

Psychological Dimensions of Educational Research in India

GIRISHWAR MISRA

The process of education focuses primarily on the transactions between teacher and learner in various kinds of formal and informal settings. Being a value in itself and viewed as an instrument of personal and societal development education constitutes one of the main concerns of contemporary societies. As a process, education is supposed to bring in transformation in the learner. In the Indian tradition education is geared to well-being and freedom from bondage (*Sa vidya ya vimuktaye*) (see Misra, 1999). It is supposed to proceed through the processes of learning, understanding and contemplation (*savaran, manan, and nididhyasan*). They lead to changes in the meaning of self (*atma gyana*), attainment of skill (*kushalata*), and experience of bliss (*ananda*). Education helps realising the life goals or *Purusharthas*. These age old ideas in one form or the other still reverberate in the Indian mind. Education is supposed to fulfil all the wishes of the people. It is really a tall order for the institutions of education in modern India. Being a country with a colonial legacy, limited resources, large scale illiteracy, and population explosion India has to face tremendous challenges in meeting its needs. The situation has become more complex when it has to function in a new socio-economic and technological scenario dominated by diverse aspirations under the impact of market economy, consumerism, and globalisation.

The psychological dimensions of education operate at many levels encompassing the

individual, group or community as well as the society at large. They are involved in the multidirectional linkages among all the stakeholders, i.e. students, teachers, parents, educational administrators. The psychological dimensions can be viewed from different perspectives. From the disciplinary perspective these dimensions may be looked at in terms of the psychological functions (e.g., cognitive, affective, behavioural, personality) involved in educational transaction at the level of learner. Working within this framework attempts have been made to look into the characteristics of learners, teachers, the quality of teacher-learner interaction, and the psycho-social context of educational transaction to optimize the outcomes of teaching-learning process.

Viewed against this backdrop the goal, design, and actual conduct of education raise a number of issues that demand research attention. This review is limited to the psychological dimensions of education keeping the learner in its primary focus. It tries to understand the state of research in the field by analysing the trends in Indian research published during the last one decade, i.e. 1993 to 2000. For the sake of presentation and thematic analysis the researches reviewed have been organised within a broad framework consisting of person, processes and outcomes. The two important aspects of person include *Health and Well-being*, and *Self and Personality*. The processes include two main categories, i.e. *Affective Processes*

and *Cognitive Processes*. The outcome is primarily the *Academic Achievement*. It may, however, be noted that these aspects of the framework are interrelated and often assume a non-linear multidirectional relationship. Also, they do not exhaust all aspects of educational transaction and concerns. For logistic reasons other aspects are included in other chapters of this Survey.

PAST ANALYSIS OF RESEARCH TRENDS AN OVERVIEW

The researches pertaining to psychological dimensions of education in India are pursued both at the University departments of psychology, education, human development, as well as at the colleges of teacher education and institutes of advanced studies in education. Research efforts in this area have been undertaken from the inception of these institutions in modern India. The field of educational psychology received momentum with the starting of an applied section in psychology department at the University of Calcutta, in 1938, with a view to develop psychological tests and to offer vocational counselling to students (Kumaraiah, 1998). However, research efforts of any noticeable proportion started only during 1950s. This discipline has been quite popular among the researchers and continues to draw considerable attention from the researchers. Various efforts have been made in the past toward dissemination of these researches at different levels. Researchers have attempted to list the titles of dissertations (NCERT, 1966, 1968), titles of research articles (Pareek, 1968), and the contributions of Indian researchers (Krishnan, 1961; Sukhia, Mehrotra and Mehrotra, 1963).

Of the five surveys of research in education (Buch, 1974, 1979, 1987, 1991; NCERT, 1997) completed so far, the first three surveys contained a chapter on "Personality, Learning and Motivation" that had a distinct bearing on educational psychology (Menon and Ojha, 1987; Rao and Mehta, 1974; Rao, Mehta and Rao, 1979).

A vast majority of the studies reviewed in these Surveys were in the area of personality that also covered adjustment problems, a few studies were related to motivation, and some studies were in the area of learning. The last two Surveys were more comprehensive and covered "Research in Psychology of Education" (Nayar, 1997; Panda, 1991). Out of all the studies covered in 30 research areas in the fourth Survey, maximum number of studies (12.4%) were related to psychology of education. These studies focused on themes such as learner characteristics (e.g., personality and self-concept, motivation, intelligence, attitudes, interests and aspirations, values, moral development), correlates of achievement (e.g., cognitive growth, cognitive processes, learning processes), classroom management (e.g., classroom climate, teacher characteristics, teacher behaviour, teacher expectancies), student activism and leadership behaviour, stress management in schools, mental health and adjustment, ecology, ethnicity, developmental issues, and intervention and cross-cultural studies. The fifth survey, in addition to a chapter on psychology of education, also contained separate chapters devoted to the themes of mental health (Broota and Misra, 1997), cognitive processes (Mishra, 1997), social processes (Panda, 1997), motivation (Parameswaran, 1997), and creativity and innovations (Passi, 1997).

Due to the initiatives of the Indian Council of Social Science Research (ICSSR), four surveys of research in psychology (Mitra, 1972; Pandey, 1988, 2000/2001; Pareek, 1980) have also appeared. Of these surveys, the first one contained a chapter on educational psychology (Buch, 1972), and the third survey included a chapter on the social psychology of education (Panda, 1988).

Analysing the status of educational psychology amongst the courses offered in the university departments of psychology, Dalal (1996) noted that, in 1984, it ranked third in popularity after industrial/organisational behaviour and clinical psychology. Raina and Srivastava (1997) analyzed the abstracts of

studies published in *Indian Psychological Abstracts* (1980-1990) and *Indian Psychological Abstracts and Reviews* (1994-95) (N=12,374) with a view to delineating the status of educational psychology research vis-à-vis research in other branches of psychology. Educational psychology contributed 9 per cent of all the studies and was ranked sixth. Within the field of educational psychology, about 12 per cent studies were related to the teaching-learning process, followed by academic achievement (9%), teacher behaviour (8%), guidance/counselling (6%), educational psychology of organisations (5%), cognition/intelligence (5%), psychology of exceptional children (5%), measurement/evaluation (5%), personality (4%), and motivation/attitudes/interests (4%). The problems of youth and students' study habits received very limited attention. Lack of in-depth analysis of the issues, absence of collaborative effort, use of samples of convenience, and frequent use of questionnaire measures were noted as major limitations of the studies (Raina and Srivastava, 1997). In an analysis of researches published in *Indian Educational Review* during 1975-92 Raina, Prasad and Kumar (1993) observed that maximum contributions were in foundation area (33.68%). In the Foundation area most of the contributions relate to psychology of learning (42.10%), followed by human behaviour (32.70%). About 15 and 10 per cent contributions were in developmental psychology and social foundations, respectively.

It is evident from the above observations of past reviewers that the field has grown substantially. It has diversified and has encompassed a variety of social and educational concerns. However, in the course of its expansion the processes of consolidation and innovation have been neglected. Against this backdrop, let us examine the trends in different psychological dimensions of educational research as evident from the research publications during the last one decade of the twentieth century.

HEALTH AND WELL-BEING

Health, not merely as absence of illness but also as a positive state of life is a highly desirable condition for a society. It ensures the quality of life of the people and allows their growth and development. Education helps achieving this goal in several ways. It informs the meaning of health as well as empowers people in shaping their health behaviours. Also, the process of imparting education requires health as a prerequisite for teachers as well as learners.

However, the discourse on "health" operates under the influence of many factors such as media, social traditions and the value attached to lifestyle and different medicinal systems. In the *Fifth Survey of Educational Research*, Broota and Misra (1997) observed that the issues related to mental health in the educational context have three components: students, teachers, and the context of schooling in which instruction is imparted. Among the students, mental health problems may arise due to incompatibility between the demands of educational system and learner characteristics, or between learners' expectations and the educational processes, or both. The stresses and hassles of teachers within and outside the school setting contribute immensely to the teaching-learning process. The various aspects of the functioning of school system (e.g. curriculum load, interaction pattern, school climate, reward and punishment, evaluation system) have many elements that contribute to health related problems. It may be mentioned that these three components do not operate in isolation; rather one affects the other. In this section, the findings of studies related to the three components on mental health in general, and also studies on related issues of loneliness, adjustment, stress, drug addiction, aggression, and parental perception of problems are discussed.

Status of Mental Health- In the category, majority of studies have been conducted on pupils. Mental health problems were reported even in primary schools of Karnataka (Ramaa,

Ashok and Balchandra, 1997). The children exhibited less amount of writing problems than reading problems. In an analysis of mental disorders in children, Reddy (1994) reported six clusters of mental health problems i.e., childhood psychosis (18%), hysterical syndrome (28%), anxiety disorders (18%), conduct disorders (14%), attention deficit hyperactivity syndrome (12%) and scholastic backwardness (13.65%). The data came from 435 cases of school going 5-16 year old children whose both parents were alive. They were registered at NIMHANS Child Guidance Clinic at Bangalore. Gill and Kang (1995) reported that withdrawal, somatic complaints, and aggressive behaviour in pre-school children were related to the quality of home environment. It was noted that large family size was linked with social problems, thought problems and delinquent behaviour in children. Anxiety is often found to be related to maladaptive behaviour pattern. In one study (Agarwala and Bhandari, 1995) nail biters were found to be more anxious on the measure of state trait anxiety.

Among pre-school children aggressiveness, stubbornness and temper tantrums as most prevalent problems (Jyothi and Krishnaswamy, 1996). The mothers often use physical punishment, consoling, and threat to counter the problems faced in children. It is pointed out that the use of ineffective methods reinforces the existing problems. The motivational dispositions of children are closely related to mental health. For instance, Tickoo and Jagadish (1997) found that achievement motivation was positively associated with mental health.

It is alarming to note that the level of mental health among adolescents is declining. Reddy and Nagrathnamma (1994) reported poor mental health among 8-10 Graders. In a similar sample Vani (1995) found that girls had relatively better mental health. The kind of school that children attend also plays important role. The boys attending unisex schools were found to have low level of health than the boys studying in co-educational institutions. However, this difference was not present among girl students. The home or

family experiences also play important role in determining the health status of children. It has been found that home privation is negatively related to mental health among high school students (Jagdish and Yadav, 1999).

Some researchers have tried to relate certain aspects of lifestyle with health. In this context, yoga and physical exercise have received some attention. Also, the practice of yoga was related to decrease in the degree of neuroticism. Aminbhavi (1996) reported that yoga training led to positive attitude towards yoga and enhancement of the status of mental health. Ahmed (1994) observed that the institutionalised female delinquents benefited from playing volleyball in the context of personality development and muscular steadiness.

Teachers and the general school climate play important role in determining the level of mental health of students. Sengupta (1993) found that teachers with direct influence led to low feelings of security, low activity level, and low intelligence than indirect teachers in case of 6-8 Graders. Working on teachers Sharma (1995) observed that psychophysical strain was related to recent life experiences, which, in turn influenced the status of mental health. The stress predisposed teachers to mental disorders. It was observed that the male teachers were more inclined towards mental illness.

Television Viewing has often been considered as a powerful force in shaping the style of life. Some researchers have tried to examine the effects of TV viewing on children's mental health. Thus, Talla (1993) found that young children from the age group 2-8 years preferred fantasy related programmes, cartoon shows, and fighting. TV viewing had significant effect on children's emotions. Agarwal and Amita (2000) noted that TV viewing in higher secondary students was negatively related to study habits. It had negative effect if it goes beyond four hours' duration. Girls liked the company of family members as co-viewers but boys preferred friends. It was also noted that alone TV viewers had poor study habits.

Loneliness – The changing family structure, increasing generation gap, and staying alone

in residential schools for education are contributing to the feeling of loneliness, which is reflective of poor mental health. Upmanyu, S.; Upmanyu, V.V. and Bhardwaj (1994) found that college students experienced moderate level of loneliness. The males with androgynous and masculine sex role orientation were less lonely than those with feminine or undifferentiated characteristics. In case of females there was no significant difference in the degree of loneliness among the students having different types of sex role orientation. Among highly depressed adolescents males experienced significantly higher level of loneliness. Upmanyu, S. and Upmanyu, V.V. (1994) reported that mid-adolescent students were slightly higher in loneliness. The females were lonelier than males and loneliness was related to pessimism. It was recommended that lonely people should be taught coping mechanisms. Ghoshal and Dutta (1995) found that the students studying in Grades 11-12 and residing in school hostels were lonelier than day scholars. The strength of the feeling of loneliness, however, decreased with time. Biswas and De (1993) found higher alienation among ninth grade females. The girls studying in eleventh grade showed low belongingness, meaninglessness, and were less self-rewarding. Biswas and Mandal (1995) noted that female graduate students were more alienated.

These studies suggest that the social set up is increasingly becoming more and more individualistic and pupils and teachers both are becoming vulnerable to the problems related to alienation and loneliness.

Adjustment is often viewed as the degree of fit between the demands from environment and person's capacities to meet those demands successfully. The level of adjustment achieved by a person and the level of mental health attained by a person go hand in hand. Adjustment is found to be a multiply determined phenomenon. Studies show that several factors contribute to the degree of adjustment among students. Educational researchers have shown keen interest in this area.

