the NCF, but it rather presents a comprehensive overview of the field, providing its readers with a theoretical rationale along with some exemplary studies on multilingual education that can serve to guide classroom practices.*

There is much analysis and a lot of advice. All this is accompanied by frequent reminders that specificities matter, that the mother tongue is a critical conduit, that social, economic and ethnic backgrounds are important for enabling children to construct their own knowledge. Media and educational technologies are recognized as significant, but the teacher remains central. Diversities are emphasized but never viewed as problems. There is a continuing recognition that societal learning is an asset and that the formal curriculum will be greatly enriched by integrating with that. There is a celebration of plurality and an understanding that within a broad framework plural approaches would lead to enhanced creativity.

(Foreword, *National Curriculum Framework-2005*)

## **INTRODUCTION**

The importance of mother tongue education, of recognising pluralities and of integrating the school knowledge into social, economic and ethnic backgrounds of children has been posited in the foreword of the National Curriculum Framework (NCF-2005) and reiterated throughout the document. Numerous lines in

the curriculum framework have been devoted to emphasise on the significance of integrating children's mother tongue into the formal curriculum. Language has been seen as an axiom around which a child's world is constructed. The scope that it has as a medium of instruction in different content areas has not been disregarded. The role of language has been considered central from the development of concepts in various subjects to the development of identity of children in the NCF. In fact, it has been argued that multilingualism is comparable to any other national resource of the country. What remains unclear though, is how teachers are to translate the vision of multilingual education provided in the curriculum framework into reality.

In order to achieve the aim of 'multilingualism and national harmony', the curriculum framework endorses the application of three-language formula and calls for the 'use (of) the multilingual classroom as a resource' in the process of teaching and learning (NCF-2005, p. 37). Consider, however, the guidelines that have been provided in the document for the implementation of the three language formula —

- Language teaching needs to be multilingual not only in terms of the number of languages offered to children, but also in terms of evolving strategies that would use the multilingual classroom as a resource.
- Home language(s) of children... should be the medium of learning in schools.
- If a school does not have provisions for teaching in the child's home language(s) at the higher levels, primary school education must still be covered through the home language(s). It is imperative that we honour the child's home language(s). According to Article 350A of our Constitution, 'It shall be the endeavour of every State and of every local authority within the State to provide adequate facilities for instruction in the mother-tongue at the primary stage of education to children belonging to linguistic minority groups'.
- Children will receive multilingual education from the outset. The three-language formula needs to be implemented in its spirit, promoting multilingual communicative abilities for a multilingual country... (NCF-2005, p. 37)

An analysis of the guidelines quoted above shows that although the guidelines claim to facilitate the promotion of 'multilingualism and national harmony' in Indian classrooms, they are largely

opaque in nature since they do not provide substantial action-oriented directions to the teachers who are supposed to implement the formula in their classrooms. There are several practical questions that have remained unanswered. Do teachers also need to learn the plethora of languages that children bring with themselves into the classroom? If not, then how would teachers use the languages that they themselves do not understand, as a resource? How would they support literacy-related activities in several languages within their classrooms, if they are themselves unfamiliar with many of those scripts? Should a teacher keep translating phrases from one language to another in such multilingual classrooms? As theories that argue against using translation method posit, would such translations not dilute the input that children get of the target language? Code switching/mixing is an integral part of language use in multilingual societies such as India. Should teachers allow (perhaps also encourage) students to code switch/mix in classroom context? Should they also accept texts written by students that contain script-switching/mixing? Several such questions haunt the day-to-day classroom practices that are organised by teachers. However, other than providing few examples of pedagogical activities that support multilingual education given here and there in the document, teachers have not been informed with practical

implications of the ideals that have been posited. The pragmatic aspects of multilingual education that the National Curriculum Framework fails to address, hence, result in enormous practical challenges for teachers.

Further, the literature existing in the field also shows that teachers (especially those who are 'in-service') are often unaware of the theoretical underpinnings that support the vision that is idealised by experts who craft national documents such as the curriculum framework. Disregarding such issues, National Curriculum Framework (2005) seldom explicates the theories that support the model of education that it has proposed. Batra (2005), for instance, posits that although the National Curriculum Framework argues for a radically different model of education as compared to those that had existed before in India, in regard to teachers, the curriculum makers seem to have taken the predominant view that consider them (teachers) to be agents of state, who merely need to be "oriented to the perspective" (p. 4349). However, unwarranted by theoretical framework or research, the statements that are given in the curriculum framework remain suspended in the air, unable to bring the required 'perspectival shift' in teachers. As a result, teachers either become pedagogically disoriented, or they reject the propositions that are given in the curriculum framework and continue to follow the pedagogical practices that they

have been following for years (Batra, 2005).

Hence, it is crucial to understand that teachers need to be equipped with answers to 'whys' and 'hows' of multilingual education since they are the primary agents of curriculum implementation. If teachers are to translate the National Curriculum Framework into day-to-day classroom practices, it is imperative that they are not only acquainted with the vision of curriculum makers but also with the theories and research that argue in favour of multilingual education. Further, they need to be appraised with the methodologies that collocate with these theories.

This paper therefore analyses the National Curriculum Framework-2005 in the light of research done in the area of multilingual education. The paper is not only a document analysis of the Curriculum Framework, but it rather presents a comprehensive overview of the field, providing its readers with a theoretical rationale, along with some exemplary studies on multilingual education that can serve to guide classroom practices. The attempt is to assist teachers by equipping them with a deeper insight in regard to the 'whys' and 'hows' of multilingual education, since they (like children) cannot be assumed to be passive recipients of knowledge provided in national documents such as the National Curriculum Framework.

The paper has been divided into five broad sections. The first

section introduces its readers to the problem of curriculum while establishing the need of writing this paper. The second section of the paper discusses the definition of the phrase 'multilingual education' with the aim of clarifying the concept. The third section provides a comprehensive review of the theoretical underpinnings of multilingual education. The last section, in an attempt to answer 'whys' and 'hows' of multilingual education, begins by providing a list of benefits that multilingual education has been reported to have in various studies. The section moves on to discuss certain intervening factors that often impede the benefits of multilingual education, and ends by reporting two classic studies that illustrate the nature of multilingual classrooms. A critical account on National Curriculum Framework-2005 has also been provided in this section. The last section summarises and concludes the paper.

### **WHAT IS MULTILINGUAL EDUCATION?**

The classic definitions of multilingual education, such as that provided by Anderson and Boyer (1978), interprets the term as the use of more than a single language in a classroom as a medium of instruction while teaching content areas. This definition, however, is being increasingly criticised in the current literature of multilingual education. Scholars such as Garcia, Skutnabb-

Kangas and Torres-Guzman (2009), Cummins (2009a) and Prahlad (2005) argue that it is not enough that schools offer instructions in 'more than a single language' or that they serve a group of students that is linguistically diverse. These, in fact, may be common features of any school that is situated in a multilingual society.

The term 'multilingual education' can only be attributed to educational programmes that exert special educational efforts to promote the use of multiple languages in the school premises. Schools that specifically aim to provide multilingual education go beyond the 'acceptance', 'tolerance' or 'maintenance' models that simply recognise the existence of multilingualism within school and society. They rather include those kinds of educational programmes that *cultivate* multilingualism amongst students by utilising and building upon the linguistic diversities that are brought to the classrooms. These schools undertake the endeavour of encouraging mother tongue in order to *promote* (as compared to maintain) multilingualism in the larger society. It is in this sense that the term multilingual education has been used in this paper.

### **THEORETICAL UNDERPINNINGS OF MULTILINGUAL EDUCATION**

The fundamental theoretical assumption that underlies various studies that support multilingual education pertains to neuro-

psychological aspect of language learning. These studies assume that the structure of mental lexicon is organised such that different language systems interact within the minds of multilinguals. In other words, it is believed that there exists a common underlying proficiency or a unitary system (as opposed to distinct systems for different languages), which is composed of general principles of grammar that coordinates with sub-systems of language specific lexemes to construct meaningful sentences in one language or the other, depending upon the sub-system of lexeme that has been chosen. This section discusses some of the theories of multilingual education that were based on this assumption, in detail.

The construct, argues Prahlad (2005), can be traced back to Weinreich's studies on bilinguals. In his book, *Languages in Contact*, Weinreich (1953) had argued that bilinguals can be described as being coordinate, compound or subordinate bilinguals depending upon how different languages are organised within their minds. Coordinate bilinguals have distinct systems for disparate languages that exist in their minds. Compound bilinguals, on the other hand, have one common system, or a singular conceptual and semantic framework that have two different realisations in their minds. Subordinate bilinguals, like compound bilinguals, have a common underlying system but one dominant and the other subordinate

realisation of it. Subordinate bilinguals process their subordinate system of expression through the medium of their dominant system of expressions (Prahlad, 2005).

The issue of the organisation of mental lexicon remained debatable for many years henceforth. It is only recently that research has been able to take a definitive stand on it and support an interaction-based model. Studies done in the area of linguistics on code-switching/mixing show that languages interact with each other in a systematic manner within the minds of multilinguals. Research conducted on contact language phenomena such as pidgins, koines and mixed languages also posit what Bakker and Mous (1994) call a natural process of 'language intertwining' in human mind. The idea has been restated by Cummins (2001) who purported the dual iceberg model of language proficiency and elucidated it with a number of supportive studies.

Cummins (1979) proposed the existence of two distinct forms of language proficiency. The first is conversational proficiency or basic interpersonal communicative skills (BICS) that manifest commonly in casual day-to-day conversations, while the second is cognitive academic language proficiency (CALP), which relates to cognitive and literacy skills, and is learned typically in classroom context as a result of direct instruction. In his famous book, *Negotiating Identities: Education for Empowerment in*

*Diverse Societies*, Cummins (2001) reviewed a number of research where literacy-related aspects of bilingual proficiency in L1 and L2 were seen as common or interdependent (p. 173). Based on these studies, Cummins concluded that although surface level oral proficiency remains confined to specific linguistic systems (languages) within mind, there is a significant transfer of conceptual knowledge and academic skills across languages. Therefore, a common underlying language proficiency model (CUP model) was proposed in which cognitive academic language skills (rather than basic interpersonal communicative skills) were posited to compose language-related knowledge that is common across disparate languages. The following diagram accurately represents the dual iceberg model of language proficiency proposed by Cummins.

The model implies that learning of Hindi by a Tamil speaker is not only facilitated by direct instructions in Hindi, but also by the knowledge that the learner has of Tamil's linguistic system. Concept such as directionality while reading texts, use of metaphors or rhetorical

arguments, once acquired in L1, can easily be transferred to L2 contexts. The following are examples of some studies that support the CUP model.

In a research carried out on students with language learning impairments by Brück (1978, 1982), it was observed that the immersion programme benefited impaired students with superior French language proficiency much more than the students who were receiving only core French instruction. In a strenuous study conducted by Swain and her colleagues (1990) on French immersion programmes, it was found that students who had developed literacy skills in their first language prior to joining the immersion programme scored considerably higher on a French reading comprehension test than those who had acquired only oral proficiency in the first language.

It is this set of research (and theory) that supports the claim for multilingualism (as being a resource that assist the processes of teaching-learning) that has been made by National Curriculum Framework-2005.

Surface features of L1

Surface features of L2

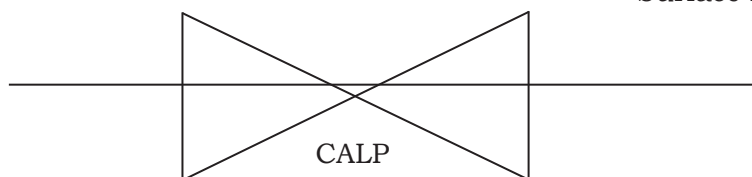


Diagram 1. Dual Iceberg Model of Language Proficiency

### **THE WHYS AND HOWS OF MULTILINGUAL EDUCATION**

As often is the case with ‘why and how-questions’, the answer to the questions ‘why multilingual education?’ and ‘how multilingual education?’ lie in the implications that multilingual education has for the particular context in which the questions have been asked. Although there are some studies done in the Indian context that expose the implications of various models of multilingual education, a number of relevant studies have also been conducted in the western context that provide us with profound insights into the issue in question. Some of such studies have been quoted in this section. The section begins by quoting a number of studies that forefront the benefits of multilingual education. Essentially, these studies show why multilingual education should be supported in contexts such as India. The section moves on to trace certain factors that might function to impede the benefits of multilingual education and therefore must be catered to in Indian classroom. Further, in an attempt to answer ‘how’ related questions that pertain to multilingual education, the section quotes two classic examples of multilingual classrooms. The pedagogical practices followed in these classrooms have been analysed in detail in order to highlight the practical implications that the curricular goal of multilingual education has. A simultaneous analysis of the National Curriculum

Framework–2005 has also been provided in this section.

Cummins (2001) argues that there are close to 150 studies that have been conducted during the past three decades that show “a positive association between additive multilingualism and students’ linguistic, cognitive or academic growth” (p. 164). These studies consistently show that bi/multi-lingualism promote metalinguistic capabilities such as structural awareness and communicative sensitivity (the act of making appropriate language choice given the context) in students. Multilingualism has also been shown as positively correlated with various other cognitive capabilities such as creativity or divergent thinking. A significant study in this regard, argues Garcia (2007), was conducted by May, Hill and Tiakiwai (2004). The study shows that multilinguals score consistently higher on tests that access creativity demonstrating high levels of originality and flexibility in thinking. Further, Hawkins (1983) has proved that multilinguals have an improved capability to acquire new languages. Further, studies such as those conducted by Linton (2003) show that there exists a positive correlation between upward mobility and multilingualism.

Some of the benefits of multilingualism that have been described above have, in fact, succeeded to find space in National Curriculum Framework. The NCF states that “several studies have shown that bilingual proficiency raises the levels of cognitive growth,

social tolerance, divergent thinking and scholastic achievement. Societal or national-level multilingualism is a resource that can be favorably compared to any other national resource” (p. 37). Further, the socio-economic benefits of learning new languages is specially significant in contexts such as India where employment opportunities often correlate with one’s proficiency in different languages.

However, although the NCF mentions a few of the benefits of multilingual education that have been enlisted above to support its claim for multilingual education, what is not mentioned is the fact that all of the statements describing the benefits of multilingual education given above should be taken with a pinch of salt. Such statements undoubtedly hold true, however, certain basic conditions are to be necessarily met. Consider, for instance, the interdependence hypothesis of the structure of mental lexicon provided by Cummins. Cummins (2009b) argued that proficiency in first language will transfer to second language *provided* there is adequate exposure and motivation to learn the second language.

The idea has been derived and can be explicated adequately by quoting the research that was conducted by Ogbu (1992) in the United States. Ogbu’s study inquired into the general patterns of difficulties experienced by immigrant minorities in the United States. The results of his study showed that in-group identity constructed by minorities played a significant role

in determining not only the patterns of their behaviour with respect to the dominant community of the society but also their performance at school. He differentiated between voluntary minorities and involuntary minorities and argued that although voluntary minorities do not adopt defiant attitudes, involuntary minority group members take on certain cultural behaviours that oppose dominant group norms to show resistance to subordinating cultural practices. Such psychological oppositions impede learning within school contexts in involuntary communities. Further, norms such as linguistic and cultural loyalties play a central role in the process of defining identities in these groups.

He argued that a major reason why students belonging to involuntary minorities face persistent difficulties in academic area is that schools reproduce the power structures that are typical of society at large. Schools consolidate and reinforce resistant identities that are already acquired by children through their interaction with peers, parents and other adults in involuntary communities. Hence, exclusionary practices popular in macro interactions (interactions at the level of society) get reflected and function to define micro interactions (interactions between teachers and students) within classrooms resulting in educational failure for the already marginalised groups of the society (Cummins, 2001).

The role of similar exclusionary practices has been discussed by eminent scholars such as Kumar



(1996) and Agnihotri (2009) in the Indian context too. Social stereotypes such as inferiority of dialects as compared to languages, and inferiority of script-less languages (see Agnihotri, 2009, for a detailed account on language-related stereotypes) result in an added layer of complexity in the context of India.

Although NCF-2005 recognises that language is an integral part of identity, and that identities as well as languages are socially constructed, but it does not tell the teachers what is to be done when student's identity functions as a restraint in developing

linguistic proficiencies. Suggesting a solution to the problem, Cummins (2001) argues that classrooms need to be (re)conceptualised as sites of identity negotiation that would provide students an opportunity to alter the power quo that defines their identities. An exemplary study in this regard, argues Cummins (2001), is "The Pajaro Valley Family Literacy Project". The study also illustrates 'how' the goals of multilingual education programmes can be effectively achieved by introducing certain pedagogical changes in the classrooms.

Located in Watsonville (California), Pajaro Valley School district served its rural surroundings which were populated by Latino communities. More than half of the Latino students who entered formal education dropped out of school before completing high school. During 1986, a popular author Alma Flor Ada was called to the school in a 'meet the author' programme where she was to read some of her Spanish stories and discuss the process of writing with children. Children's ebullience and enthusiasm for the programme could not be ignored, and the teachers, the director of bilingual programme and Alma Flor Ada decided to follow children's newly stimulated interest in literacy.

This incident led the designers to construct a literacy programme where parents' active involvement was also sought. Monthly meetings were organised for students and parents (many of who were illiterates) to involve them in literacy-related activities. Invitations written in Spanish were sent to the parents and follow-up phone calls were made by teachers. Parents who did not have conveyance were provided with transport facilities. The meeting was conducted in the library rather than in the school building in order to create a non-threatening and positive atmosphere as parents had negative associations related to the school.

In the first meeting, issues such as importance of promoting home language, pride in cultural heritage and the purpose of the programme were discussed. After a general discussion on these issues, Ana Flor Ada read selected children's books to the parents, accompanying her reading with actions and showing illustrations given in the book. Parents were then invited to select a book (that they could take home) and to join in a small group discussion on that book.

Discussions were conducted in Spanish and teachers made sure that parents' responses were validated and accepted. Teachers gradually led the discussions to deeper levels of reflection. At the end of the meeting, parents were provided with a general guide enlisting activities and pointers for discussions that they were to carry out with their children at home after reading books. A blank book was also given in which children (or parents, when dictated by their children) could write their own stories.