In recent years attempts have been made to examine the degree of adjustment enjoyed

by the students coming from under-privileged and disadvantaged segments of society such as low SES, Scheduled Caste (SC) and Scheduled Tribe (ST). Ved Prakash (1994) found that at +2 level students from rich school environment were better adjusted, and, also, quality of school environment was positively related to school adjustment. Such children also displayed stronger social values and low level of economic values. Jain (1993) reported that adolescent problems were more frequent in the students coming from low SES background, followed by middle SES students. Verma (1993) reported that students from low SES and urban slum areas experienced greater degree of frustration. Type of school was differentially related to the level of adjustment of students. Kukreti (1994) tried to see the differences in adjustment of students across three types of schools. The preadolescent boys studying in Saraswati Vidya Mandir (SVM) and Government Junior High School (GJHS) showed better social adjustment than Convent School (CS). The CS boys were emotionally better than GJHS. The boys of SVM and CS had greater educational adjustment than the boys of GJHS. Girls studying in SVM were better in all areas of adjustment. In a related study Sharma and Gakhar (1999) examined adjustment among girls from different types of schools (N=625). It was found that the students of Sanatan Dharma, Khalsa/Singh Sabha, DAV/Arya Samaj and Convent Schools scored highest on home, health, social, and school adjustment, respectively. The students of DAV/Arya Samaj schools had the highest overall adjustment, followed by those of Sanatan Dharma and Khalsa/Singh Sabha schools. These findings indicate the role of school climate in determining the pattern of adjustment among students.

The life conditions also influence the degree of adjustment. Thus, prolonged deprivation was negatively related to adjustment in health and college domains in males (Verma and Rammurti, 1998).

Researchers have tried to correlate a host of psychological variables with adjustment. For instance, intelligence has been shown to be moderately related to adjustment in social

and emotional areas (Roychaudhury & Basu, 1998). Prasad and Kumar (1995) studied the tenth grade public school students (aged 15-17 years) and found that social intelligence was positively related to adjustment in both boys and girls. Bhardwaj (1997) noted that extraversion and neuroticism were related to adjustment among adolescents. Trehan (1994) found that among adolescent girls of 9-12 Grades humour had significant positive effect on adjustment. Sharma and Mehta (1993) noted that discordance between chosen subjects of study at higher secondary resulted in poor achievement and adjustment, particularly in the areas of emotional and educational adjustment.

In recent years women are going beyond the four walls of home and getting employed in various kinds of organisations. As a result the number of dual career families has been increasing. It has been reported that the employment status of mothers influences the adjustment level of their children. Barua and Barua (1999) found that the adolescents of working mothers were more adjusted in emotional, social, and educational areas. Interestingly enough, while there was no gender difference in the group of mothers employed and working outside home, in the group of children of non-working mothers girls appeared to be more adjusted than boys (Pandya 1996). Also, non-working mothers' sons had greater anxiety than their daughters. The school adjustment of working mothers' children's studying was better than non-working mothers' children.

The treatment given by parents is another major factor determining the level of adjustment of children. For instance Kakkar (1999) found that parental acceptance-rejection was significantly related to the number of problems faced by adolescents. Rejection from parents' side holds a negative relationship with intellectual ability (Rai and Pandey, 1994). Khokhar and Thakur (1993) observed that the feelings of acceptance and rejection were different in "loving", "permissive" and "hostile restrictive" relationship groups. Sinha and Singh (1995) found that the degree of adjustment of children of aggressive parents was poor.

Stress - Stress, considered in terms of appraisal of life circumstances as threatening and harmful, has gained a lot of research attention from the scholars of different disciplines. The university teachers, particularly females are found to show low degree of role stress than female bank managers (Barkat and Parveen, 1999). Realising the fact that the teaching community faces different kinds of stress Kamau and Gupta (1994) have developed a measure of teachers' mental health. It covers personal well-being, anxiety, disabling symptoms, capacity to establish constructive relationship, and coping with the ordinary demands and stresses of life. Mukhopadhyaya and Kumar (1999) noted that the interaction of achievement motivation and academic pressure yielded impairment to health among ninth graders.

It is well-established that stress has a negative effect on the level of performance. This fact has been reiterated in many studies. The high anxious students have been reported to perform at lower level on anagram solution task (Kibico, 1995). Anxiety and aspiration were negatively related among the college students. The younger generation is quite optimistic. As Verma, Qumra, and Bala (1995) found in a survey study the college going students showed a positive sense of well-being, better future, and positive attitude towards self.

Drug Addiction - In recent years the incidence of drug addiction in students has been increasing. The researchers have undertaken surveys in different parts of India. Ahmad and Sen (1998) found in a sample near Jamia Millia Islamia in Delhi that cigarette/bidi smoking was prevalent in 36% university students, followed by the use of alcohol, cannabis, tranquilizers and sedatives. In this context, it is important to note that the parents of these students were also addicted. This implies the role of home and the significance of role models in the development of maladaptive habits. Suman (1993) noted that at Magadh University, in Bihar, 26.8 per cent rural and 22.7 per cent urban PG students had addiction to intoxicants. Patil (1995) found that in Goa the first encounter with the drug takes place in the school setting. Unawareness

among parents and their low-income make pupils more prone to drug addiction. Some studies indicate close association of personality characteristics with drug addiction. Gunthey and Jain (1997), for instance, noted that drug users were emotionally hostile, irritable, and inconsistent, and possessed a feeling of inferiority, rejection and isolation.

In recent years, **aggression** in school settings is increasingly assuming greater proportion. Aggression or intentional harm doing on various occasions is going up among school going children. This has led to researches to understand the antecedents and correlates of aggression among students. Vig and Nanda (1999) found that urban adolescent boys were more aggressive than rural adolescent boys. They found that n rural areas later born children (30.5%) and in urban areas second born children (42.3%) showed higher level of aggression. The first born in both the cases showed least aggression. Positive affective relationship with parents was negatively related to aggression. Sonawat (1993) noted that aggression towards self and towards other children was very common among kindergarten children. It was less directed towards objects. The quality of parental interaction was related to aggression among children. For example, Nizamuddin and Sakira (1995) noted that 4-5 year old aggressive boys and girls' parents showed less warmth, stimulation, training and play provision.

The family background of children is found to shape the pattern of aggression in children in important ways. Singh and Saxena (1993) observed that children belonging to large and low SES families were more aggressive. The aggressive children exhibited poor interaction with parents. They did not like interference from grandparents. Tomar (1999) showed that in adolescents, with humour being constant, need for aggression was greater in low SES boys. Among the boys belonging to same SES, low humour group had greater need for aggression. Keeping the SES constant aggression was found to be greater among girls.

Parental Perspectives on Problems –

In the contemporary period parents are facing a number of problems in regulating the teaching-learning process. Some researchers have tried to figure out those problems. Thus Kaur (1997) examined the problems faced by parents in primary education in the State of Punjab. She found that the parents of public school children perceived maximum number of problems in the area of teaching staff, administration, and examination. On the other hand, parents of government school students perceived maximum number of problems in the domain of socio-economic and motivational-recreational activities. The low income and low education parents expressed maximum problems in the area of physical facilities. Srivastava and Rana (1996) reported that while socially accepted boys and girls did not differ but the socially rejected boys and girls differed on the dimension of loving. The mothers were more caring than fathers. Srivastava (1995) found that in fifth grade students, excessive love and discipline had positive influence on their achievement in school setting.

On the whole, the challenge of mental health in school setting is increasing. The mental health problems have been reported in student samples at all grades including at primary, secondary and college/university levels. Adolescents show greater tendency for loneliness and aggression. A number of contextual and personal factors such as mothers' employment status, their rearing practices, and type of school, SES, and child's low intelligence are associated with mental health. Teachers have also shown susceptibility to health problems. The teachers in the universities, however, show low level of stress than persons from other professions. The incidence of drug addiction among college students has been increasing. Though adolescents are more aggressive, its prevalence has also been noted in pre-school children. These trends indicate the need of research to understand the mental health problems in detail and to develop interventions to restore and promote health in school settings.

SELF AND PERSONALITY

"Self" and "personality" are very popular concepts that are frequently used by everybody in day-to-day life. In psychological theorisation self is used to refer the existential part of life including "I" and "Me" and personality stands for the enduring characteristics of a person which determine his or her behaviour. Both of these concepts are backed by a variety of theories. The notion of self develops in the socio-cultural context. It is shaped by many factors, such as ecology, gender, parental characteristics, and mode of interaction with environment and the cultural context. In the pursuit of understanding a wide range of behaviours and educationally relevant outcomes educational researchers frequently engage in deploying personality variables as explanatory constructs.

The self appraisal by the students of different ethnic groups and school background has been studied by many researchers. Gyanani (1999) observed that in case of SC students, urbanisation and in general category mothers' education was more important. The general category students had more positive self-concept than those from other social categories. However, positive self concept has also been reported in SC and ST children (Verma and Thakur, 1993). Avanija (1995) noted that the self-concept of Navodaya Vidyalaya students was far better than those from government run schools in Karnataka. Academically talented students had positive self-concept (Sinha, 1992). The self-concept of Girls was more positive than that of boys (Agarwal, 1994; Priscilla and Karunanidhi, 1996). Karunanidhi, Nandhini and Priscilla (1996) found that adolescent girls perceived less number of problems and higher self-esteem. However, self-efficacy was greater among boys (Sehgal, 1999).

Sundarrajan, Sabesan and Ethiraj (1994) reported that parental income was positively related to self-esteem among adolescents. The rural urban difference was not observed. Pandey (1993a, b) found that internally controlled students had higher self-esteem. The students varying in the degree of self-

esteem differed on factor M of 16 PF. Padhi (1993) reported that cognitive preference style was related to the academic self-concept of students. He noted that memory style was negatively and application style was positively related to self-concept in science. The acceptance of self is also influenced the quality of childhood experiences. As Prakash and Vani (1994) found the non-delinquent 13-16 year olds had greater self-acceptance than delinquent adolescent boys.

In an innovative study Samiullah, et al. (1994) used family drawings to study the self-concept of 8-12 year old normal and neglected children. The neglected children put themselves near mother. They drew themselves more in lonely places. No difference was observed in the degree of closeness to father. However, there was greater degree of variation in the drawings of normal students. Tandon (1994) found that self-concept was positively related to creativity and intelligence. However, it was unrelated to their SES. Srivastava (1998) showed that self-concept could be used to predict sociometric positions. In view of the relevance of self-concept to health and well-being attempts are also being taken up to enhance self-concept. For instance, Gupta and Sansanwal (1996) tested a self-concept enhancement programme among female students of home science and arts.

In regard to the study of personality researchers have often been interested in identifying group differences. For instance Mishra (1999) found that on High School Personality Questionnaire (HSPQ) the tribal tenth grade students were more intelligent, sober, conscientious, zestful, self-sufficient, controlled and tense than their SC counterparts. The SC students were reserved; less intelligent, emotionally less stable, inactive, submissive, happy go lucky, having weaker super ego strength, tough minded, insecure, group dependent and tense. In contrast, general category students were outgoing, more intelligent, emotionally stable, overactive, tender minded, reflective, self-assured, relaxed, and had low level of integration. Pandey (1998) has reported that deprived adolescents exhibited negative

personality traits. Geetha and Karunanidhi (1995) noted that Hindu, Muslim and Christian students differed in religious attitude and achievement motivation. However, they had equal degree of locus of control. Keshap (1993) has reported that backward status, gender, and discipline influence motives, attitudes and adjustment in colleges.

Personality grows in the social context. Therefore, it is expected that there will be a close relationship between personality and quality of home environment. Thus, home environment and parent-child relationship were significantly related to personality as assessed on Children's Personality Questionnaire (CPQ) (Rani 1998). Lavakare and Hiswankar (1995) observed that parental intervention in the form of letter for 6-8 year old children had stronger effect than face-to-face discussion, which also helped to reduce misbehaviour. School experiences also play important role in shaping personality. Dhila and Yagnik (1999) noted that Sainik School students were more emotionally stable, active, enthusiastic, optimistic, self-confident, placid, self-disciplined, compulsive and strong emotional control than children from non-sainik schools.

The social background as reflected in SES and other measures has been found to be related to personality dispositions. Singh (1993) found that high SES and male students were emotionally less mature. They were characterized by emotional instability, emotional regression, personality disintegration, and lack of independence. Jha (1999) found that in college students Machiavellianism was positively related to dominance, emotional stability and ego strength and inversely related to responsibility and friendliness. The educational stream also plays an important role. Keeping the problems of distance education in view Nair (1999) noted that general anxiety and examination anxiety was greater in correspondence course students. Asthana (1993) has reported that girl students studying music scored higher on C, H, Q, and I factors of 16 PF Questionnaire. The scores also varied with their SES. Gupta (1995) reported that introverted young adults

performed at a higher level than extraverts and ambiverts on Cattell's CFT.

It is evident that the researchers have usually confined themselves to the variables and tools available in the western tradition. The Indian perspective is entirely missing. The notion of self is culturally constructed and there is need to examine the functioning of self in the Indian context. Also, the efforts generally neglect the important issues related to the relationship between self and personality and schooling process.

COGNITIVE PROCESSES

Broadly speaking the term "cognition" subsumes all the processes by which the sensory information is transformed, reduced, elaborated, stored, recovered, and used. It is intuitively clear that all these processes are relevant to the organisation of any teaching-learning situation in the formal as well as informal settings. They encompass a wide range of processes from simple perceptual to more complex ones such as thinking and reasoning, and include a host of specific functions such as recognition, labeling, analysis, categorisation, problem-solving, planning, and decision-making. People employ these processes to comprehend their environment and solve problems. Included in this section are researches conducted on memory, problem-solving, cognitive style, developmental studies, and Piagetian studies.

Memory involves the processes of encoding, storing and retrieving information. Memory helps not only in getting benefited from past experiences but contributes in shaping one's identity. It is a key process for effective learning in everyday life as well as in the school setting. The use of learning and understanding on various occasions depends upon the ability to remember, retain and utilize various types of information.

The researchers have tried to address different facets of memory. Some of them have tried to focus on biological and physiological factors involved in memory. Saroop, Nanda, and Kang (1999) found no sex difference in

memory at younger age but locale related differences were present. Sumathy (1994) has reported that right hemispheric dominant students performed at higher level in solving problems demanding single principle skill divergent thinking. Singh, Panda and Upmanyu (1998) have shown that forgetting is greater for the associates of the emotional words at both short and long intervals. Vinod and Kadlaskar (1995) found that in eighth standard gifted girls showed significantly high right hemispheric abilities whereas girls from unselected schools showed preference for left hemispheric abilities.