The session was highly successful and was followed by a series of monthly sessions where (gradually) stories that were written by parents and children themselves were read and discussed. All the sessions were videotaped and shared in the wider community which gave the children an opportunity to see their parents on television while providing them with a sense of pride. The consequences of the programme were remarkable. The parents and children began to borrow books from the school library and even went to public library in search of books of their interest. Increase in self-confidence in parents was evident when they took to facilitate small group discussions and made presentations on the use of children's literature at the Regional Migration Educational Conference. A mother who participated in the program remarked:

"Ever since I know I have no need to feel ashamed of speaking Spanish I have become strong. Now I feel I can speak with the teachers about my children's education and I can tell them I want my children to know Spanish. I have gained courage..." (p. 7)

Hence, the programme gave the parents and children belonging to the Latino community, an opportunity to construct a new, more confident and a literate identity for themselves. In Cummins' (2001) words, parents had gained 'internal resources, confidence and motivation to exert greater control over the forces that effect their lives' (p. 7). Apparently, the empowering experience that the parents and children of the minority community had through the programme was a result of an inverted pattern of power relations that was initiated by teachers in the school context. The pedagogy that was followed reflects the theoretical paradigm of critical

pedagogy proposed by Friere in his book, *Pedagogy of the Oppressed* (1968) as opposed to constructivist paradigm which the NCF-2005 largely reflects.

Another example of such a study has been quoted by Cummins (2009a) in the book, *Imagining Multilingual Schools: Languages in Education and Glocalization*. The example comes from Michael Cranny Public School in Toronto, Canada. A characteristic feature of this school was its linguistic and cultural diversity. In this school, grade one and grade two children were encouraged by their teachers to create their own stories in English, which was the language

of school instruction. Children were then asked to translate the stories into their home languages with the help of their peers, older students, multilingual teachers and their parents. After adding illustrations, the stories were posted on the 'Dual language website' to be shared with a larger group of audience. Students' creative efforts and performances resulted in what Cummins (2009a) called *identity texts*. Identity texts, argued Cummins, are the texts created by students in which they invest personal identities and that in turn function to reflect students' identities in a positive light. Such texts not only enhance language proficiency in children, but they also expand children's sense of self-worth. The process has been illustrated through the following example:

The students had arrived from Pakistan at different ages: Kanta and Sulmana had been in Canada since grade four (3 years) while Madiha had been in the country for less than a year. They collaboratively wrote the story entitled *The New Country* based on their collective experience. It was written in the context of a unit on the theme of migration that integrated social studies, language and ESL curriculum expectations.

Over the course of several weeks, the three girls discussed the general content of their story using both Urdu and English. As they were writing the story, there were many points where they discussed appropriate translations from one language to another, as well as aspects of grammar of each language. The fact that the story was written in both languages enabled all three students to participate fully in the creative process and to contribute their experiences to the text. For Kanta, whose Urdu literacy was less well developed than that of the other two girls, it reinforced Urdu and brought it into contact with English, her stronger literate language. Sulmana was the most bilingual and biliterate of the three girls and she took major responsibility for scribing in both languages. Madiha's English proficiency was not sufficient for her to write anything substantive in that language or to participate fully in class discussions that took place only in English. However, as a result of the collaborative creation of the bilingual identity text, she became a proud author of a lengthy book in both Urdu and English. (p. 60)

help of their peers, older students, multilingual teachers and their parents. After adding illustrations, the stories were posted on the 'Dual language website' to be shared with a larger group of audience. Students' creative efforts and performances resulted in what Cummins (2009a) called *identity texts*. Identity texts, argued Cummins, are the texts created by students in which they invest personal identities and that in turn function to reflect students' identities in a positive light. Such texts not only enhance language proficiency in children, but they also

A defining feature of this programme is the acceptance that has been provided to the learners. The school has accepted not only their home language but also the experiences that children bring to the classrooms, validating their cultures in the process. As a result of this pedagogy, students have been able to create new and empowered identities for themselves as well as for the communities to which they belong. Their roles have been changed from legitimate peripheral participants to legitimate central participants in the process of teaching and learning (Lave

and Wenger, 1991). The role of the teacher is apparently transformative as they function to bring fundamental changes in the power quo that dictates society. It is also important to note that the pedagogy has not led to simplistic *maintenance* of linguistic diversities in the classroom; it has rather functioned to *encourage* multilingualism at large. Multilingualism, in fact, will be naturally *acquired* by students in such classrooms.

The examples such as 'The Pajaro Valley Family Project and Michael Cranny Public School' that have been provided earlier have obvious relevance in the Indian context. The pluralistic nature of Indian society which is accompanied by social, economical and political inequalities makes it imperative that teachers employ pedagogies that are of similar nature if goals that have been envisaged in the National Curriculum Framework are to be achieved.

NCF-2005, at various places in the document, also indicates the need of the guiding classroom practices by principles that have functioned to guide The Pajaro Valley Family Project and Michael Cranny Public School in their endeavours. It proclaims that —

- Our children need to feel that each one of them, their homes, communities, languages and cultures, are valuable as resources for experience to be analysed and enquired into at school; that their diverse capabilities are accepted; that all of them have the ability

and the right to learn and to access knowledge and skills; and that adult society regards them as capable of the best. (p. 14)

- Language(s) in education would ideally build on this resource (students' mother tongue), and would strive to enrich it through the development of literacy (scripts including Braille) for the acquisition of academic knowledge. (p. 36)
- ...while helping children to use their home language and make a transition to the school language, teachers may seek inputs from local language speakers to facilitate communication in the mother tongue(s), teaching of languages and creating material. The choice would depend upon the particular curricular plan adopted and the kinds of expertise that are available and accessible. The school must explore opportunities for active engagement by parents and the community in the process of learning. This relationship will help in sharing the content and pedagogy of institutionalised learning. (p. 88)

Although they have been included in the document, the difference in page numbers from which the above statements have been extracted must be noted. Disparate sections of the document have been interspersed with such statements about language teaching. As a result, it fails to convey accurately to its readers what would be the true nature of an

ideal multilingual classroom. Lack of exemplary studies adds to the bewilderment. It also seems to have totally ignored the challenges that teachers might have to face while applying these principles in reality in the context of India.

Nowhere in the document is it mentioned that application of these statements in reality will require teachers to bring fundamental changes in attitudes of their learners. The macro interactions that defined the power and status of minority communities were being fundamentally reworked during micro interactions between teachers and students in the Pajaro Valley Project and Michael Cranny Public School. Such changes cannot be brought in those classrooms that remain isolated from the outer world. Since family and peers play significant role in shaping children's attitude (Hedges, Cullen and Jordan, 2011), such a change will require teachers to reconstruct the self-concept of not only children, but also of parents and the community to which they belong. Active participation of parents and communities in educational processes, therefore, cannot remain a matter of "choice" or depend upon the kind of "particular curricular plan (that has been) adopted" as stated in the NCF (p. 88). Critical pedagogy is inevitable if the goals envisaged in the curriculum are to be turned into reality.

Further, the NCF vaguely mentions that —

An objective of curriculum planning, social justice has many

obvious implications, but there are some subtle implications as well. One obvious implication is that special efforts will be required to ensure that education promotes an inclusive identity. Children belonging to religious and linguistic minorities need special provision and care in accordance with the perspective reflected in the Constitution. In the case of tribal languages, certain states have taken significant measures to facilitate early schooling in the child's home language. A more adequate set of measures providing for multilingual facility on the part of the teacher is needed. (p. 103)

Clearly, the load of comprehending the 'subtle implications' of the social justice objective has been left on the shoulders of teachers. How such 'inclusive identities' are to be promoted in classrooms, what are the 'adequate' measures that the teachers 'need' to take and what should be the nature of 'special provision and care' that has been asked for by the Constitution with regard to religious and linguistic minorities, are just few of the questions that have been left unanswered in the document. Examples such as 'The Pajaro Valley Project and Michael Cranny Public School', on the other hand, accurately illustrate to the teachers, the pedagogical implications that such curricular objectives have. The inclusive pedagogy practised in the programmes reflects 'how' true democracy, harmony and social

justice, as they have been envisaged in NCF–2005, could be brought about in the classrooms through integrative multilingual practices designed under the paradigm of critical theory.

### CONCLUSION

In conclusion, it can be stated that within the context of education, it is desirable that multilingualism is seen as relevant and in fact crucial in promoting values such as tolerance and harmony in pluralistic, democratic and secular societies like India; however, such a perspective will only be based on maintenance

theories of language teaching and learning. If multilingualism has to be truly used as a resource, as envisioned in the National Curriculum Framework–2005, it is imperative that classroom pedagogies are steered by critical theory. The process will involve radical structural changes in the exclusionary practices that have been amalgamated in our education system to such an extent that they have been normalised. Teachers play a central role in this regard and, therefore, cannot be left unassisted. They need to be given full access to the rationale and methodologies of multilingual education.

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# Bridging the Gaps in Girls' Education

## The Case of Kasturba Gandhi Balika Vidyalayas (KGBVs)

SARITA ANAND\* AND BIDISHA DAS\*\*

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### Abstract

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*Education for girls has been a high priority for the Government of India. With the aim of targeting the pockets where girls' education is lagging, the Government of India launched Kasturba Gandhi Balika Vidyalaya (KGBV) scheme in 2004 for setting up residential schools at upper primary level for girls belonging to the SC, ST, OBC and minorities in difficult areas. The study aims at understanding the motivations and perceptions of young girls studying in selected KGBVs. The major stakeholders of the scheme are the teachers and wardens of the KGBVs, parents of girls studying in KGBVs, and the local NGO officials were also interviewed to gain a holistic perspective about the KGBVs.*

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### INTRODUCTION

Rabindranath Tagore viewed education as 'a right which enables individuals and communities to act on reflection'. Education is one of the important pillars of development. Education adds value to a person's

life and plays a crucial role in her/his overall development. It also adds tremendous value to society at the macro level. There is a strong correlation between lack of literacy and poverty, both in the economic sense and in the broader sense of

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deprivation of capabilities (Kumar, Saha and Sharma, 2012).

Despite considerable improvement in the literacy status over the last few years, India is home to the largest number of illiterate people in the world. According to UNESCO's Global Monitoring Report 2006, out of 771 million illiterate people in the world, 268 million (nearly one-third) were estimated to be in India. Female literacy is of vital importance for the future of the nation. It not only helps in the development of half of the human resources, but in improving the quality of life at home and outside. Acquisition of education by women empowers her to think positively, take proper decisions about her living and the society and acquire other skills that can empower her economically, politically and socially. Research evidence also suggests that educated women not only tend to promote education of their girl children, but can also provide better guidance to their children.

Since 2005–06, there has been nearly a threefold increase in spending on elementary education in India through the SSA (Sarva Shiksha Abhiyan). Kasturba Gandhi Balika Vidyalaya (KGBV) and National Programme for Education of Girls at Elementary Level (NPEGEL) are now part of SSA. The data shows that there have been significant improvements in the education index of most backward states, with the country registering a change of 62 percentage points from 1999–2000 to

2011–12, which was also indicative of a convergence of literacy rates across marginalised groups with the national average. Further, there have been improvements in the access of SC girls to primary education and a decrease in the gender gap in education at the primary level. There is a need to fix the gender gap in education at the middle school level now (Adhikari and Salam, 2013).

The Government of India launched two focused interventions for girls—the National Programme for Education of Girls at Elementary Level (NPEGEL) and the Kasturba Gandhi Balika Vidyalaya (KGBV)—to reach out to girls from marginalised social groups in over 3,282 educationally backward blocks in the country where the female rural literacy is below the national average and the gender gap in literacy is above the national average (Amin, Awasthi and Chaudhary, 2012). The Kasturba Gandhi Balika Vidyalaya (KGBV) scheme was launched in August, 2004 for setting up residential schools at upper primary level for girls belonging predominantly to the SC, ST, OBC and minorities in difficult areas. Initially it ran as a separate scheme, but was merged with the SSA programme with effect from 1 April 2007. With the RTE Act, 2009 coming into force with effect from 1 April 2010, and the SSA framework of implementation being revised to correspond to the RTE Act, the KGBV component of SSA was also implemented in the overall context of child rights and child entitlements and in harmony with the spirit and

stipulations of the Act (Kasturba Gandhi Balika Vidyalaya, 2011). KGBVs are opened in Educationally Backward Blocks (EBBs), previously defined on a composite criterion of blocks with a rural female literacy rate below the national average (46.13%, Census 2011) and gender gap in literacy higher than the national average (21.59%, Census 2011). Within these blocks, priority was given to areas with concentration of tribal population, and/or with large number of girls out of school, or with concentration of SC, ST, OBC and minority populations and areas with a large number of small, scattered habitations that do not qualify for a school. The criteria of eligible blocks were revised with effect from 1 April 2008 to include the backward blocks with rural female literacy below 30 per cent and towns/cities having minority concentration (as per the list identified by Ministry of Minority Affairs) with female literacy rate below the national average (53.67%, Census 2011).

The objective of KGBV is to ensure access and quality education to girls from disadvantaged groups by setting up residential schools at upper primary level. The launching of KGBVs was a fundamental step by the Government of India to reach the unreached and make their lives better. With the help of these target-oriented interventions, the number of educational institutions has increased over the years, resulting in maximum area coverage besides decreasing the average distance per school. According to a study reported

by *Economic and Political Weekly*, in West Bengal the KGBV scheme seemed to be effective in making the deprived group to rise up to the level of general group in case of Self Efficacy and Intrinsic Value (Jhamb, Mishra and Sinha, 2012). Despite these achievements, the problem and challenges still remain for Dalit girls. Studies suggest they include the lack of connecting roads and long distances between home and school, high incidence of domestic work and child labour, early marriage and childbirth, poor school infrastructure and restricted choice to continue education. The absence of adequate good quality residential schools for Dalit girls and lower expectation of returns from their education are also well established (Kotwal and Nafees, 2014).

Sarva Shiksha Abhiyan or 'Education for All' programme recognises that ensuring girls' education requires changes not only in the education system but also in societal norms and attitudes. Girls' education has suffered for many reasons in our society. As Amin et al. (2012) expressed that now through KGBV, a two-pronged gender strategy has therefore been adopted, to make the education system responsive to the needs of the girls through targeted interventions which serve as a pull factor to enhance access and retention of girls in schools and on the other hand, to generate a community demand for girls' education through training and mobilisation.

To take stock of the progress made and the limiting factors, the National Consultation on Kasturba Gandhi Balika Vidyalaya (KGBV) Scheme was held in 2008. The Consultation process included Ministry of Human Resource Development, State Project Directors, eminent academicians, representatives of non-governmental organisations and various stakeholders of the scheme like students, teachers and wardens of KGBVs, etc. The deliberations pointed out the problems in the mindset of people about sending their daughters to school and a large gap in the training of teachers for such schools. The concerns were also raised about low participation of Muslim girls, and inadequate infrastructure in the schools. The suggestions put forth were to upgrade KGBVs to the secondary level as parents and students remain concerned about future opportunities after passing out of KGBV and upgrading it to the secondary level will help girls to at least finish their schooling (NCERT, 2008). It was indicated that NGOs play an important role in increasing the enrolment of girls in such schools and their counseling and training sessions with girls help them become aware of the benefits of education and its need for their better future. Also there were concerns like absence of mechanism for the redress of abuse faced by girls, lack of adequate infrastructure facilities and uncertainty in future of girls who pass out of KGBV. Mandate to evaluate such schemes have been

put up and taken forward by the UN agencies.

This exploratory and a micro study was planned with both the current students and those who have passed out, and the other major stakeholders of the scheme—the teachers and wardens and the local bodies like Panchayat representatives and local NGOs. The study was undertaken to understand the strengths and limitations of KGBVs in providing opportunity to young girls to pursue middle school education. The specific objectives were to assess the quality of education and infrastructure facilities available in the selected KGBVs. The study also aimed at examining the perceptions of girls about the advantages of studying in such schools and to know about their future aspirations. The study also probed about the problems faced by them while studying at KGBVs. In order to find out the influence of these schools on their lives, the girls who had passed out in the last two years were also interviewed. To understand the perceptions of concerned teachers, parents, wardens and local NGOs about the strengths and weaknesses of KGBVs, interviews were conducted.

According to the data procured from Census of 2011, the State of Rajasthan had low female literacy rate and a large area under Udaipur district was occupied by Scheduled Tribes. It was appropriate to choose it to understand the influence of KGBVs in facilitating girls' education

and hence was selected as the locale for the study. According to the data obtained from Ministry of Human Resource Development, there are total nine KGBVs in the nine blocks of Udaipur district. The selected KGBVs were from Salumber and Girva blocks of Udaipur. These two blocks were chosen purposively with the help of NGO Vishakha as they have been working in the field of education since many years and their contribution towards providing training and counseling to adolescent girls has helped immensely towards reducing the dropout rates of girls in school.

The sample consisted of 60 girls with 20 girls chosen from each school for a focus group discussion, 10 girls each from the schools studying in senior-most class of the selected schools for understanding their future aspirations. In addition to girl students, 30 other stakeholders were included in the study for understanding their perspectives about the overall impact of the schools, i.e., teachers and hostel wardens, parents of the students currently enrolled and local NGO officials and 6 girls who have passed out from the selected KGBVs in order to assess the influence of school environment in shaping their career aspirations and what benefits accrued to these girls after studying in these schools.

Focused group discussions were conducted to ascertain the awareness level of the benefits of the scheme among girls, the infrastructure and

physical conditions of the schools and the quality of education provided in the school was probed. In-depth interviews were conducted to ascertain future aspirations of the girls studying in the schools. The teachers were asked about their perceptions of own competence, curriculum and facilities for co-curricular activities present in the school and also about the future scope for the girl students. Parents were asked about the usefulness of such schools for preparing their young daughters for further education and employment. Interviews were also conducted with the passout girls to get an idea about their personal and professional life. These helped to assess their achievements and present conditions in terms of education. It also provided a glimpse of the effect of KGBVs on the life of young girls.