Memory has also been linked with other psychological processes in samples drawn from different age groups. For example, Jyotsna (1997) noted that among adolescents memory was related to non-verbal intelligence. Bhatnagar (1993) showed that in reversal learning adult women learned rapidly than girls. Singh (1992) found that retention was better under self-referent condition. Patil (1995) found that there was memory improvement with introduction of mechanical sound of 400 hz -406 hz sound on trans cutaneous electro neural stimulator in 7-10 grade children. Baroun and Sen (1996) noted that introverts were more accurate in judgement of short time intervals. However, it depended on the time of testing also. Thus, in evening extraverts did better. The introverts were more efficient in sensory processes and decision-making than extraverts and ambiverts. The long intervals, however, did not show any difference.

The socio-cultural context is quite important in shaping cognitive development. Mayuri and Bilquis (1999) found that in young rural children from 6-12 years' age retention, concentration were significantly positively related to age, weight, nutritional status parental education and occupation. Comparing memory of schooled and unschooled children Mishra, Shukla, and Mishra (1998) noted significant developmental changes and positive effects of schooling on memory. The authors indicated significant role of task characteristics in memory assessment.

Problem-solving involves application of thinking and reasoning to various kinds of problems encountered in life. The study of this area has been a neglected domain of study. As a result there has been limited number of studies on this topic. Mathew and Bhogle (1995) noted that confidence in problem-solving, low neuroticism, and left cerebral dominance promoted efficient problem-solving. Ramalingam (1995) found that school type, gender and subject of study influenced decision-making. However, Sunder (1995) suggested that males and females were similar in decision-making but differed in information seeking. Amalor and Suresh (1994) observed that achievement motivation was related to vigilant decision-making style. Sarah et al., (1995) noted that in young adults vigilant decision-making was positively related to rational and intuitive thinking.

Cognitive Style refers to the ways in which people interact with their environment. They represent the characteristic ways of dealing with the demands of our external world. This theme has drawn considerable attention of researchers. In particular the field dependent – independent cognitive style has been frequently investigated. Devi (1996, 1997) found that private school children tended to be more field independent and reflective than quasi government school children. Also, the field dependent children were more impulsive while field independent children were more reflective. Similarly, academic achievement was higher among field independent ninth grade children (Ganihar, 1993). Jangaiah (1998) showed positive influences of family environment on EFT and writing ability performance. Verma (1994) found that extraverts were less independent than introvert. The stable students were more field independent than neurotic students. Verma and Gupta (1996) reported that urban school children use individualistic style while the rural ones rural prefer non-individualistic style. Verma and Sheikh (1996) found that in grade 10 students field dependence-independence dimension was positively related to intelligence and super ego

strength on 16 PF Test. It was also related to needs like abasement, nurturance and endurance. It had negative relationship with exhibition, succorance and aggression needs. Sheikh (1995) found that field dependent and field independent adolescents differed in autonomy and affiliation. Field independent females were more achievement-oriented.

Cognitive Development – The nature and course of cognitive development is one of the important concerns of researchers in educational settings. The researchers have identified various factors that influence the pattern of cognitive development among children. Shukla (1995) found that during younger age children's cognitive development was influenced by experiential deprivation, and reward. Supplementary nutrition had positive effect on cognitive development of the deficient group (Sharma and Sharma, 1995). Use of story-telling, discussion and narration strategies is helpful in promoting cognitive development in younger children (Godbole, 1994). High competent group of children score higher in work ethic and firmness of parental authority (Padhi and Dash, 1994).

Few studies have examined effects of environmental conditions and social context on cognitive development. For example, Devi (1995) showed that colour naming and colour recognition increased with age between 3-5 years. The children performed better on primary colours than secondary colours. Saxena (1998) found that short term competency-based training helped students of grade 2 to understand the difference between cardinal and ordinal numbers. Kauser and Mahjabeen (1996) have reported that maternal employment had no effect on sequential touching of objects, stimuli and object grouping in infants. Time spent on attending and over all manipulation did show its effect. These abilities also increased with age. Pandey (1996) did not find any significant effect of centre-based stimulation on cognitive abilities of pre-schoolers. Oral expression and action picture reading ability did vary.

Upadhyaya, Seth, Kapoor and Soni (1996) found that the entry level in numeracy at grade 1 was poor in Delhi. However, reading

readiness and vocabulary of grade 1 children were better. Joman (1996) has shown positive effect of creative learning environment on learning and performance, responsibility taking, and school attendance. Imagery exercises have positive effect on creativity. Pre-school experience helped them. Social maturity and mother's education were more important variables. Similar results are reported (Ved Prakash and Panda, 1996), in those states, where District Primary Education Programme (DPEP) is being implemented. Mahapatra (1996) found sex difference in favour of boys in grades 3 and 4 on science reasoning task. There were within age differences in performance.

Piagetian Studies of cognitive development have drawn paramount interest of researchers in India. Pachaury (1993a) noted that in Gond children, except class inclusion, all other tasks of conservation were mastered by the age of seven years. Boys performed at lower level than girls. Pachaury (1994a) studied development of the spatial coordinate system. On Mountain and Road tasks the adolescents were found to operate at pre-operational level. In another study, verbal transitive inference was studied in children from 6 to 10 grades. Significant change took place in grade 8. Finally, in the 9 and 10 grades the transitive inference was crystallized. Investigating the role of content domain (Pachaury, 1997), it was found that the students of grades 7 and 8 deduced significantly more transitive inferences on biology content than on either chemistry or physics content. By the time the students reach grades 9 and 10 the type of content did not pose any difficulty in deducing the inferences. In a developmental study it was noted that 6-7 year old children had difficulty in drawing Euclidian figures as compared to 8 year olds (Pachaury, 1993b). The concept of death was also explored in disadvantaged primary school children. A shift from social to physiological explanation was seen at grade 5 (Pachaury, 1994b). Pachaury (1996) noted that 7 grade students had delayed development of verbal logical thinking in different ethnic groups. The study of

categorisation also showed a similar pattern (Pachaury, 1997).

Agrawal (1995) reported that in 4-7 year olds children training in conservation improved their performance. In a subsequent study (Agarwal, 1997) it was found that in 4-11 year olds conservation of continuous quantities developed through the same stage. The students studying through Hindi medium lagged behind their English medium counterparts in developing comprehension.

On the whole, the studies evince widespread interest among the researchers. Studies have documented relationship between social class, mothers' education, SES, family environment, etc., on the one hand, and intellectual ability, on the other. Differences in the performance of high and low intelligent persons have been documented. Piagetian studies demonstrate shift in the age of the onset of stages of cognitive development in the Indian context. Generally, Indian children take more time to complete a stage and begin a new one than mentioned by Piaget. The gender and social class differences in creativity have been demonstrated. Also, studies show differences in the personality of the creative and non-creative people. The studies on hemispheric dominance establish superiority of right hemisphere in problem-solving.

INTELLIGENCE

Since long the construct of intelligence has fascinated the researchers of diverse interests. As a critical individual difference variable it has been assigned great theoretical and practical importance. The Indian researchers have also shown interest in assessing intelligence and relating it to many other variables and processes.

A sizable number of studies have attempted to examine the relationship between intelligence and various background variables. Bilquis and Umadevi (1999), using RPM (Standard) in Andhra Pradesh, found that social class; mother's education, SES, and family environment were positively related to intellectual ability among the rural adolescents. Ordinal position was negatively

related to the measured level of intelligence. Behera (1993b) observed that urban students of Navodaya Vidyalayas scored significantly higher on verbal intelligence, but not on non-verbal measure of intelligence. Mukerji and Sharma (1993) reported that breast-feeding, SES, and literacy were positively related to mental development. Monica (1997) showed that cognitive ability, memory and Piagetian ability improved with grade in primary schools.

Some attempts have been made to link the psychometric approach to Piagetian theory. For instance, Rajagopalan (1996) has reported that at the formal operational level IQ and SES predicted in path analysis the level of formal operational thinking. Kharkwal (1993) reported that in 11-15 year group high IQ bright students scored higher on the measure of formal operational thought.

Attempts have been made to document performance differences of children varying in the level of intelligence. Mohanraj (1999) found that children with high IQ tended to read fiction as well as non-fiction books. Low IQ children were reluctant to try out new authors or different types of fiction books. The academically gifted are found to be very choosy in their hobbies. They came from all kinds of social backgrounds. The scholastic achievement of government school children was lower than those from the aided and unaided schools. Sharma (1993) noted that mental ability influenced projective performance on Loenfield Mosaic Test among junior high school.

Some studies have looked at the effects of training on intelligence test performance. For instance, Joshi and Patra (1993) found that VIII grade students show significant improvement on general mental ability tests of Jalota and Kapoor due to training on concept attainment model.

Theoretical innovations in this area have been very limited. Srivastava, Tripathi and Misra (1995, 1996) have presented a theoretical analysis of Indian and western concepts of Intelligence. They have examined the status of intelligence testing in India and have identified the problems. In their

subsequent work they have undertaken an empirical analysis of the views or perspectives of people about intelligence. Using textual analysis, folk wisdom (Srivastava and Misra, 1999a) and perspectives of common man Srivastava and Misra (1999b) have ventured at developing an indigenous perspective on intelligence which focuses on a multifaceted concept of intelligence involving cognitive, social, and emotional and action related components.

Thus, it is evident that majority of the studies have been concerned with identifying group differences in intelligence test performance and relating them to certain dispositions or contextual variables. Looking at the theoretical and empirical work in this field it is important that concerted effort should be undertaken to go beyond the geographical metaphor of intelligence and looking for the multifactorial intellectual abilities and evolve the strategies to understand the processes in a culturally contextualised manner.

CREATIVITY

Creativity is one of the most fascinating areas of research. The invention of new and useful products in art, science and literature are the achievements that are highly valued in society. Educational researchers have taken keen interest in this field of inquiry. It is evident from the fact that maximum number of studies during the period under review has been conducted in this area. These studies can be broadly grouped into three sub-categories: (a) demographic and personality correlates of creativity, (b) characteristics of creative people, and (c) interventions for the enhancement of creativity. The relevant studies and the salient findings are described below.

Gender – The results about gender differences are inconclusive. There are some studies (e.g., Behera, 1993a; Kapoor, 1996; Verma, 1993, Kauser and Jabeen, 1995), which do not report any difference in the creativity of boys and girls. On the other hand many studies have reported the superiority of boys over girls on the measures of creativity. Thus, Agarwal and Agarwal (1999) reported

that boys are more creative than girls. Hussain and Sinha (1995) found that boys outperform girls on verbal measures of creativity. On non-verbal measures, boys perform better than girls particularly on originality. The results of the study conducted by Rajyalakshmi (1996) contradict the findings of the earlier reported study. She found that boys scored higher on flexibility, but not on fluency and originality.

Social Background – Gupta (1995) brought out social class differences in creativity. He reported that urban and upper caste boys were more creative. Studies (e.g., Chaurasia, 1993 a, b; Kaur and Kharb, 1993; Pandey and Kharkwal, 1993) have reported positive relationship between creativity and SES. However, Kaile and Punia (1994) did not find any close association of SES with creativity. The quality of family climate has been shown to be positively related to creative personality (Verma, 1997a).

Personality and Self – Efforts have been made to relate creativity with personality variables, such as, adjustment, self-confidence, locus of control, security-insecurity, and fatalism. For instance, Sudhir and Khiangte (1997) noted that high creative girls from urban areas turned out to be more intelligent, emotionally stable, conscientious and apprehensive than the high creative girls from rural background. The rural high creative boys were outgoing, conscientious, tender minded and self-sufficient as against their reserved, group dependent and expedient urban counterparts.

Creativity was positively related to security-insecurity (Ahmed, 1992), and negatively with fatalism (Ahmed, 1992). It has also been reported that high academic achievers in schools are not so creative in comparison to the medium achievers (Mondol, 1999).

Some researchers have shown interest in creative talent in science. For instance, Raju (1996) reported a low positive relationship between creativity in science and social adjustment among 9th grade students. The students with high self-confidence were high on scientific creativity (Sansanwal and Sharma, 1993).

Bhawalkar (1992) found that self-confidence, tolerance of ambiguity, risk taking, low dependence, intelligence, scientific attitude, and academic motivation, achievement in mathematics and science, predicted creativity. Khan (1996) studied male children ($n=1000$) and found that gifted achievers were optimistic, identified with a successful authority, preferred intrinsic rewards, and came from high SES families. Their personality was characterized by super ego strength, conscientious, persistent, moralistic, emotionally disciplined, dominated by sense of duties and rules. The highly creative students are more warm hearted, intelligent, emotionally stable, excitable, enthusiastic, and self-controlled (Chaturvedi, 1997).

Cognitive Correlates – Mattoo (1994) has compared high and low creative students of grade 10th. The results showed that the high creative students had greater interest in fine arts, literary, scientific, technical, and household areas. They were socially maladjusted, emotionally unstable, and academically bright. Rajagopalan (1998) observed that creative talent was related to both convergent and divergent thinking. However, divergent thinking had greater contribution toward aesthetic and scientific creativity. In students with high (above 120) IQ, achievement was related to convergent and divergent thinking.

The studies suggest that intelligence is positively related to creativity (Agarwal and Agarwal, 1999). In particular fluency and flexibility have been studied. Pradhan, Akhani, and Janbandhu (1997) found a positive relationship of intelligence with verbal fluency among girls studying in grades 6 to 8. After examining secondary school students in Kerala, Raj (1994) reported that flexibility was related to verbal and non-verbal intelligence.

Fostering the Creative Talent – Some researchers have attempted to bring improvement in the creative performance of individuals. Sharma (1995) developed instructional materials to enhance creativity among grade 5 students. The instructional material with flexible time was more

appropriate for high intelligent group. Singh (1993) has reported the use of reinforcement for promoting creativity.

Gulati (1995) has developed a training programme, which successfully enhanced flexibility and originality components of creativity in grade 5 children. It has been reported that exposure to computer facilitates the creative potential (Bansal and Agarwal, 1997). These exercises allow expression of latent thoughts, imaginations, and emotions (Mehrotra, 1995).

Thus, it is clear that creativity as a disposition has been linked with a number of other dispositions and educationally relevant outcomes. The focus has largely been on the ways now high and low creative pupils differ. This does help in some respect but it does not complete the map of creativity. There is need to uncover the diversity in creative manifestations as well as the processes necessary in nurturing creativity. It is gratifying to observe interest in developing interventions to nurture creativity in children. The Indian educational system has to evolve to encompass the needs of talented students (see for details Raina, 1996). So far, teaching and evaluation processes have been focusing more on reproduction and transfer of information. It is hoped that future research shall focus more on the diversity in creativity and the processes involved in organising teaching-learning as a creative process.

MOTIVATION

Organising teaching-learning is a goal directed process in which motivation plays a key role. The explanations of motivational processes are varied and take into account the biological needs, social motives, and a host of cultural and contextual factors that shape human goals and strivings. Under the broad category of motivation we find many studies related to attribution, altruism, motives, and interest, etc.

Attribution involves perception of causality. In recent years this perspective has emerged as an important approach to motivation. A number of investigators have

tried to understand the pattern of attribution in different groups of students. Exploring the pattern of causal attribution in children in the age group of 8-10 years Agarwal (1997) found that, in general, external causes were more attributed than the internal ones. Use of internal causes increased with age. The low deprived children used more internal causes. Internally controlled children used larger number of stable causes. Sahoo and Batra (1997) found that boys used greater stability attributions for positive outcomes and girls for negative outcomes. Boys however, used more global attribution for negative events. Mastery-oriented students showed greater stability attribution for positive events and greater domain specific self-efficacy than did helpless students. Shukla (1994) found that females attributed more to self-responsibility, effort, memory, motivation and interest than males. Verma (1993) observed that men attributed lateness more to internal and women to external factors. Misra (1997) found that urban students had positive attitude towards parents, and rural students had positive attitude toward their teachers. The attributions involved a mix of internal and external factors.

Altruism and Moral Development -

Tyagi (1999) found that girls were more altruistic than boys and intelligence was positively related to altruism. Jha (1999) observed that well-being and self-actualisation were positively related to altruism in the young adult group. The benefactors are attributed with needs of achievement, deference, order, affiliation, succor and nurturance and low needs for aggression, exhibition, autonomy and dominance (Jha and Prasad, 1996). Sharma (1996) has noted that children with high level of moral judgement and older ones were more altruistic in a game setting. Dhanda and Nath (1994) have shown that irrespective of SES 9-10 graders' attitude towards life and humanity was not favourable. SES was not related to these attitudes.

Some researchers have tried to use interventions for promoting altruistic tendencies in children. Modeling and cognitive restructuring are found to help in developing

altruism, particularly in the age group of 10-12 years and 17-19 years (Aggarwal & Jain, 1993). However, the schools do little in this and related matters. As Banu (1996) found the schools of Hyderabad did neither organize religious festivals, nor showed much interest in national integration. Also, leisure time activities were not given due importance.

Motives and Aspirations - Taluja and Zanuddin (1993) found that n-autonomy was predicted more by strict, intrusive parenting, disapproving, and communicable. Strict mothers had greater affiliation. Also, children of working mothers were high on autonomy and achievement and low in n-affiliation. Girls are found to be more approval oriented than boys (Reddemma & Vani, 1995). Singh and Tripathi (1994) observed that externals performed better under reward conditions. Kaur and Goyal (1997) have reported that in 10th grade girls SES and parents' education were positively related to student aspiration. Ajitha (1998) found that goal perception was related to delayed gratification. In a related study Singh (1993) has noted that SES was related to the emotional maturity of students.

Students' **interest** has received some attention from the researchers. Razick and Zakariah (1995) found that adolescents' interests varied with age, gender and SES. The high SES students were more interested in social activities and music, while middle SES students in passive play. Chunawala and Pradhan (1993) found that in grade 7 students' liking of subjects, feeling that a subject is easy or not and the new idea generated by the subject were highly correlated.

Adolescent Perception - Aneja and Kaur (1996) have reported that in the age group of college students expressed attitudes that showed consensus and difference. Interestingly the similarity was greater in areas of norms such as check on talking back to parents, love and respect for parents, non fault finding, elder siblings' sacrifice for younger siblings. On the other hand, imparting sex education, parent's respect for children, parents' dissatisfaction with achievements of children were areas in which there were many

differences. Kang, Sibia and Gill (1995) reported that girls shared a more positive relationship with their parents than boys. The parents showed greater tolerance towards their daughters than sons. High achieving girls were encouraged more than high achieving boys. The parents were less democratic and less hostile towards high achieving boys as compared to high achieving girls. In case of low achievers parents were less accepting towards male children. Adjustment to schoolwork was of great concern for boys. The life conditions play important role in determining the school climate. For instance, prolonged deprivation has been found to be negatively related to the perception of socio emotional climate of schools amongst 10th grade students (Singh, Sinha, & Roy, 1995).

On the whole, the researches in the area of motivation have tried more in deciphering motivation, in its various facets, as a dependent variable and have linked it to various personal and contextual factors. In contrast, there are fewer studies about understanding the mechanisms that promote motivation. It is desirable that more attention is paid to delineate the motivational processes that may be deployed to encourage teaching-learning process.

ACADEMIC ACHIEVEMENT

The study of academic achievement, one of the important end products of academic endeavours, is a very popular topic of research. In addition to total achievement, achievement in subject areas such as languages, science, mathematics, social studies, etc. has also been examined by the researchers. In this section, review of studies in the field of academic achievement has been organised in terms of socio-personal correlates of achievement, cognitive and affective dimensions of achievement, and intervention studies to facilitate achievement.

Socio-personal Factors

Social Class and related Factors – A number of studies have examined the

relationship of academic achievement with various indicators of social class. In younger children nutritional status and home environment are found to be positively related to educational achievement. For instance Agarwal and Kapoor (1998) noted that at primary level parents giving direction and guidance at appropriate time contributes to children's performance in school. Asthana (1993) reported that adjustment with examination, and curriculum, SES, parental encouragement, family atmosphere, lack of facility, poverty, and unrealistic aspirations were prominent among the dropouts at the senior basic level. Singh (1996) found that high SES was positively related with achievement. The achievement of students belonging to SC/ ST groups and girls was low. Also, the achievement of students in government schools was poor. Thakur (1993) reported that in Abohar city primary teachers reported that wastage in schooling was contributed by school environment (43.5%) and home environment (56.5 %). Gupta, Mukerjee and Chatterjee (1993) studied 10th grade in West Bengal (N=1453) and found that intelligence and (lack of) prolonged deprivation contributed most towards academic achievement. Similarly, Guha, Mitra, and Roy (1995) observed that the achievement of primary school children hailing from privileged background was better.

Parental Characteristics – The educational status of parents significantly influences pupil's academic achievement. Laxmi (1997) found that children belonging to more educated parents were academically more motivated. Parental responsiveness seems to be the most important factor related to achievement among adolescents. Haseen (1999) found that social class, parent-child interaction, and dependency behaviour had significant effect on academic achievement. The SES of parents has been found to be positively related to academic achievement of students in arts, science and commerce (Mahmood, 1998; Mohan, 1998).

Akhani et al., (1999) showed that maternal employment had no interfering effect on achievement. Guha, et al., (1995) observed

mother's education had a positive effect. Chaturvedi (1996) found that maternal role perception was related to achievement. Also, the adolescents of professional and non-professional mothers differed in aspiration, maternal role perception, and achievement. Adolescents getting parental discipline with a focus on induction have been reported to have higher level of academic achievement.

Type of School – Verghese (1995) rated schools in terms of the facilities available in the school and found that achievement scores increased with increase in the degree of the facility available. Scores in Hindi and Mathematics were significantly different in least and most facility schools. In a related study of classrooms of primary schools Katara and Bhardwaj (1999) found that teacher effectiveness was greater in the classrooms that were well-equipped with the facilities. Mohan (1998) has reported that achievement was highest in Navodaya Vidyalayas, followed by unaided schools. The government schools did not represent any among the high academic achiever category in Kottayam. Verma (1995) showed that in grade 9 rural students scored higher than urban students though they had lower level of aspiration and low IQ. Ecological deprivation has been found to be negatively related to achievement (Pal and Misra, 1992). Bindu (1999) noted that the DPEP pupils were significantly better than the non-DPEP pupils in language and environmental studies. Panda et al., (1995) found that achievement of students and school climate in central and public schools were better than government-aided and unaided schools in Orissa. In an ethnographic study of an effective slum school Nariman (1997) noted that autonomy and co-curricular activities were important. Kumudhavalli (1999), in central suburb of Mumbai, found that English medium primary school children came from higher income and education group. The aggregate examination marks were similar but English medium students scored higher in mathematics while Gujarati medium scored higher in environmental science. Scholastic achievement is a joint function of a number of factors in which teacher characteristics and school

climate play important role. As Gyanani (1998) found the classroom climate, teacher's leadership and expectations significantly influenced the scholastic achievement of students.

Chakrabarti (1998) has reported that introduction of music and sports at primary level facilitate children's, learning and talent as reported by parents, teachers and students. Senapaty (1996) found that urban children were in a more advantageous position as compared to their rural and slum counterparts on Piagetian task. Singh and Saxena (1995) analysed achievement difference across states. It was noted that teacher activity was positively related to math and language achievement. Murlidharan and Srivastava (1995) found that children from families associated with temple area in Karnataka did better on cognitive measures than non-temple religious and non-temple children among grades 1 and 4. Singh et al., (1995) found effect of school policies, teacher training, and Operation Blackboard had positive effect. Verma, Singh, Mishra and Shukla (1993) have reported a survey of rural elementary schools in Faridabad and Sultanpur districts and found that on physical, socio-cultural and intellectual dimensions the children suffered a lot of deprivation.

Achievement of Disadvantaged Groups – Ambasht and Rath (1995) reported that the major cause of low enrolment and retention of tribal children in schools was absence of tribal life and culture, and non-use of their dialect in the teaching-learning process. Kathuriya and Ahluwalia (1994) found that prolonged deprivation had adverse effect on achievement of the deprived pupils. This is partly because highly deprived students perceived the socio-emotional climate in the school negatively (Sinha and Sharma, 1995). It has been reported that general caste students were more adjusted than SC and ST students (Chouhan and Murthy, 1994). Further, male students and high achievers were better adjusted. Ujjwalarani (1993) found that the students having low level of disadvantage were high on more approval motive.

Cognitive Factors

Creativity and Cognitive Style Nanda and Pal (1994) found that field independence and creativity had strong positive effect in the eighth grade children. Padhi's (1995) finding also supports the role of creativity among adolescents. Balasubramanium (1993) has reported that in grade 12 children intelligence was positively related to English achievement. Medium of instruction and locality of residence influenced the level of achievement. Kaur and Bawa (1995) reported that verbal intelligence was positively related to achievement in Hindi, Punjabi and English and non-verbal intelligence was positively related to achievement in subjects like science, math and social studies. Verma (1996c) noted that intellectual ability and test anxiety influenced achievement in grade 10. High anxiety and high ability students did poorly on math and general science. Sharma, Bhargava and Sinha (1993) found that science/mathematics students had greater planning and problem-solving ability than commerce students.

Learning Style – Goel (1996a) found that in the first grade children show better performance in arithmetic with actual manipulation of concrete objects than representation and abstract levels. Lakshmi (1996) found that at primary grade the children who took part in activity-based learning in experimental schools showed higher level of achievement in many areas including language, number and cognition. Dubey and Joshi (1993) noted that self-learning strategy was superior for training of nursery teachers.

As usual, attempts have been made to correlate learning style with bio-social variables. Verma and Gupta (1996) found that high achievement motivated pupils prefer reflective orientation. Also, the individualistic style is more prevalent among urban while non-individualistic style dominates among rural students.

The studies on gifted children have revealed certain interesting trends. Gifted high school students preferred flexible, visual, long attention span, motivation centred, and

environment centred learning style (Sangeeta, 1997; Verma, 1997b) In an interesting study Verma (1995) identified that the rural women use three kinds of creativity styles, i.e., *environmental/behavioural control, superstition, use of senses*. Singhal and Liegise (1994) have observed that, in Nagaland, 10th grade rural-urban students differed in verbal flexibility and verbal fluency. The differences were also observed in government and private schools.

Some researchers have tried out certain interventions for improvement in learning and achievement. Pahuja (1992) found that in eighth graders peer tutoring in geography had positive effect. Kumar and Susumu (1996) found that in fifth grade cooperative learning-based approach in the meta cognitive knowledge was more than the conventional approach of teaching-learning. Kumar (1997, 1998) noted that learning style had significant effect on achievement in biology of secondary students with significantly greater achievement in favour of deep than surface approach. Lata (1992) analysed the role of verbal aptitude and found that word fluency and verbal relations predicted achievement in science. Verbal relations predicted achievement in social studies and languages. Srivastava (1993) found that BPT-13 predicted performance in science and mathematics.

Affective and Behavioural Factors

Attitude – Bhattacharya (1997) found that in higher secondary students' scientific attitude contributed 67 per cent variance in their academic achievement. The attitude varied across subjects. The mastery learning strategy enhanced the attitude towards mathematics (Budhdev, 1996). Thiagrajan, Krishnan and Jeylatha (1995) found that teaching competency as perceived by boys in higher secondary was related to achievement. Sarojini (1993) noted that environmental education through participatory method contributed positively to students' attitude.