Schools' infrastructure and facilities were observed against the norms mentioned in the scheme. Checklists were prepared to examine the quality of services and infrastructure facilities against the established norms. The major findings of the study have been discussed next.

#### **PERCEPTIONS OF PRESENT STUDENTS ABOUT QUALITY OF EDUCATION, INFRASTRUCTURE FACILITIES, ADVANTAGES AND PROBLEMS OF STUDYING IN KGBVs**

For understanding the perceptions of girls currently enrolled in schools,

20 girls from each school were chosen and two focus group discussions were conducted with them. Further in-depth interviews were conducted with 10 girls from each school. The findings indicated that the students in the KGBVs of Salumber and Girva blocks came from families belonging to SC (50%), followed by OBC (28.3%) and ST (25%) communities which was quite high as compared to other mainstream schools in Udaipur (DISE, 2012). This indicated that KGBVs justify their existence for this subset of population, i.e., girls from more vulnerable groups get an opportunity to study in KGBVs. The findings also highlight that 80 per cent girls came from farming families. Hence it is evident that for girls from these families who have been traditionally resistant to sending their daughters to residential schools have found an opportunity to study and hope for a better future due to KGBVs. The enrolment data revealed that maximum number of girls entered these schools in Class VI at the age of about 11–12 years, indicating a gap of about one year after they pass out of Class V or after they dropout from their previous school. The findings indicate that there are many reasons for which the girls like to be in a KGBV. Free education and residential facilities were the two major attractions for most of these girls from the economically impoverished families. The other reasons expressed included desire

to study for a better future as articulated by almost 34 per cent of the girls, almost 50 per cent of the girls also said they like spending time with friends, get an opportunity to play games and are fond of their teachers. One major disliked factor about the school was unhealthy food at the hostel. National Consultation on KGBVs organised in 2009, also raised a concern about low budget allocation for health and nutrition. The per capita grant for daily maintenance of KGBV girls is ₹ 25 per head which is very low. Another issue reported by the girls was about the problem of infrastructure. Many of them complained about inadequate beddings, poor condition of washrooms, poor quality of kitchen and utensils and lack of adequate security provisions. It was also found that some girls dropped out before reaching the final grade of the KGBVs largely due to lack of adequate infrastructure and lack of motivation and interest. For many of the girls, food and residential facilities at the schools were the attraction to join and when the schools lacked in these, some dropped out.

Quality of education was good as mentioned by the girls. They praised their teachers for their patience and for motivating them to study. The students were satisfied with the timetable as it was well-planned with sports period each week for recreation which gave them a break from their class schedule.

The girls were contended with the teacher–student ratio or rather had limited view due to limited experience. They were happy that they could study various subjects including English. About 70 per cent of the students also mentioned that they were able to understand what was taught in class and did not need any guidance for homework.

#### **FUTURE ASPIRATIONS OF THE GIRLS STUDYING IN THE SELECTED KGBVs**

More than half of the students wanted to study further after finishing schooling at KGBVs, so these girls were hopeful about future education and a better future. The KGBVs encouraged them to study further and made them confident. The teachers play a key role in motivating the girls to study further. Around 30 per cent of girls said they will consult their parents also to decide about their future.

Almost all the girls wanted to join a mainstream school after KGBV to pursue higher education and were also very hopeful that their parents would support them. The girls were little hesitant about adjusting in family back after this as most of them had been staying at residential school for more than two years. The girls were also asked at what age would they like to marry. Very interestingly, all the girls mentioned they had not thought about it and neither did their parents mention it to them. This was a very welcome change.

#### **PERCEPTIONS OF CONCERNED TEACHERS, PARENTS, WARDENS AND THE LOCAL NGOs ABOUT THE STRENGTHS AND WEAKNESSES OF KGBVs**

It was reported that there was generally lack of awareness about the KGBV scheme, parents and teachers were not aware about the schools and got to know from their neighbours or friends.

Only 50 per cent of the teachers reported that they faced an interview or had received any training before joining the school. Most of them got to know about the mission and vision of KGBVs only after joining and interacting with other teachers and students. They only knew that they were being appointed for teaching in a residential school. There was no information provided to them about the exact purpose of the KGBVs. Adding to these concerns, the teachers also mentioned that they were ignorant of the funding pattern of the schools and their inability to make any changes needed. They strongly felt a need for regular meetings with the officials to discuss their problems and concerns.

Almost all the hostel wardens on being asked about quality of infrastructure mentioned it to be inadequate. They mentioned about the shortage of beddings, poor quality of washrooms and also unavailability of proper cooking facilities in the kitchens. This clearly shows lack of adequate infrastructure in KGBVs.

Wardens also mentioned that it is quite difficult for them to deal with the new batch of girls every year, as they have to help them with everything from clothes to food. Also, they find it quite difficult to convince the girls and their parents about staying away from family and studying for their future. Wardens mentioned festivals and special occasions like Independence Day and Republic Day which are celebrated involving the girls in preparations and for their recreation, which is thoroughly enjoyed by the students and offers a great learning opportunity.

Parents mentioned that the main reason for admitting their daughters to KGBVs was good performance by their older children and neighbours' children who had studied at KGBVs. This indicates that parents were not aware about the benefits of the school; they decided only after getting to know from their relatives, neighbours or friends. Similar findings were reported by All India Dalit Mahila Adhikar Manch (AIDMAM) in 2012–13 in Bihar, which indicated that the most marginalised groups in the society are unaware about the KGBV scheme in Bihar and the parents do not expect their daughters to do anything else other than taking care of their younger siblings (Kotwal and Nafees, 2014). They mentioned that security arrangements are not very good at school and their daughters often mention not feeling safe at school. Despite these limitations, parents wanted their daughters to

continue schooling and a few of them also mentioned that they will support their daughters if they go for higher education or job.

The NGO officials had some distinct observations. Most of the NGO workers had been working for more than two years. Their two main concerns with the KGBVs were inadequate infrastructure and student–teacher ratio. They mentioned about shortage of bedding due to which generally two students have to share a bed. Other problems reported were lack of cooking facility in the kitchen and use of kerosene stoves for cooking. They also mentioned security problems due to absence of security personnel for duty. Their second concern was the teacher–student ratio as there are generally four to five teachers for more than 120 girls, and therefore there is little scope for individual attention. The registers were not maintained properly. Another vital concern raised by them was regarding future opportunities for girls after passing out of the schools were not very well discussed with the students or their parents and as a result very few girls were able to pursue education after leaving KGBVs.

In-depth interviews with the girls who had finished their schooling at KGBVs indicated that some of them were pursuing education and some of their seniors were pursuing careers and the biggest strength was that the girls felt that their teachers took extra care to ensure good teaching in the schools. The KGBVs definitely seemed

to offer a very important role for the betterment of future of these girls. Hence, based on the present study, some of suggestions for effective implementation and mass reach of Kasturba Gandhi Balika Vidyalaya (KGBV) scheme can be generating awareness through Panchayats at the block and village levels, wall writings and radio jingles in the local dialect about the importance of sending girls to the KGBVs and their impact on the lives of the girls. There is a need for proper training of teachers and

other staff members of the school including orientation about the vision and mission of KGBVs among the officials and parents to enhance their motivation. There is a greater need to improve the infrastructure and security facilities at KGBVs. Regular monitoring and discussions with administrators at the district level can help to elicit problems and finding solutions, can make these schools an effective catalyst for girls' education in the educationally backward districts of the country.

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# Perceptions of Parents and Children on Implementation of Mid-Day Meal Scheme (Case Study of UT of Chandigarh)

SEEPANA PRAKASAM\*

## Abstract

*This paper attempts to capture the perceptions of the duo stakeholders (parents and children) on the status of implementation of Mid-Day Meal Scheme (MDMS). Findings of the study are based on randomly selected 500 sample respondents (250 households and 250 school-going children) residing in slums and shanties in Chandigarh. Healthy children are better able than sick or malnourished to go to school and learn, keeping this view under consideration, mid-day meal scheme was introduced in India to increase enrolment, attendance, retention and nutritional status of school children. Parents and children expressed mixed response regarding implementation and impact of MDMS. Children revealed that not taking/discontinuing/wasting/taking less quantity of meal is due to food not being tasty/undercooked/overcooked, fear of insects in the food, monotony due to repetition of one or other type of pulses in weekly menu, etc. Food menu should be maintained by consulting the parents and children, without compromising nutritional values. The proportion of children availing MDMS will be more if food is prepared in the school-based kitchens instead of distribution from the centralised kitchens.*

## INTRODUCTION

Primary education is thought to be associated with especially high returns (Psacharopoulos and Patrinos, 2002). Investment in elementary education enhances the

productivity in all the sectors of the economy much more than other levels of education (Christopher, 1980). Healthy children are better able than sick or malnourished to go to school and learn (World Bank,

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2014). School feeding policies and programmes are critical components of an effective education system, and can also increase school attendance (Ahmed, 2004).