Study Habits – Comparing good and poor study habits, a number of studies have shown

that those with better study habits score well in examination than their counterparts. Verma and Kumar (1999) found that study habits were positively related to achievement in tenth grade examination in Delhi (N=1000). Good study habits are positively related to achievement (Patel, 1996). Oza (1995) noted that a positive learning orientation and effective learning strategies facilitate academic achievement. As expected, talented students evince better study habits (Sinha, 1992).

Study habits have also been examined in conjunction with personality variables. Verma (1996b) found that locus of control and study habits significantly influenced the achievement of students in tenth grade. In another study (Verma, 1996a) test anxiety and study habits yielded significant effect on achievement of tenth grade students. As expected, academic anxiety was negatively related to scholastic achievement. The high and low academic motivation adolescents differed in study habits, but not average and low motivation groups (Verma, Sheikh and Sangita, 1997). High-test anxiety and frustration often results in poor study habits and low level of academic achievement (Dangwal, 2000).

Type of school also influences the pattern of study habits. Nagappa, Shahapur and Venkataiah (1995) found that the number of students with good study habits is going down. The private school students were better than government schools. Specific aspects of study habits have also been investigated. For example, achievement in ninth grade biology students was explained by deep/surface approach to study (Akhani et al. 1999). Arya (2000) experimentally investigated the effect of teaching strategy on learning economics in eleventh grade children. It was found that concept attainment model was effective and students' personality had no appreciable effect on their achievement.

Some attempts have been made to improve the study habits of students. Shinde (1993) found that in ninth grade students training in study habits helped to enhance academic achievement. Singh and Broota (1995) reported that study skill counselling helped students who had test anxiety.

Personality – In a study of achievement in history, Krishnamurthy (1998) found that academic achievement motivation was a vital factor while interest and attitude were negligible. The achievement motivation of working mothers' sons was higher than non-working mothers' sons (Pandya, 1996). However, Ayishabi and Kuruvilla (1998) reported contrasting results.

Minnalkodo (1997) found that amongst students studying in eleventh grade, achievement motivation, academic achievement, and self-concept were positively related. Dangwal (2000) noted that obstacle dominance was negatively and ego defense was positively related to academic achievement. In girls the relationships were non-significant. Panchanatham, Suresh and Amalor (1998) found that achievement motivation was positively related to vigilant decisions. In tenth grade, three factors of HSPQ i.e., intelligence, conscientiousness and self-sufficiency were positively related to achievement and non-achievement and non-aggression. (Verma and Sheikh, 1996). Krishnamurthy (1998) found that test anxiety is not significantly related to achievement in history. Social extraversion and achievement, and personal integration were related to achievement in history. Balasubramanium (1993) found that higher level of achievement value led to better achievement in English. Anxiety and achievement negatively related among girls. The academic achievement at younger age predicts achievement at older age level. For instance has reported that academic achievement during eighth grade predicted achievement in high school (Srivastava, 1996).

INTERVENTION STUDIES

Since academic achievement happens to be one of the core determinants of career planning and success in vocational life the parents and teachers are quite concerned about the level of academic achievement. This has led to a number of studies to improve the level of academic achievement among students. Nagaraju (1995) has reported positive effect of intervention for MIL achievement in

language. Competency-based instruction helps in achieving MLL competencies in grade 4 children (Panda, 1996).

Chakrabarti (1996) examined the non-detention policy based on data from 1974 to 1988 and noted that in South 24 Pargana block of West Bengal the dropout rate was higher in grade 3 and in girls. He concluded that the effects were not very positive. He noted that mere declaration of policy is not enough to yield results. Dave (1995) evaluated Project Primary Education Curriculum Renewal. He found higher achievement of pupils attending the project. Rao and Kanth (1997) found that teachers' interaction with pupils, parents and elders in the community had positive effect on enrolment and attendance in 8 schools of Ranga Reddy district of Andhra Pradesh. There have been some studies on course specific requirements. For instance, Pandey (1996) developed an achievement test in commerce for ninth grade students. It was noted that in order to be successful the commerce students must have general mathematical ability, commercial cognition, and proficiency in language for general comprehension of a subject. Similarly, Goel and Mishra (1993) found that in B. Ed. course language ability, teaching aptitude, general mental ability and social sensitivity predicted educational competency of these students.

Meghani (2000) found that use of Socratic questioning, case study and experiential teaching facilitated critical thinking. The study used eleventh grade psychology textbook. The innovative teaching-learning strategy was able to facilitate independent thinking, ability to evaluate, compare and contrast analogies, and think dialectically. Non-tribal teachers felt more empowered than tribal teachers. Pradhan and Mistry (1996) found that good and poor result schools differed in mastery of teachers, pre-teaching activities, and child-centred teaching. Jain (1997), Kaur (1997) and Kamat (1997) have shown impact of child-centred intervention in teaching -learning in Ajmer, Mumbai and Baroda. Rao (1997) reported positive contribution of Adilabad agency experiment in activity method. Goel (1996b)

has remedial teaching to improve the performance of children in arithmetic.

Various kinds of state intervention had diverse effects in various states (Gupta and Gupta, 1995). It was found that the scheme of Operation Blackboard had contributed significantly towards improving student achievement in the States of Haryana, Karnataka, and Madhya Pradesh. Rajkutty (1995) examined the effectiveness of the scheme of Operation Blackboard in Tamil Nadu, Andhra Pradesh, and Madhya Pradesh and found that differences did exist in quality of teaching-learning across states. Ray (1996) found that dropout rate was negatively correlated with the quality of classroom transaction. Barpanda (1997) examined teacher empowerment in tribal Sambalpur and noted that teachers had multiple roles and the project helped in reducing dropout rate. Dutta (1996) found that use of group songs, drama, and role-play was useful in reducing stress at primary level.

Yadav (1995) has empirically established the hierarchical order of cognitive objectives as knowledge, understanding, application, discovery, evaluation, and creativity. Using high school student sample this work shows integration of three domains of teaching, learning and evaluation. Kaul, Dadhichi, and Soni (1995) used a systematic process based programme for number development in a longitudinal study in primary schools. Khader (1996) found that rural non-multigrade group made effort to provide instruction for learner involvement.

In summary, it can be said that academic achievement is influenced by factors such as home environment, SES, rural/urban differences, parental aspiration, and type of school. The reasons for poor achievement of disadvantaged group of children are medium of instruction, which is different from their home language, and their negative perception of socio-emotional climate of the school. Proper study habit, motivation, field independence, creativity, high level of intelligence, and reflectivity foster the achievement of children in schools.

CONCLUDING COMMENTS

Education is centrally implicated in the making of the mind of society. It is also held responsible for transmitting culture and help preparing citizens for the society. In practice, education designs the future of society by sorting and selecting individuals for diverse social roles. Societies have great expectations from educational institutions. Education works as an instrument of upward social and economic mobility. At the same time educational institutions have also grown as organisations having its own set of processes that have impact on its functioning and outcomes. They function in a social environment and are influenced by them in important ways. This fact is evident from the variety of schools and types of schooling that have emerged in India. The different types of schools cater to the needs of different sections of society. The interplay of parental aspirations, demands of the structure of schools, governmental policies, and societal context makes education an intrinsically psychological, social and political affair. As a result educational transactions in today's society are regulated by a number of factors falling in the domains of state and society. The studies reviewed in this chapter throw light on certain aspects of the reality of the educational world. However, there are many more questions that need to be answered.

The preceding review shows that researchers have endeavoured to explore a variety of themes that encompass diverse aspects of teaching- learning process in the school settings. The frame of reference of most of the studies involves simple relationships among a set of variables. While long-term programmatic research is missing there is definite increase in context sensitivity and problem-orientation. Many studies have been designed to provide policy related information. It is gratifying that instead of highly localised and small studies some initiatives have been taken to cover wider regions of India. Such initiatives are welcome as they can respond to the concerns for policy and practice.

So far, five reviews of educational research have been published. A close perusal of the contents of these volumes in terms of variables covered, samples taken, concepts explored and methods used one is struck by the high degree of consistency and limited amount of flexibility. The studies are being repeated without any effort to build on the knowledge generated by the past researches. Being one-shot studies with little or no linkage with other studies there is lack of cumulativeness and conceptual growth in research. A critical analysis of the methodology adopted reveals that there is scope for improvement. Some of the related issues that need to be addressed in future studies are summarised below.

Proper use of statistical methods – It has been noted that while applying statistical techniques many researchers don't pay attention to the necessary assumptions about type of scale operating in the data, sampling method, and nature of the distribution of scores, etc. This limits the validity and power of studies. The researchers may use distribution-free or non-parametric statistical techniques that suit in small-sample studies where the assumption of normal distribution is untenable. Also, there is need to use newer methods of statistical modelling, item response theory, and multivariate studies. The meta-analytic studies which help integrating a large number of studies should be undertaken in different areas. Such studies help to draw conclusions that are grounded in large data sets. The questions of power and effect size are also important while using quantitative techniques. It is hoped that researchers shall make efforts in these directions by showing long-term programmatic commitment.

Move towards qualitative techniques – The preference of researchers for quantitative techniques is overwhelming. While utility of such techniques to answer many problems cannot be denied they have limited value in providing understanding of the processes in many important situations. In the process of indiscrete quantification the issues of meaning, subjectivity, and culture are often neglected. Studies that involve in-depth analysis of a

phenomenon, a process, or a setting are rarely done. In order to take the socio-cultural variations in account it is important to undertake carefully designed case studies on various topics and in different regions. In a multicultural and pluralistic setting like India this kind of work is more relevant.

Using culturally appropriate tools – Unlike physical sciences the concepts and tools in the behavioural sciences are culture bound. The tools are predominantly western, either in their original or in adapted version. They are frequently used without bothering about their cross-cultural equivalence. Also, many of the tools are outdated. They, therefore, fail to capture the contemporary reality. Development of indigenous tools should be taken up on priority basis in the areas of personality, intelligence, aptitude, values, etc.

Understanding phenomenon along a continuum – The most sought after research strategy is to use extreme groups and compare them assuming some kind of linearity in the phenomenon under study. There is a strong tendency to use categories at individual and group levels (e.g., Boys/Girls; Rural/Urban; Government/Private schools; SC/ NSC/ST; Young/Old; Girl/Women) usually based on the

social address and drawing causal conclusions. This restricts the power of possible generalisation. It is, therefore, necessary to enlarge the scope of variability in data by incorporating many values along the continuum. Choosing discrete conditions or variables arbitrarily does not offer insight into the processes that underlie the obtained results.

Need for conceptual and theoretical innovations – Majority of the studies is planned expeditiously and lack theoretical inspiration. There is little communication or dialogue between theory and data. Many researchers knowingly or unknowingly undertake studies that ignore the paradigmatic boundaries. In order to contribute to the field of study conceptual and theoretical clarity and innovation is warranted. In order to be useful in specific cultural settings culturally specific (emic) concepts are important. It is hoped that researchers shall take note of the cultural variety and utilise the symbolic and conceptual resources available in the indigenous thought to enrich the theory and enhance the potential to apply the findings for the solution of problems in the domain of educational transactions.

REFERENCES

- AGARWAL, R. 1994. The Relationship between Sex and General Self-concept in Grade 9 Students. *Bharatiya Shiksha Shodh Patrica*, 13, 17-22.
- _____. 1995. Induction of Concepts of Conservation of Continuous Quantities in Children : An Experimental Investigation. *Indian Educational Review*, 30, 46-58.
- _____. 1997. A Comparative Study of Concept of Conservation of Continuous Quantities in Primary Level Students of English and Hindi Medium Schools. *Journal of Educational Research*, 16, 27-31.
- AGARWAL, R. AND AMITA. 2000. Televiewing Pattern of Adolescents and its Impact on their Study Habits. *Indian Educational Review*, 36, 48-61.
- AGARWAL, R. AND M. KAPOOR. 1998. Parents' Participation in Children's Academic Activities in Relation to their Academic Achievement at the Primary Level. *Journal of Indian Education*, 23, 61-68.
- AGARWALA, S. AND A. BHANDARI. 1995. Relationship between State-trait Anxiety and Nail-biting Behaviour. *Pracachi Journal of Psychological Dimensions*, 11, 59-61.
- AGGARWAL, S. AND P. JAIN. 1993. Modification of Altruism among Children and Adolescents through Modelling and Cognitive

- Restructuring. *Journal of Community Guidance and Research*, 10, 127-135.
- AGARWAL, S. AND S. AGARWAL. 1999. Creativity and Intelligence: Exploration with Sex Differences. *Psycholinguia*, 29, 127-132.
- AHMAD, A. AND A.K. SEN. 1998. Prevalence of Drug Abuse among Students of Jamia Millia Islamia: A Survey Report. *Disabilities and Impairments*, 12, 31-39.
- AHMED, M.I. 1992. A Study of the Influence of Parental Value Orientations, Teacher-leader Behaviour and Students' Mental Health on the Creativity of 9 Standard Students of the same SES. Unpublished Doctoral Dissertation in Education, Bangalore University, Bangalore.
- AHMED, S. 1994. Effect of Playing Volley Ball on the Psycho-social Development of the Institutionalised Female Juvenile Delinquents. Unpublished Doctoral Dissertation in Psychology, University of Madras, Madras.
- AJITHA, N.K. 1998. Goal Perception of Secondary School Children of Kerala. *Perspectives in Education*, 14, 97-104.
- AKHANI, P., N. RATHI AND M. JASORE. 1999. Academic Achievement, Study Habits and Loneliness of Children of Employed and Unemployed Mothers. *Indian Journal of Psychometry and Education*, 30, 65-67.
- AMALOR, D. AND V. SURESH. 1994. Achievement Motivation and Decision-making Styles among University Students. *Creative Psychologist*, 6, 47-51.
- AMBASHT, N.K. AND K.B. RATH. 1995. A Study of the Effect of Household, Community and School Factors on the Enrolment, Retention and Achievement of Scheduled Tribes Children at Primary Level. In *Studies on Classroom Processes and School Effectiveness at Primary Stage: International Perspective*. NCERT, New Delhi.
- AMINBHAVI, V.A. 1996. Effect of Yogic Practice on Attitudes toward Yoga and Mental Health of Adults. *Pracachi Journal of Psychological Dimensions*, 12, 117-120.
- ANEJA, A. AND P. KAUR. 1996. Parent-child Relationship in the Opinion of Adolescent Boys and Girls. *Prachi Journal of Psychological Dimensions*, 12, 111-116.
- ARYA, R. 2000. Effect of Instructional Strategies and Personality on Achievement. *Psycholinguia*, 30, 125 -130.
- ASTHANA, B. 1993. The Effect of Music on the Personality Make-up. Unpublished Doctoral Dissertation in Education. Dr. B.R. Ambedakar University, Agra.
- ASTHANA, M. 1993. A Study of Socio-psychological Correlates of Dropouts of Senior Basic Level. Unpublished Doctoral Dissertation in Education, Rohilkand University.
- AVANIJA, K.K. 1995. A Study of Certain Correlates of Self-concept among Students of Navodaya Vidyalayas. Unpublished Doctoral Dissertation in Education, Mysore University, Mysore.
- AYISHABI, T.C. AND M. KURUVILLA. 1998. Achievement Motivation of Secondary School Children of Working Mothers of Kerala. *Experiments in Education*, 26, 203-206.
- BALASUBRAMANIAM, N. 1993. A Study of Pupils's Academic Achievement in English in Relation to their Intelligence. *Journal of English Language Teaching*, 28, 128-137.
- BANSAL, I. AND S. AGARWAL. 1997. Role of Computers in the Enhancement of Creativity among Young Children. *Psycholinguia*, 27, 111-114.
- BANU, V. 1996. A Critical Study of the Activities Organised by the Secondary Schools for the Development of National Ingegration among Students. *Progress of Education*, 31, 111-112.
- BARKAT, S.A. AND A. PARVEEN. 1999. Organisational Role Stress among Bank Managers and University Teachers. *Pracachi Journal of Psychological Dimensions*, 15, 169-172.
- BAROUN, K.A. AND A. SEN. 1996. The Effects of Extraversion-introversion and Time of Day

- of the Judgement of Short-time Intervals. *Disabilities and Impairments*, 10, 29-43.
- BARPANDA, N. 1997. Teacher Empowerment Strategies to Ensure Community Involvement in Universalisation of Elementary Education: A Case Study of Tribal Areas of Sambalpur District. In *Teacher Empowerment and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- BARUA, K. AND J. BARUA. 1999. Adjustment Differences of Adolescents in Relation to Maternal Employment. *Journal of North-East India Council for Social Science Research*, 23, 51-55.
- BAWA, S.K. AND P. KAUR. 1995. Creativity and Academic Achievement. *Psycholinguia*, 25, 133-136.
- BEHERA, A.P. 1993. Rural-urban Differences in Intelligence. *The Primary Teacher*, 18, 40-48.
- BEHERA, A.P. 1993b. Sex Differences in Creativity: A Study in NavodayaVidyalayas. *Journal of Indian Education*, 19, 46-48.
- BHATNAGAR, A. 1993. Effect of Over Training on Reversal Learning. *Psycholinguia*, 23, 11-17.
- BHARDWAJ, S.K. 1997. A Psycho-social Study of Adjustment among Adolescents. Unpublished Doctoral Dissertation in Home Science, Pt. Ravi Shankar University, Raipur.
- BHATTACHARYA, G.C. 1997. Scientific Attitude and its Relationship with Academic Achievement at Higher Secondary Level. *School Science*, 35, 33-40.
- BHAWALKAR, S. 1992. Prediction of Scientific Creativity through Cognitive and Affective Variables among High School Students. Unpublished Doctoral Dissertation in Education, Devi Ahilya Vishwavidyalaya, Indore.
- BILQUIS AND L. UMA DEVI. 1999. Intellectual Abilities of Rural Adolescents. *Psycholinguia*, 29, 137-140.
- BINDU, T.V. 1999. A Comparative Study of Achievement of Pupils in DPEP and non-DPEP Schools. *Experiments in Education*, 17, 125 -130.
- BISWAS, P. C. AND T. DE. 1993. Sex Differences in Alienation among late Adolescent Students. *Perspectives in Psychological Researches*, 16, 10 -13.
- BISWAS, P.C. AND M. MONDOL. 1995. Reactions to Frustration and Alienation among College Students. *Perspectives in Psychological Researches*, 17-18, 33 - 38.
- BROOTA, K.D. AND G. MISRA. 1997. Mental Health. In *Fifth Survey of Educational Research*, 106 -127. NCERT. New Delhi.
- BUCH, M.B. 1972. Educational Psychology: A Trend Report. In S.K. Mitra (Ed.), *A Survey of Research in Psychology*, 80 -125, Popular Prakashan, Bombay.
- BUCH, M.B. (ED.). 1974. *A Survey of Research in Education*. Baroda: M.S. University.
- _____ 1979. *Second Survey of Research in Education*. Society for Educational Research and Development, Baroda.
- _____ 1987. *Third Survey of Research in Education*. NCERT. New Delhi.
- _____ 1991. *Fourth Survey of Research in Education*. NCERT. New Delhi.
- BUDHDEV, P.V. 1996. A Study of Attitudes of Secondary School Students towards Various School Subject. *Indian Educational Review*, 31, 112 -125.
- CHAKRABARTI, S. 1996. Non-detention Policy and Dropout in Primary Education. In *Studies on Classroom Processes and School Effectiveness at Primary Stage. International Perspective*. NCERT. New Delhi.
- _____ 1998. Impact of Music and Sports on Primary School Children. *Indian Educational Review*, 34, 110 -118.
- CHATURVEDI, A. 1997. Creativity as Related to Personality Traits and Scholastic Achievement of Tribal Students. Unpublished Doctoral Dissertation in Psychology, Rani Durgavati Vishwa-vidyalaya, Jabalpur.

- CHATURVEDI, S. 1996. A Study of Adolescents' Perception of Material Role of Professional and Non-professional Mothers in Relation to their Level of Aspiration and Academic Achievement. Unpublished Doctoral Dissertation in Education, Awadh University, Faizabad.
- CHOUHAN, V. AND S. MURTHY. 1994. Effect of Achievement on Adjustment of Deprived Adolescents. *Psycholinguia*, 24, 49-53.
- CHAURASIA, O. 1993a. Family Functioning and Creative Abilities. *Perspectives in Psychological Researches*, 16, 61-63.
- _____. 1993b. Creativity in Relation to Adjustment and Aggression. *Perspectives in Psychological Researches*, 16, 64-66.
- CHUNAWALA, S. AND H.C. PRADHAN. 1993. A Study of Students' Attitudes towards School Subjects: A Preliminary Report. *Journal of Education and Social Change*, 7, 50-62.
- DALAL, A.K. 1996. A Science in Search of its Identity: Twentieth Century Psychology in India. *Indian Psychological Abstracts and Reviews*, 3, 201-244.
- DANGWAL, K.L. 2000. A Study of the Relationship of Reaction to Frustration and Academic Achievements of Class V Students. *Indian Journal of Educational Research*, 19, 49-55.
- DAVE, P. 1995. Project Primary Education Curriculum Renewal: An Evaluative Study. In *School Effectiveness and Learning Achievement at Primary Stage: International Perspective*, NCERT, New Delhi.
- DEVI, T.K. 1995. Colour Concepts in Children. *Experiments in Education*, 23, 113-118.
- _____. 1996. Cognitive Styles in Children. *Indian Journal of Applied Psychology*, 32, 74-77.
- _____. 1997. Influence of Type of School on Cognitive Styles. *Experiments in Education*, 25, 172-175.
- DHANDA, B. AND M. NATH. 1994. Attitudes of High School Boys towards Life and Humanity in Relation to SES. *Praachi Journal of Psycho-cultural Dimensions*, 10, 63-67.
- DHILA, B.L. AND L.R. YAGNIK. 1999. A Study of Personality Differences between Pupils of Sainik and Non-sainik Schools. *Journal of the Indian Academy of Applied Psychology*, 25, 147-150.
- DUBEY, A. AND A. JOSHI. 1993. Effectiveness of Self-learning Strategy in terms of Achievement at Nursery Teacher Training Level. *Bharatiya Shiksha Shodh Patrica*, 12, 25-31.
- DUTTA, U. 1996. Alternatives to Reduce Stress on Pre-school Children. In *Studies on Classroom Processes and School Effectiveness at Primary Stage: International Perspective*. NCERT, New Delhi.
- GANIHAR, N. 1993. The Relationship between Cognitive Style and School Achievement. *The Progress of Education*, 27, 170 -173.
- GEETHA, P. S. AND S. KARUNANIDHI. 1995. Religious Attitude, Locus of Control, and Achievement-motivation of Students Belonging to Different Religions. *Journal of Psychological Researches*, 39, 51- 55.
- GHOSHAL, A. AND T. DUTTA. 1995. The Feeling of Loneliness and Hopelessness among Day Schols and Hostellers. *Indian Journal of Applied Psychology*, 32, 56 - 59.
- GILL, R. AND T. KANG. 1995. Relationship of Home Environment with Behavioural Problems of Pre-school Children. *Indian Journal of Psychometry and Education*, 26, 77-82.
- GODBOLE, A. 1994. Story-telling for Personality Development of Primary School Children. ERIC Project, Jnana Prabodhini Institute of Psychology, Pune.
- GOEL, D.R. AND R. MISHRA. 1993. Prediction of Educational Competency. *Research Bulletin – Maharashtra State Council of Educational Research and Training*, 23, 1- 3.
- GOEL, S.K. 1996a. Effect of Pre-school Education on Cognitive Development of Children. *The Primary Teacher*, 21, 30 - 34.

- 1996b. Identification of Learning Problems in Arithmetic and Remedial Teaching for Children in Standard. In *Studies on Classroom Processes and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- GUHA, R.S., S.K. MITRA, AND S.S. Roy. 1995. Evaluation of Attainment Level of Primary Students: The West Bengal Example. In *Studies on Classroom Processes and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- GULATI, S. 1995. Instructional Materials to Promote Children's Creativity in Classroom: Studying the Effectiveness of Materials Fostering Creativity. *Indian Educational Review*, 30, 59-72.
- GUPTA, J.K. AND M.K. GUPTA. 1995. Effect of State Intervention on Pupil's Achievement. *Indian Educational Review*, 30, 71-85.
- GUPTA, R., M. MUKERJEE, AND S. CHATTERJEE. 1993. A Comparative Study of the Factors Affecting Achievement among four Groups of Adolescents. *Indian Journal of Applied Psychology*, 30, 30 - 38.
- GUPTA, S.M. 1995. Effect of Social Class Status on Creative Ability of Students. *Bharatiya Shiksha Shodha Patrika*. 14, 121-128.
- GUPTA, V. AND D.N. SANSANWAL. 1996. Self-concept Enhancement Programme of Under-graduate Female Students. *Journal of Higher Education*, 19, 519 - 527.
- GUNTHEY, R.K. AND M. JAIN. 1997. Neurotic Problems and Feelings of Insecurity among High and Low Drug Addicts. *Journal of the Academy of Applied Psychology*. 23, 55 - 57.
- GYANANI, T.C. 1998. Effect of Classroom Climate, Teacher's Leadership Behaviour and Expectations of Student-teacher's Scholastic Achievement. *Indian Educational Review*, 34, 99-107.
- GYANANI, T. 1999. Correlational Biographical Determinants of Self-concept. *Psycholinguia*, 29, 111-118.
- HASEEN, T. 1999. Academic Achievement as a Function of Social Class, Parent-child Interaction, Dependency Behaviour and School Management. *Psycholinguia*, 29, 153-158.
- HUSSAIN, S. AND R. SINHA. 1995. A Comparative Study of Creativity among Male and Female Students of Industrial and Non-industrial belts of Bihar. *Praachi Journal of Psychocultural Dimensions*, 11, 1-8.
- JAGDISH AND S. YADAV. 1999. Relationship between Home Deprivation and Mental Health among School Students. *Indian Journal of Psychometry and Education*, 30, 35-38.
- JAIN, A. 1993. Problems of Adolescence in Present Changing Society. Unpublished Doctoral Dissertation in Home Science, Devi Ahilya Vishwavidyalaya, Indore.
- JAIN, S.C. 1997. Child-centred Interactive Activities: A New Look at Instruction and Continuous Evaluation for Mastery Learning. In *Teacher Empowerment and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- JANGAIAH, C. 1998. Learning Styles of Primary School Children. *Experiments in Education*, 26, 34-40.
- JHA, P.K. 1999. Altruism as a Function of Sense of General Well-being and Self-actualisation of Benefactor. *Praachi Journal of Psychocultural Dimensions*, 15, 163-168.
- JHA, P.K. AND K. PRASAD. 1996. Characteristics Need Pattern of Benefactors. *Indian Journal of Psychometry and Education*, 27, 47-52.
- JOMAN, M.G. 1996. Towards Creative Learning: A Shift in Paradigm. In *Teacher Empowerment and School Effectiveness at Primary Stage: International Perspective*. New Delhi: NCERT.
- JOSHI, A. AND A. PATRA. 1993. Impact of Concept Attainment Model on General Mental Ability. *Research Bulletin-Maharashtra State Council of Educational Research and Training*, 23, 21- 23.