Most of the children from lower socio-economic background suffer from undernutrition, more often they drop out from schools at an early age, which directly affects their personality development and human capital formation of the nation. Poor enrolment and high school dropout rates are attributed to malnutrition among the children, socio-economic backwardness, child labour and lack of motivation. Duly recognising the importance of healthy human resources for faster economic growth, advanced nations introduced school meal programmes much earlier than the developing nations.

With a view to enhancing enrolment, retention, attendance and improving nutritional levels among children, the National Program of Nutritional Support to Primary Education (NP-NSPE) was launched as a centrally sponsored scheme on 15

August 1995. In 2007, the scheme was further revised to cover children in upper primary stage (Classes VI to VIII). Mid-Day Meal Scheme (MDMS) helps to increase enrolment through two main channels. First, it lowers the cost of schooling, thereby providing an implicit subsidy to parents. Second, it improves child nutrition which increases learning abilities, eventually enhancing the returns on education.

#### **THE PRESENT STATUS OF THE SCHEME**

As shown in Table 1, the nutritional content in the mid-day meal made available daily, is to supplement 450 calories worth of food for primary class students and 700 calories worth of food for upper primary class students, while in case of daily protein supplementation it is 12 grams and 20 grams for primary and upper primary classes respectively. Table 1 shows the quantities of rice, wheat, vegetables, pulses, oil, fat, salt and condiments in a cooked mid-day meal (MDM).

**Table 1**  
**Food Norms for Mid-day Meal, with effect from 1 December 2009**

S. No.	Items	Quantity per child per school day	
		Primary	Upper Primary
1	Food Grains	100gms	150gms
2	Pulses	20gms	30gms
3	Vegetables (including green leafy)	50gms	75gms
4	Oil & fat	5gms	7.5gms
5	Salt & condiments	As per need	As per need

Source: Government of India (2015)

In addition to foodgrains, MDM involves two other major inputs, *viz.*, the cost of cooking and provision of essential infrastructure. Cooking cost per child is revised by the government in accordance with a price index. Table 2 shows that the cooking cost is borne by Central and State governments/North Eastern region (NER) States/UTs in different proportions (Centre and the NER States on 90:10 basis and with other States/UTs on 75:25 basis). The cooking cost for upper primary classes is kept more than primary classes due to the requirement of larger quantities per child.

### THE PROBLEM, OBJECTIVES AND METHODOLOGY

#### The Problem

School dropout rate, wastage and stagnation are still higher among children from lower income groups. They suffer from anemia and malnutrition due to non-availability

of adequate quantity of nutritious food, which is a major hurdle to enhance learning abilities. In this context, making available tasty and nutritious food to the school children is a matter of great concern.

#### Objectives

1. To know the perceptions of parents of the school-going children, about the status of implementation of MDMS in Chandigarh.
2. To know the perceptions of the school-going children about the status of implementation of MDMS in Chandigarh.
3. To know the consumption pattern of MDM by the school-going children.
4. To suggest policy measures for better implementation of MDMS.

#### Methodology

The study is based on both primary and secondary data sources. Primary data was collected in the year 2015, by conducting personal

**Table 2**  
**Revised Cooking Cost per Child per School Day w.e.f. 1 July 2015**

Stage	Total Cost	Centre-State Sharing			
		Non-North Eastern Region States (75:25)		North Eastern Region States (90:10)	
		Central	State	Central	State
Primary (Classes I to V)	Rs. 3.76	Rs. 2.82	Rs. 0.94	Rs. 3.38	Rs. 0.38
Upper Primary (Classes VI to VIII)	Rs. 5.64	Rs. 4.23	Rs. 1.41	Rs. 5.08	Rs. 0.56

Source: Government of India (2015)

interviews with the help of structured questionnaire at the place of residence, by following Clustered Systematic Random Sampling method. Field survey was conducted in all the three administrative regions of the city from 500 sample respondents, i.e., 250 households and 250 school-going children from these respective households. Chandigarh city has been selected for the study, because it holds third rank in per capita income among the Indian cities, hence it attracts large number of migrant poor people from different parts of India. Children of these poor migrants generally study in government schools, and consume mid-day meal, hence it is felt important to know the perceptions of the parents and children on the status of the implementation of the scheme, for further improvement.

## **DISCUSSION AND ANALYSIS**

### **Perceptions of the Parents**

#### ***(a) Work Status of the Respondents***

The working and living conditions of informal workers are very poor, and have an impact on educating their children. The majority (46 per cent) of the respondents are casual labour, while 28.4 per cent respondents are self-employed, about 20 per cent are regular workers and the remaining 5.6 per cent are unemployed.

#### ***(b) Health Consequences of Consuming MDM***

Parents' permission determines the decision to consume mid-day meal.

The predominant majority (82.8 per cent) of the respondents stated that there are no ill health consequences of taking MDM by their children, however, 12.8 per cent respondents felt that MDM causes stomach pain, indigestion and vomiting. The negligible proportion (4.4 per cent) revealed that they are not sure whether ill health is due to consuming mid-day meal only.

#### ***(c) Preference of MDM vs. Cash Transfer***

More than half (62.4 per cent) of the sample respondents preferred cooked MDM over cash transfer of ₹ 300 per month per child, however 37.6 per cent of the respondents preferred cash transfer over cooked MDM. Lack of another option compels parents to permit their children to take MDM. The reasons stated for preferring cash transfers are inadequate quantity, poor quality, children don't take regularly, fear of ill health, repetition of the same type of menu, lack of knowledge about impact of MDM on socialisation, attention, attendance and retention.

### **Perceptions of Beneficiary Children**

#### ***(a) Gender of the Respondent Children***

More than half (52 per cent) of the sample respondent children are boys, the remaining (48 per cent) are girls. From each family relatively more number of boys have the habit of taking MDM than girls, because girls are more hygiene sensitive than boys.

In addition to that, consumption of energy is more in the case of boys than girls due to differences in time spent for play activities.

**(b) Children’s Level of Schooling**

Higher the class the children are studying in, more will be the experience with MDM, hence children studying from Class 2 were considered for this study. Purposively the larger proportions of children studying in higher classes were considered for the study to get appropriate feedback. Table 3 shows that the predominant majority (28 per cent) of the respondent children study in Class 7, 26 per cent in Class 8, 18 per cent in Class 6, 12.4 per cent in

Class 5, while the remaining study in Classes 4, 3 and 2.

**(c) Food Menu before Going to School**

More than half (70.4 per cent) of the respondent children have the habit of taking tiffin (in case of day school)/ Lunch (in case of evening school) at home before going to the school. About one quarter (27.2 per cent) of the children have the habit of taking only tea/ milk. Precariously only 2.4 per cent of the children don’t take anything, due to parents’ inability/ have no time to provide food/ negligence of children. It reveals that a certain percentage of the children completely depends on MDM.

**Table 3**  
**MDM Beneficiary Children’s Level of Schooling**

<b>Class Studying in</b>	<b>Number of Respondents</b>	<b>Percentage</b>
2	8	3.2
3	13	5.2
4	18	7.2
5	31	12.4
6	45	18.0
7	70	28.0
8	65	26.0
<b>Total</b>	<b>250</b>	<b>100.0</b>

Source: Field Survey Data

**(d) Number of Days Consumption of MDM**

Number of days children consume MDM in a week indicates the extent of attachment with MDM. Table 4

shows that the majority (70 per cent) of the respondent children consume MDM during all the six working days, relatively a lesser proportion of children consume MDM on lesser number of

days per week, while 13.6 per cent of the children do not take MDM on any day is the matter of discourse.

**(e) Reasons for Non-consumption of MDM during all the Working Days**

About 3/4th majority (70 per cent) of the children felt that they like MDM, while the remaining children have not taken MDM during all the days of the week. They stated number of reasons, *viz.*, food not tasty; parents don't allow; insects may be there as per the newspapers and TV reports; not well cooked; more salt/no salt; not hygienic, etc. Some of them stated no reason and others stated more than one reason for not taking meal daily.

greater majority (62.4 per cent) of the children feel that the quantity being served is adequate, while 24 per cent of the children feel that the quantity is inadequate. About 13.6 per cent of the children do not take MDM.

**(g) Status of Consumption of the Quantity Served**

Status of consumption of the given quantity indicates children's interest in taking MDM. As shown in Table 5, the larger majority (67.6 per cent) of the children consumed the given quantity. About 18.8 per cent of the children throw it out/ take home, while the remaining 13.6 per cent do not take MDM at all. Some of the

**Table 4**  
**Weekly Number of Days Intake of MDM**

Number of Days	Number of Respondents	Percentage
1	6	2.4
2	11	4.4
3	10	4.0
4	11	4.4
5	3	1.2
6	175	70
Not taking at all	34	13.6
<b>Total</b>	<b>250</b>	<b>100.0</b>

Source: Field Survey Data

**(f) Adequacy of Quantity of MDM**

Availability of adequate quantity will habituate a large number of children to depend on MDM. The

children revealed that they consume food in spite of no taste, due to hunger and also pressure from teachers to maintain discipline at meal.

**(h) Habit of Asking More Quantity of MDM**

The majority (73.6 per cent) of children do not ask for food second time either due to lack of quality or they feel insulted if not given. However, 11.6 per cent of the children stated that, if they ask for more food it is given, while 1.2 per cent of the children said that they ask for food but it is not available. The remaining 13.6 per cent do not take MDM.