- JYOTHI, C.N. AND S. KRISHNASWAMY. 1996. Prevalence of Behaviour Problems among Pre-school Children: Parent Educational Needs of their Mothers. *Journal of Community Guidance and Research*, 13, 27-39.
- JYOTSNA. 1997. A study of Relationship between types and levels of Intelligence and Nature of Learning Tasks. Unpublished Doctoral Dissertation in Psychology, Kurukshetra University, Kurukshetra.
- KAILE, H.S. AND T.K. PUNIA. 1994. Relationship Between Creativity and SES. *Experiments in Education*, 22, 35-39.
- KAKKAR, A. 1999. A Study of Parental Acceptance-rejection as Related to the Problems of Adolescents. *Indian Journal of Psychometry and Education*, 30, 23-30.
- KAMAT, K. 1997. Programme for Upgradation of Achievement of Children Studying in Grades 1 of Municipal Schools (Marathi Medium) S Ward, Mumbai by Empowering Children. In *Teacher Empowerment and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- KAMAU, C.W. AND A. GUPTA. 1994. Teachers' Mental Health Scale. *Journal of Indian Education*, 20, 46-50.
- KANG, T.K., R. SIBIA, AND R. GILL. 1995. Parent-child Relationships of High and Low Achieving Boys and Girls. *Praachi Journal of Psychocultural Dimensions*, 11, 79-82.
- KAPOOR, K. 1996. A Study of Creative Thinking Ability of High School Pupils of Arunachal Pradesh in Relation to their Sex and Academic Achievement. *Progress of Education*, 30, 172-175.
- KARUNANIDHI, S., S.G. NANDHINI, AND S. PRISCILLA. 1996. *Journal of Psychological Researches*, 40, 74-80.
- KATARA, M. AND S., BHARDWAJ. 1999. An Analysis of Classroom Situations of Primary Schools to Improve Teacher Effectiveness. *Indian Journal of Psychometry and Education*, 30, 9-18.
- KATHURIA, P.R. AND S.P. AHLUWALIA. 1994. Scholastic Achievement and Prolonged Deprivation: A Study in Chattisgarh Region of Madhya Pradesh. *Experiments in Education*, 22, 225-236.
- KAUL, V., M. DADHICHI, AND R. SONI. 1995. Process-based Readiness Programme for Primary Level Mathematics: A longitudinal Study. In *Teacher Empowerment and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- KAUR, B. 1997. Promoting First Graders' Literacy Skills through Improved Teaching Practices and Home School Linkages. In *Teacher Empowerment and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- KAUR, B. AND S.K. BAWA. 1995. Intelligence as a Correlate of Academic Achievement. *Indian Journal of Psychometry and Education*, 26, 113-115.
- KAUR, K. AND G. GOYAL. 1997. Academic Aspirations of Rural Tenth Class Girls. *Trends in Education*, 32, 18-28.
- KAUR, P. AND D. KHARB. 1993. Creativity in Children: The Impact of School and Home Environment. *Journal of Indian Education*, 18, 46-49.
- KAUSER, F. AND Z. JABEEN. 1995. A Study of giftedness and Creativity among Elementary School Children with Reference to Age and Gender. *Journal of Psychological Researches*, 39, 86-91.
- KAUSER, F. AND MAHAJABEEN. 1996. Effect of Maternal Employment on the Object Sorting and Object Preference among 9, 12 and 15 Months old Male and Female Infants. *Indian Journal of Applied Psychology*, 33, 62-69.
- KESHAP, B.R. 1993. A Study of Motivational Pattern, Adjustment and Attitude towards Study of College Students. Unpublished Doctoral Dissertation in Education, Saurashtra University, Rajkot.

- KHADER, M.A. 1996. Classroom Transaction: Evidences for Strategic Planning. In *Teacher Empowerment and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- KHARKWAL, K.M. 1993. Effect of IQ on Formal Operational Thought. *Psycholinguia*, 23, 53-56.
- KHOKHAR, C.P. AND Y. THAKUR. 1993. Parent-child Relation and the Feeling of Acceptance and Rejection Experience in Children. *Praachi Journal of Psychocultural Dimensions*, 9, 21-24.
- KIBICO, D.N. 1995. The Motivational Effects of Anxiety and Aspiration. *Perspectives in Psychological Researches*, 17-18, 22-25.
- KRISHNAMURTHY, S. 1998. A Study of Higher Secondary Students' Achievement in History as Related to Certain Variables. Unpublished Doctoral Dissertation in Education, Annamalai University.
- KRISHNAN, B. 1961. A Review of the Contributions of Indian Psychologists (1950-1960). In T.K.N. Menon (Ed.), *Recent Trends in Psychology* (pp. 110-124). Orient-Longman. New Delhi.
- KUKRETI, B.N. 1994. Adjustment of Pre-adolescent Students of Saraswati Vidya Mandir, Convent School and Government Junior High School: A Comparative Study. *Bharatiya Shiksha Shodh Patrica*, 13, 5-14.
- KUMAR, P.K.S. 1997. Learning Style: A Multidimensional Approach and its Effect on Secondary School Biology. *Experiments in Education*, 25, 233-237.
- KUMAR, P.K.S. 1998. Interaction of Approaches to Studying and Cognitive Style on Achievement in Biological Science. *Experiments in Education*, 26, 28-33.
- KUMAR, S. AND H. SUSUMU. 1996. Metacognition and Achievement through Cooperative Learning. *Progress of Education*, 30, 230-235.
- KUMARAIAH, V. 1998. Clinical Psychology in India. Paper Presented at the National Conference on Research in Clinical Psychology, AIIMS, New Delhi.
- KUMUDHAVALLI, S. 1999. Relationship Between the Medium of Instruction and Academic Achievement and Adjustment of Primary School Children. Unpublished Doctoral Dissertation in Education, S.N.D.T. University, Bombay.
- LAKSHMI, K. 1996. Impact of School Readiness Programme on Primary School Children. In *Studies on Classroom Processes and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- LATA, T. 1992. Factors Underlying Semantic Abilities as Predictors of Achievement in Science, Mathematics, Social Studies and Language at Class X Level. Unpublished Doctoral Dissertation in Education, Rohilkhand University
- LAXMI, V. 1997. Educational Maturity of Father as Related to Academic Self-concept and Academic Motivation. *Psycholinguia*, 27, 61-64.
- LAVAKARE, N.A. AND S. HISWANKAR. 1995. Effect of Parent-directed Intervention on the Child's Personality Dimensions and Parental Approach towards the Child. *Indian Journal of Applied Psychology*, 32, 74-79.
- MAHAPATRA, M. 1996. Assessment of the Cognitive Development Level of the Primary Stage Pupils. In *Studies on Classroom Processes and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- MAHMOOD, A. 1998. Personal Values, Career Aspirations, Academic Achievement and SES as Determinants of Educational Choice at Senior Secondary Level. Unpublished Doctoral Dissertation in Education, Aligarh Muslim University, Aligarh.
- MATHEW, A. AND S. BHOGLE. 1995. Factors Influencing Efficient Problem-solving. *Creative Psychologist*, 7, 11-16.

- MATTOO, M.I. 1994. Vocational Interests, Adjustment Problems and Scholastic Achievement of High and Low Creative Students. *Indian Educational Review*, 29, 86-88.
- MAYURI, K. AND BILQUIS 1999. Factors Determining Retention Concentration and Intellectual Abilities of Rural School Children. *Journal of Community Guidance and Research*, 16, 161-169.
- MEGHANI, A.M. 2000. A Study of Effectiveness of a Teaching-learning Strategy to Develop Critical Thinking in Students of Standard XI Using Psychology as Content. Unpublished Doctoral Dissertation in Education, M.S. University of Baroda, Baroda.
- MEHROTRA, S. 1995. Effect of Imagery and Personality Traits on Creativity among Pre-adolescent Children. Unpublished Doctoral Dissertation in Psychology, S.N.D.T. Women's University, Bombay.
- MENON, S.B. AND J.M. OJHA. 1987. Learning, Motivation, and Personality: A Trend Report. In M.B. Buch (Ed.), *Third Survey of Research in Education* (pp. 298-316). New Delhi: NCERT.
- MINNLKODO, B. 1997. A Study of Higher Secondary School Students' Achievement in Zoology in Relation to Anxiety, Achievement, Motivation and Self-concept. Unpublished Doctoreal Dissertation in Education, Annamalai University.
- MISRA, G. 1999. Towards Indigenous Psychology of Cognition: Knowing in the Indian Tradition. *Journal of Indian Psychology*, 17, 1-22.
- MISRA, G., M. KAPUR, AND A.K. SRIVASTAVA. 1997. Emerging Trends and Future Perspectives: Appraisal. In A.K. Srivastava (Ed.), *Child Development: An Indian Perspective* (pp. 265-280). NCERT. New Delhi.
- MISRA, N.L. 1997. Psychological Study of Internal Approach and Student Career. *Psycholinguia*, 27, 73-80.
- MISHRA, B.C. 1999. Personality Patterns of School Students: A Cross-cultural Study. *Journal of Indian Education*, 25, 43-49.
- MISHRA, R.C. 1997. Cognitive Processes. In *Fifth Survey of Educational Research* (pp. 128-146). NCERT. New Delhi.
- MISHRA, R.C., S.N. SHUKLA, AND A. MISHRA. 1999. Development of Recall Memory for Related Words in the Context of Schooling. *Social Science International*, 15, 14-25.
- MITRA, S.K. 1972. A Survey of Research in Psychology. Bombay: Popular Prakashan.
- MOHAN, R. 1998. Academic Achievement and Certain Selected Variables: A Suggested Discriminant Function Model. *Perspectives in Education*, 14, 161-171.
- MOHANRAJ, V.M. 1999. Correlation between General Reading and IQ of Children. *The Primary Teacher*, 24, 12-14.
- MONDOL, K.C. 1999. Are High Achievers Creative Learners? *Journal of Centre for Pedagogical Studies in Mathematics*, 2, 14-18.
- MONICA, C. 1997. Primary Mental Abilities in Relation to Memory among Primary School Children. Unpublished Doctoral Dissertation in Education, Osmania University, Haiderabad.
- MUKERJI, M. AND K. SHARMA. 1993. Mental Development as a Function of Maternal Economic Status, Literacy Occupation and Feeding Pattern. *Psycholinguia*, 23, 77-81.
- MUKHOPADHYAYA, P. AND J. KUMAR. 1999. Academic Pressure: Its Impact on the Mental Health of Children. *Social Science International*, 15, 39-45.
- MURLIDHARAN, R. AND A.K. SRIVASTAVA. 1995. Temple Ecology and Cognitive Development: A Report from South India. *Psychology and Developing Societies*, 7, 47-64.
- NANDA, A. AND G.C. PAL. 1994. Effect of Cognitive Style and Creativity on Academic

- Achievement. *Journal of Indian Education*, 20, 42-49.
- NAGAPPA, P., SHAHAPUR AND N. VENKATAIAH. 1995. Study Habits of Secondary School Students of Mysore City. *Experiments in Education*, 23, 143-152.
- NAGARAJU, C.S. 1995. Intervention for MIL Attainment in Multi-grade Contexts. In *Effectiveness and Learning Achievement at Primary Stage: International Perspective*. NCERT. New Delhi.
- NAIR, P.V. 1999. A Comparative Study of Certain Personality Variables of Pre-degree Students of Regular and Correspondence Streams. *Experiments in Education*, 27, 35-38.
- NARIMAN, S. 1997. An Ethnographic Case Study of an Effective Urban-slum Schools. In *Teacher Empowerment and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- NAYAR, P.R. 1997. Psychology of Education: A Trend Report. In *Fifth Survey of Educational Research*, Vol. I (pp. 76 -105). NCERT. New Delhi.
- NCERT. 1966. *Educational Investigations in Indian Universities*. NCERT. New Delhi.
- NCERT. 1968. *Educational Investigations in Indian Universities (1962-1968)*. NCERT. New Delhi.
- NCERT. 1997. *Fifth Survey of Educational Research*. NCERT. New Delhi.
- NIZAMUDDIN, S. AND K.S. SAKIRA. 1995. Child-rearing Practices by Parents of Aggressive and Non-aggressive Pre-school Children. *Indian Journal of Applied Psychology*, 32, 20-24.
- OZA, D.J. 1995. An Inquiry into the Factors Influencing the Learning Strategies of 9th Standard Students. Unpublished Doctoral Dissertation in Education, M.S. University, Baroda.
- PACHAURY, A.C. 1993. Assessment of the Cognitive Development of Gond Children and Adolescents. *Journal of Indian Education*, 18, 42-45.
- PACHAURY, A.C. 1993. Drawing Euclidian Figures: Ability of Six, Seven, Eight year olds. *School Science*, 31, 31-36.
- PACHAURY, A.C. 1994a. Development of the Spatial Coordinate System in Adolescents. *School Science*, 32, 17-19.
- PACHAURY, A.C. 1994b. Disadvantaged Elementary School Children: Their Concept of Death and its Causes. *School Science*, 32, 42-49.
- PACHAURY, A.C. 1996. A Study of Weaker Section Child's Ability to Deduce Verbal Transitive Inference. In *Studies on Classroom Processes and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- PACHAURY, A.C. 1997. The Effect of the Content Domain in Deducing the Transitive Inference. *Journal of Indian Education*, 23, 43-47.
- PADHI, J.S. 1993. Relationship between Academic Self-concept in Science and Cognitive Preference Styles. *School Science*, 31, 29-32.
- PADHI, J.S. 1995. Influence of Creativity on Academic Performance. *Journal of Indian Education*, 20, 46-51.
- PADHI, J.S. and DASH, A.S. 1994. The Relation of Parental Attitudes to Adolescence Competence. *Psycholinguia*, 24, 33-42.
- PAHUJA, P. L. 1992. Utility of the Peer-tutoring in the Development of Verbal and Spatial Abilities and Academic Achievement in Geography: An Experimental Study. Unpublished Doctoral Dissertation in Education. Agra university, Agra.
- PANCHANATHAM, N., V. SURESH, AND D. AMALOR. 1998. Achievement Motivation and Quality Decision-making. *Indian Journal of Technical Education*, 21, 30-34.
- PANDA, B.N. 1996. Effect of Activity-based Teaching-cum-evaluation Strategy on