**(i) Habit of Bringing Lunch to the School**

Children know the menu in advance, so they can decide whether to bring

adequate lunch/certain quantity of lunch/not to bring it at all. During the days of favourite food menu, they do not bring lunch, otherwise they bring lunch. As mentioned in Table 6, about 48.4 per cent of the children do not bring lunch at all on any day, while about 35.6 per cent of the children bring lunch during all the days, and the remaining 16 per cent bring lunch during few days when their favourite food is not served.

**(j) Habit of Eating at Home after Coming Back from School**

Non-availability of adequate quantity of MDM/not interested in taking MDM or limited lunch carried to

**Table 5**  
**Status of Consumption of the Entitled Quantity of Meal Served**

<b>Experience</b>	<b>Number of Respondents</b>	<b>Percentage</b>
Eat the whole share	169	67.6
Half quantity throw out/take home from share	47	18.8
Not taking at all	34	13.6
<b>Total</b>	<b>250</b>	<b>100.0</b>

Source: Field Survey Data

**Table 6**  
**Habit of Bringing Lunch to the School**

<b>Bringing Lunch to the School</b>	<b>Number of Respondents</b>	<b>Percentage</b>
All the days	89	35.6
Not at all	121	48.4
One day	3	1.2
2 days	18	7.2
3 days	14	5.6

4 days	5	2.0
<b>Total</b>	<b>250</b>	<b>100.0</b>

Source: Field Survey Data

school, forces almost all the children to eat after coming back from school. About 99.2 per cent of the respondent children eat at home after coming back from school, while the remaining 0.8 per cent do not eat after coming back from school.

**(k) Habit of Bringing MDM to Home**

Table 7 shows that the majority (66.8 per cent) of the children do not bring MDM from school to home, while 18.8 per cent of the children bring from their share, only negligible proportion (0.8 per cent) bring other than their share and the remaining 13.6 per cent do not take MDM at all. Teachers not

allowing children to waste food is also the reason for them to take food to their home, even though they have no intention to eat at home by themselves or by their family members.

**(l) Consumption Pattern of MDM at Home**

Table 8 shows that the majority (66.8 per cent) of the children do not take MDM to their home, about 8.8 per cent of the children throw food in dustbin at home, 3.2 per cent children said that they themselves/parents eat, whereas 3.6 per cent stated that their brother/sister eat, and 13.6 per cent do not take MDM at all.

**Table 7**  
**Bringing MDM to Home**

Experience	Number of Respondents	Percentage
Don't take at all	34	13.6
Bring from share	47	18.8
Bring other than share	2	0.8
Don't bring	167	66.8
<b>Total</b>	<b>250</b>	<b>100.0</b>

Source: Field Survey Data

**Table 8**  
**Status of Consumption of MDM at Home by Self/Family Members**

Consumption Status	Number of Respondents	Percentage
Don't take at all	34	13.6
Don't bring	167	66.8
Self consumption	8	3.2
Brother/Sister	9	3.6



Brother/Sister/Parents	2	0.8
Consumption by Parents	8	3.2
Throw it in the dustbin	22	8.8
<b>Total</b>	<b>250</b>	<b>100.0</b>

Source: Field Survey Data

## CONCLUSION

Food menu should be maintained in accordance with the interests of the children, without compromising nutritional values. If the quality of food is enhanced, more children will be attracted towards MDM and they would consume the entitled quantity, thereby wastages can be averted. Girls are more health sensitive than boys, the larger proportion of girls bring lunch from their home than boys, hence their proportion of taking MDM can be enhanced by increasing quality and hygiene. There should not be more time lags between preparation of food and food served, to save nutritional values. The proportion of children availing MDM will be more if food is prepared in the school-based kitchens instead of distribution from centralised kitchens. Food prepared in school-based kitchens will be in hot/

hygienic/nutritious condition with flexible menu. Moreover, food will be available timely and supervision will be possible. Food menu composition should be changed at least once per year. Parents' and children's views should be taken into account while fixing menu, timings of serving food, etc. Enough confidence should be built among the parents by maintaining taste, hygiene and quality, then only the proportion of children's intake of MDM can be increased. Per head expenditure allocation should be increased keeping growing prices into consideration. Education department should take timely feedback from the children, in-charge teachers and head teachers about the implementation of Mid-Day Meal Scheme, to take effective measures for further improvement.

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# Madrasas in India

## Organisational Climate and Issues

ALIYA KHATUN\*

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### Abstract

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*Educational system is the backbone of the development of any country. Changes have taken place in education system according to the need of the time. Madrasa education system has a very important place in Indian society from its beginning. This system has played a silent but important role in educating millions of Muslims of the country. Organisational climate plays a very crucial role in outcomes of any institution. In case of Madrasas, there is a dire need of reform in its organisational climate, because traditional types of organisational climate of Madrasas are hardly able to cater the need and demand of the time. The present study is an effort to know about the organisational climate and issues of Madrasas in India.*

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### INTRODUCTION

Education is a continuous process necessary for the full and harmonious development of individual as well as of society. Education is the strongest tool for bringing personal, social, economic and cultural developments in any society. It is the basic necessity of our present day world. It brings betterment and prosperity in the life of people and nation.

Education prepares ground for the proper utilisation of resources for the development of the society as well as nation. All-round development of the personality of children is the ultimate aim of education. According to the National Policy of Education (1986), "Education is the investment for national development which depends upon quality leadership, which is provided by quality education and

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quality education is the result of quality of teachers.” Therefore, the learning experiences provided to students prepare them to contribute in national as well as social development. It is the best means of creating a new generation of men and women without losing touch with their culture and tradition.

The Islamic system of education began with the study of the Holy Quran. Islamic education trains the sensibility of pupils in such a manner that in their attitude to life, their actions, decisions and approach to all kinds of knowledge, they are governed by the spiritual and deeply felt ethical values of Islam. The aim of Islamic education is the harmonious development of the personality as “balanced growth of the total personality...through training Man’s spirit, intellect, rational self, feelings and bodily senses...such as faith is infused into the whole of his personality” (Al-Attas, 1979). The Muslim community occupies an important position in Indian society. Indeed, in India Muslims are the second largest majority. Madrasa education system has a very important place in Indian society from its beginning. This system has played a silent but important role in educating millions of Muslims of the country. Madrasas in India are the lifeline of Muslim community and the foundation stone of Muslim education and every Muslim child generally attends the *maktabs* in the initial years of his/her life.

There are various studies on conditions and problems of Madrasas (Gupta, 2012; Basant, 2012), but less emphasis is given on the organisational climate of Madrasas. Though the organisational climate of any institution plays a very important role in achieving the goals, but less importance is given to this aspect. A good organisational climate gives an opportunity to work cooperatively and in a free and open environment, resulting in satisfactory outcomes. Glimmer (1966) defined organisational climate as “those characteristics that distinguish the organization from other organizations and that influence the behaviour of people in organization”. According to Singh and Patel (2012), “the organizational climate may ultimately be defined in terms of interaction that takes place between organisational members as they fulfil their prescribed roles while satisfying their individual needs”.

According to Moos (1979), organisational climate involves three dimensions: the relationships between members of the organisation, the personal development of the members, and the maintenance and change of the organisation. In organisational climate there are relationships between student–teacher, teacher–principal, principal–students, and relationship of all these with the non-teaching staff. With the help of balanced cooperation and healthy climate of school organisation, the educational objectives can be achieved easily.

Kopelman et al. (1990) defined organisational climate in terms of five elements common in past research on employee work perceptions: goal emphasis, means emphasis, reward orientation, task support and socio-emotional support. These five elements are necessary for a successful organisational climate.

### **IMPORTANCE OF HEALTHY ORGANISATIONAL CLIMATE**

Education works through an organisation supported with definite objectives, plans, personnel and finance. Organisation simply is a means through which a given objective is attained. Educational organisations distinguish with regard to the achievement, efficiency, and finally product of the organisation is not only the institution's infrastructure, the number of classes, students and teachers and the other quantitative features.

Every school has its own unique climate, principles and characteristics. The organisational climate of a school is the outcome of the practices, communication and interactions between the working groups within the school, namely the principal, the teachers, the administration and office staff and the students. According to Verghese (1959), a good organisation takes into account:

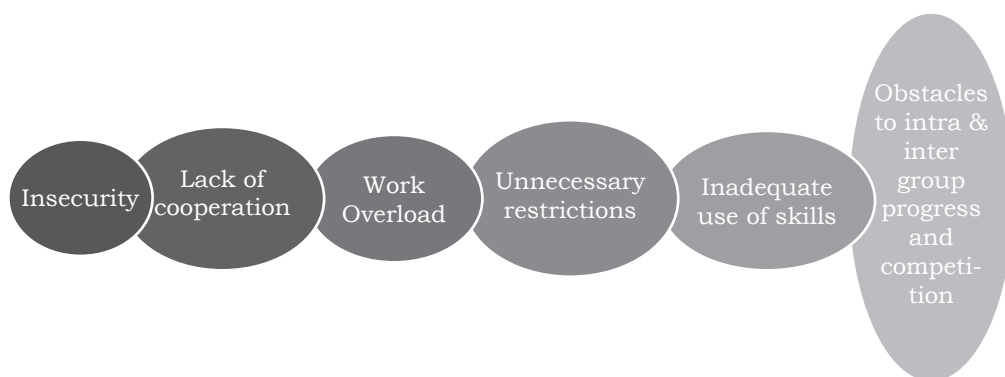
- A clear and distinct aim to be accomplished.
- An idea of the method by which the goal will be best attained.
- An idea of the obstacles.

In a healthy organisational climate while school personnel perform their duties, they try to create a balance between the structural, personal, group and cultural systems of the school.

The importance of organisational climate to teachers' effectiveness is a significant one (Babu and Kumari, 2013). Here, teachers and students feel comfort and burden-free environment; resulting in positive outcomes. On the other hand, in an unhealthy organisational climate, pressure, conflict and stress are dominant, which is reflected in the behaviour of teachers, headmaster and students.

Working in a closed and unhealthy organisational climate brings about negative attitudes and feelings on the part of the teachers, students and staff of the school. These conditions produce dissatisfaction, psychological stress, tension and finally job alienation leading to occupational stress. There are various reasons of unhealthy organisational climate of the schools, such as: the organisational climate in the school is a relatively stable quality of the school's inner environment which is under the influence of the headmaster and all the components of the school work like a well-oiled machine with the vision of reaching the definite goal. Importance of healthy organisational climate can be summarised in the following lines:

- A healthy organisational climate reduces stress, psychological pressure and burden of teachers, students and non-teaching staff.



- Good relationship between principal and teachers, relationship between teacher and students and relationship among all components can be seen in such type of climate.
- It depends on effective leadership of principal and his/her behaviour with other members of the school.
- In a healthy organisational climate, objectives can be achieved easily because everyone tries to give his/her best in such an environment.
- A healthy organisational climate prepares students to cope with all types of anxiety.
- Healthy organisational climate develops school leaders by clarifying their responsibilities, providing access to appropriate professional development throughout their career, and acknowledging their pivotal role in improving school and student performance.
- Non-teaching staff also works with enthusiasm if principal and teachers are cooperative.

- Healthy organisational climate also helps to improve the overall performance of the students.

Therefore, organisational climate is a form of organisational energy which affects the school depending upon how this energy is channelled and directed. Principals can play key roles in utilising this energy into productive channels. For example, teachers often form closely knit and highly familiar groups or cliques. Some among the groups use their energy to help in making the school work better, but other groups may use the same energy to promote and cause problems and difficulties. The key is whether the group identifies with and is committed to the school and its purposes.

### **ISSUES OF ORGANISATIONAL CLIMATE OF MADRASAS**

Right from the beginning, all *maktabs* and Madrasas have enjoyed full freedom and autonomy in all aspects of their functioning. Madrasas are the means of providing access

to education to the lower socio-economic population of Muslims, and the number of Madrasas in India is estimated to be 30,000 to 40,000 (Akhtar and Narula, 2010). They have been independent in framing their own curricular activities, using their own methods of teaching and training and evaluating their students internally using their own methods. After independence, the market scenario gradually changed and Madrasas started to think that their individual certification should also be approved from a recognised body of their own or of the State, so that they are able to produce opportunities for education and employment for their students.

But, in the absence of clarity of objectives in the present-day situation and socio-economic needs of Muslim community, Madrasa administrators and managers have failed to play a positive role (Upadhyay, 2003). The condition of Madrasas is not so good in the view of organisational climate. There is lack of cooperation among the principal, teachers and non-teaching staff, which affects the health of the organisational climate of Madrasas. The principals have to play a key role in improving the organisational climate of Madrasas, but most of them are not oriented about their roles, responsibilities and duties. A congenial school climate, which is the result of leadership behaviour of the headmaster, produces a feeling of satisfaction, improves teachers' morale which in turn influences the

teaching-learning process in the classroom (Singh and Patel, 2012). Traditional methods and techniques of teaching and learning dominate in Madrasas, making the classroom environment dull and static, 'outdated pedagogy and corporal punishment in daily routine, which is seriously harming the children' (Halder, 2013).

As previously mentioned, a healthy organisational climate should have a clear and distinct aim to be accomplished. Madrasa organisers in India never thought of how far its curriculum would be relevant in the changing environment (Upadhyay, 2003). Absence of definite aims and objectives, though they may be present in the mind of authorities of Madrasa education, are never clearly spelt out (Phukan, 2015).

The issue of teacher demand and supply is both complex and multi-dimensional, as it reflects several interrelated challenges: how to expand the pool of qualified teachers in Madrasas; how to address shortages in specific subjects; how to recruit teachers to the places where they are most needed; how to distribute teachers in equitable and efficient ways; and how to retain qualified teachers over time. Thus, the quality of teacher also affects the organisational climate of Madrasas. Almost 99 per cent of teachers associated with Madrasa education are professionally untrained (Haque, 2013).

There is lack of proper coordination among Madrasas (Phukan, 2015).

Madrasas have been playing a major role in promoting education among Muslims but they hardly share common points with the contemporary modern system of education and scientific approach (Jhingra, 2010; Sikand, 2001).

In many Madrasas, infrastructure is not good, there is a lack of basic facilities such as small classrooms, lack of fans, lack of furniture, bad ventilation system, etc. Resource utilisation is not done in a proper way.

Poor quality of planning, administration, management and poor financial condition are also the reasons of poor conditions of Madrasas (Haque, 2013; Phukan, 2015).

Though the central government introduced Scheme for Providing Quality Education in Madrasas (SPQEM) in XI five-year plan and proposed ₹ 325 crore for the assistance to the Madrasas, and in 2014 Union Budget the Centre allocated an additional amount of 100 crore for modernisation of Madrasas (Poonawala, 2015), but the need of the time is not just extra financial assistance, but successful implementation of schemes and creation of a new, fresh organisational climate in Madrasas. Attitude of Madrasas is not positive towards any change in organisational climate and they wish to remain in the current system. They exert their own influence on the organisational climate.

### **SUGGESTIONS FOR REFORM IN ORGANISATIONAL CLIMATE OF MADRASAS**

Reform in organisational climate of Madrasas is the most pressing desideratum in the educational reconstruction of Muslim India. Goals should be reasonably clear to the system members as well as accepted by them. The goals must also be realistic and appropriate, consistent with the demands of the environment. Communication is relatively distortion free; it should produce a good and prompt clue, which sense the internal strains. Members have the information that they need to function efficiently. Educational workshops are needed for parents and community to establish linkages between Madrasa and communities, and regular monitoring of their children (Gupta, 2012).

Administrator can define the school's educational goals, ensure that instructional practice is directed towards achieving these goals, observe and evaluate teachers, suggest modifications to improve teaching practices, shape their professional development, help solve problems that may arise within the classroom or among teachers and liaise with the community and parents. They are also in a position to provide incentives and motivate teachers to improve the quality of instruction. A common aspect of schools that concern those

who wish to see improvement in educational outcomes is the way that they are organised to meet the critical educational needs of their students. Roles range from those of administrators to those of teachers, whose core responsibilities are for teaching and learning, to those of support staff, who ensure the school is safe and orderly, not to mention providing a host of ancillary or specialised services and administrative support. The most important step for the heads of Madrasas is to have exposure to the field of planning and management; therefore, they need capacity-building programmes (Gupta, 2012). Madrasas should be affiliated to the training institutes of the universities and research projects also should be undertaken on various stages of Madrasa education (Phukan, 2015).

- Motivation feedback and reinforcement should be given to students, teachers and staff of Madrasa.
- The good organisation invents new procedures, moves towards new goals. So, Madrasa principals should encourage new ways of organising effective climate resulting in positive outcomes.
- The organisation should be active and not passive to the environment. It demonstrates some independence from the outside forces.
- The Madrasa organisation should have the ability to bring about corrective changes in it to grow and develop.

- Problem-solving mechanisms should be developed in Madrasas by principals and teachers.
- In Madrasas, the managerial level principal should have the ability to coordinate, mediate and gather sources for teachers, foster loyalty and support of the school staff.

### CONCLUSION

On the basis of the present condition of organisational climate of Madrasa, it can be concluded that there is a dire need of reform in this field. Though the centrally sponsored scheme for providing quality education in Madrasa introduced for the upliftment of the conditions of Madrasas, would contribute in the healthy organisational climate of Madrasas, however, it is the duty of principals and teachers to improve the health of organisational climate of Madrasas. Every component of the Madrasa is responsible to work cooperatively and in a systematic manner, resulting in a good organisational climate. This is necessary because healthy organisational climate helps in achieving the educational goals of Madrasas. Thus, with the better performance Madrasas will also play a prominent role in generating good citizens who will contribute in the development of the nation. Better organisational climate of Madrasas helps in confidence building of students and also enhance their mental capabilities by improving their thinking level. This will enable them to compete in the present era and they can easily be in the mainstream



in the society like students of other modern institutions. Thus by analysing the present condition of Madrasas, we can say that reform in organisational climate of Madrasas is an urgent necessity to meet the emerging needs of Muslim community in India.

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