- Child Achievement and Retention. In *Studies on Classroom Processes and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- PANDA, B.N., K.C. SAHOO, AND J. SAHOO. 1995. School Organisational Climate and Students' Academic Achievement. *Indian Journal of Applied Psychology*, 32, 34-39.
- PANDA, K.C. 1988. Social Psychology of Education. In J. Pandey (ed.) *Psychology in India : The State of the Art*. Vol. II (pp. 279-337). Sage. New Delhi.
- PANDA, K.C. 1991. Research in Psychology of Education: A Trend Report. In M.B. Buch (Ed.), *Fourth Survey of Research in Education* (pp. 309-466). NCERT. New Delhi.
- PANDA, K.C. 1997. Social Processes. In *Fifth Survey of Educational Research*, Vol. I (pp.147-165). NCERT. New Delhi.
- PANDEY, A.P. 1993a. Locus of Control and Self-esteem: Personality Traits and Self-esteem. *Perspectives in Psychological Researches*, 16, 14-16.
- PANDEY, A.P. 1993b. Personality Traits and Self-esteem. *Perspectives in Psychological Researches*, 16, 17-19.
- PANDEY, D.D. 1996. Effect of the Centre-based Stimulation on some Cognitive Abilities of Pre-school Age Children: An Ex-post-facto Study. *Perspectives in Education*, 12, 151-157.
- PANDEY, G.C. 1996. A Factor Analytical Study of Cognitive Factors Associated with the Achievement in Commerce at High School Level. *Progress in Education*, 30, 180-182.
- PANDEY, J. 1988. Psychology in India: State-of-the-art. Sage. New Delhi.
- PANDEY, J. 2000/2001. Psychology in India Revisited. Sage. New Delhi.
- PANDEY, K. 1998. Personality Types of Deprived Pre-adolescents. *Indian Journal of Educational Research*, 17, 27-34.
- PANDEY, R.C. AND M.K. KHARKWAL. 1993. Creativity and Socio-economic Status. *Perspectives in Psychological Researches*, 16, 27-29.
- PANDYA, P.T. 1996. A Study of Adjustment, Achievement Motivation, Anxiety and Educational Achievement of Working and Non-working Mothers' Children. Unpublished Doctoral Dissertation in Education, Saurashtra University.
- PAL, S.K. AND K.S. MISRA. 1992. A Study of Cognitive Processes, Academic Motivation, Social Behaviour Patterns and Moral Judgement of Adolescents from Deprive Ecologies. *Researches and Studies*, 43, 1-7.
- PARAMESWARAN, E.G. 1997. Motivation. In *Fifth Survey of Educational Research* (166 -169). NCERT. New Delhi.
- PAREEK, U. 1968. Behavioural Science Research in India: A Directory (1925-1965). Behavioural Science Centre. Delhi.
- PAREEK, U. 1980. *A Survey of Research in Psychology*. Popular Prakashan. New Delhi.
- PASSI, B.K. 1997. Creativity and Innovations. In *Fifth Survey of Educational Research* (pp. 170-215). NCERT. New Delhi.
- PATEL, M.R. 1996. Study Habits of Pupils and its Impact upon their Academic Achievement. *The Progress of Education*, 31, 74-76.
- PATIL, A.M. 1995. Effects of Mechanical Sounds on Memory of Numbers and Nonsense Syllabus. *Psycholinguia*, 25, 51-60.
- PATIL, K.S. 1995. Drug Addiction among Youth in Goa with Special Emphasis on Treatment and Rehabilitation. Unpublished Doctoral Dissertation in Social Work, Nagpur University, Nagpur.
- PRADHAN, D., P. AKHANI, AND D.S. JANBANDHU. 1997. Effect of SES and Intelligence on Verbal Fluency. *Psycholinguia*, 27, 81-88.
- PRADHAN, N. AND M.V. MISTRY. 1996. Teaching-learning Process in Schools with

- Consistently Good or Poor Results. In *Studies on Classroom Processes and School Effectiveness at Primary Stage. International Perspective*. NCERT. New Delhi.
- PRAKASH, I. AND D.M. VANI. 1994. Self-acceptance of Delinquent and Non-delinquent Adolescent Boys. *Journal of Education and Social Change*, 8, 12-18.
- PRASAD, S.K. AND D. KUMAR. 1995. Social Intelligence and Adjustment. *Perspectives in Psychological Researches*, 17, 80-82.
- PRISCILLA, S. AND S. KARUNANIDHI. 1996. Influence of Self-disclosure on Self-esteem, Interpersonal Communication and Apprehension among High School Students. *Journal of Psychological Researches*, 40, 81-86.
- RAI, R.N. AND R.C. PANDEY. 1994. Intellectual Ability in Rejected and Non-rejected Mizo Adolescents. *Disabilities and Impairments*, 8, 94-97.
- RAINA, M.K. 1996. Talent Search in the Third World: The Phenomenon of Calculated Ambiguity. Vikas Publishing House Pvt. Ltd. New Delhi.
- RAINA, M.K. AND A.K. SRIVASTAVA. 1997. Educational Psychology in India: Its Present Status and Future Concerns. *International Journal of Group Tensions*, 27, 309-340.
- RAINA, V.K., P. PRASAD, AND J. KUMAR. 1993. Trends in Educational Research: An Analysis of Researches in the Indian Educational Review (1976-1992). *Indian Educational Review*, 28, 1-11.
- RAJ, H.S.S. 1994. Fluency, Flexibility, and Originality as Correlates of Intelligence. *Creative Psychologist*, 6, 25-30.
- RAJAGOPALAN, M. 1996. A Path Model for Formal Operational Thinking. *Experiments in Education*, 24, 109-116.
- RAJAGOPALAN, M. 1998. Creative Talent in Relation to Convergent and Divergent Thinking. *Perspectives in Education*, 14, 105-112.
- RAJKUTTY, S. 1995. The Case of Operation Blackboard Programme in India. In *School Effectiveness and Learning Achievement at Primary Stage: International Perspective*. NCERT. New Delhi.
- RAJYALAKSHMI, T. 1996. Creativity and Cognitive Preference Styles in Biology. *Journal of Indian Education*, 22, 47-51.
- RAJU, S. 1996. Creativity in Science in Relation to Social Adjustment. *Experiments in Education*, 24, 60-65.
- RAMAA, S., D.A. ASHOK, AND H.M. BALCHANDRA. 1997. Study of Physical Health, Learning and Behavioural Problems among Primary School Children in Mandya District. Unpublished Study, Regional Institute of Education, Mysore.
- RAMLINGAM, P. 1995. Comparison of Decision-making Styles among High Secondary Students. *Indian Journal of Applied Psychology*, 32, 67-73.
- RANI, S. 1998. A Study of Perceived Socio-political Ecology as a Factor of College Teachers' Militancy, Morale and Academic Alienation. Unpublished Doctoral Dissertation in Education, Rohilkhand University, Bareilly.
- RAO, K.S. 1997. Adilbad Agency Experiment in Activity Method. In *Teacher Empowerment and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- RAO, S. AND R.R. KANTH. 1997. Teacher's Role in Influencing Enrolment and Attendance in Primary Schools. *The Primary Teacher*, 22, 7-13.
- RAO, T.V. AND P. MEHTA. 1974. Personality, Learning and Motivation: A Trend Report. In M.B. Buch (Ed.), *A Survey of Research in Education* (pp.135 -179). M.S. University. Baroda.
- RAO, T.V., P. MEHTA, AND M.L. RAO. 1979. Personality, Learning and Motivation: A Trend Report. In M.B. Buch (Ed.), *Second Survey of Research in Education* (pp. 163-208). NCERT. New Delhi.

- RAY, J. 1996. Classroom Reorganisation: A Challenge for Universal Retention of Females. In *Studies on Classroom Processes and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- RAZICK, J. AND J. ZAKARIA. 1995. Interests of Adolescents with reference to Age, Gender and Socio-economic Status. *Indian Journal of Applied Psychology*, 32, 45-51.
- REDDEMMA, C. AND M. VANI. 1995. Sex, Age, Ordinal Position and Approval-seeking Behaviour of Children. *Journal of Psychological Researches*, 39, 9-12.
- REDDY, M.V. 1994. Cluster Analytic Approach in Psychiatry with Special Reference to Child Psychiatry. Unpublished Doctoral Dissertation in Clinical Psychology, Bangalore University, Bangalore.
- REDDY, V.S. AND B. NAGRATHNAMMA. 1994. Relationship Between Perceived School Environment and Mental Health Status among School Children. *Journal of Community Guidance and Research*, 11, 131-137.
- ROYCHAUDHURY, P. AND J. BASU. 1998. Parent-child Relationship, School Achievement and Adjustment of Adolescent Boys. *Journal of Personality and Clinical Studies*, 14, 53-58.
- SAHOO, F. M. AND G. BATRA. 1997. Self-efficacy and Attributional Styles in Mastery-oriented and Learned Helpless Students. *Indian Educational Review*, 32, 92-103.
- SAMIULLAH, S., G. BHARAMANI, J. VENKATTACHALAM, AND K.S. REDDY. 1994. Size and Placement of the Self: A Study of Children's Family Drawings. *Creative Psychologist*, 6, 9-16.
- Sangeeta. 1997. A Study of Learning Styles of Gifted High School Students Across Gender, School Location, Locus of Control and Self-esteem. Unpublished Doctoral Dissertation in Education, Himachal Pradesh University, Shimla.
- SANSANWAL, D.N. AND D. SHARMA, D. 1993. Scientific Creativity as a Function of Intelligence, Self-confidence, Sex and Standard. *Indian Journal of Psychometry and Education*, 24, 37-44.
- SARAH, M., V. SURESH, S. SABESAN, AND D. AMLOR. 1995. Modes of Thinking in Decision-making. *Experiments in Education*, 23, 109-112.
- SAROOP, J., P. NANDA, AND T.K. KANG. 1999. Memory Ability of School-going Children. *Psycholinguia*, 29, 149-152.
- SAROJINI, G. 1993. Impact of Environmental Education on the Primary School Children. Unpublished Doctoral Dissertation in Education, Avinashlingam Institute of Home Science and Higher Education for Women, Coimtore.
- SAXENA, K. 1998. Understanding Number 1 to 10 through Demonstration. *Primary Teacher*, 23, 63-65.
- SEHGAL, M. 1999. Self-efficacy, Stress and Health: A Cross-gender Perspective. *Journal of the Indian Academy of Applied Psychology*, 25, 57-60.
- SENGUPTA, A. 1993. Effect of Teacher's Influence upon Mental Health of Pupils. *Psyccholingua*, 23, 95-104.
- SENAPATY, H.K. 1996. Universalisation of Primary Education and Equity in Quality. In *Studies on Classroom Processes and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- SHARMA, A., M. BHARGAVA, AND R.K. SINHA. 1993. Career Attitude and Competency among Adolescents Studying Commerce and Science at Intermediate Level. *Indian Journal of Psychometry and Education*, 24, 109-113.
- SHARMA, J. AND K. SHARMA. 1995. Effect of Nutrient Supplementation on Cognitive Development of Pre-school Children. *Psycholinguia*, 25, 31-38.
- SHARMA, M. AND M. MEHTA. 1993. The Effects of Discordance between Interest and Chosen Curriculum upon Psychological

- Adjustment and Academic Achievement. *Indian Journal of Psychometry and Education*, 24, 25-30.
- SHARMA, N. AND S.C. GAKHAR. 1999. Adjustment of Students of Denominational Schools: A Comparative Study. *Educational Review*, 105, 136-138.
- SHARMA, R.D. 1995. Influence of Recent Life Experience on Mental Health of School Readiness. *Indian Educational Review*, 30, 102-109.
- SHARMA, S.N. 1993. Projective Performance as a Function of Mental Ability of School-going Children. *Psycholinguia*, 23, 71-75.
- SHARMA, V. 1996. Altruistic Behaviour as a Function of Moral Judgement and Age of the Children. *Indian Journal of Psychometry and Education*, 27, 37-40.
- SHEIKH, G.Q. 1995. A Study of Personality Traits, Psychogenic Needs and Academic Achievements of rural and Urban Female Adolescent Students in Relation to their Cognitive Style. *Indian Educational Review*, 30, 153-155.
- SHINDE, V.R. 1993. The Effect of Training in Study Skills on the Scholastic Achievement. *Journal of Psychological Researches*, 37, 1-8.
- SHUKLA, A. 1994. Role of Locus of Control in Attributing Cause of Success and Failure. *Psycholinguia*, 24, 25-31.
- SHUKLA, A. 1995. Impact of Experiential Deprivation and Motivational Feedback of some Behavioural Process: A Developmental Study. ERIC funded Research. Kumayun University, Almora.
- SINGH, A. AND A. BROOTA. 1995. Effect of Study Counselling on High Test Anxious Students. *Journal of Psychological Researches*, 39, 72-76.
- SINGH, B. 1992. The Effects of Self versus Others' Reference on Retention. Unpublished Doctoral Dissertation in Psychology, Barkatullah University, Bhopal.
- SINGH, B.G. 1993. Creativity as a Function of Reinforcement-oriented Teaching Strategy as Perceived by Pupils. *Indian Journal of Psychometry and Education*, 24, 31-36.
- SINGH, R. AND S.K. VERMA. 1995. The Effect of Academic Aspiration and Intelligence on Scholastic Success of Eleventh Graders. *Indian Journal of Psychometry and Education*, 26, 43-48.
- SINGH, R.A., R.K. SINHA, AND G.S. ROY. 1995. Perception of Socio-emotional Climate in Relation to Prolonged Deprivation and Sex. *Praachi Journal of Psychocultural Dimensions*, 11, 33-36.
- SINGH, R.P. 1993. A Study of Emotional Maturity of Male and Female Students of Upper and Lower SES. *Praachi Journal of Psychocultural Dimensions*, 9, 15-19.
- SINGH, S. 1996. Determinants of Learner Achievement at Primary Stage. *Indian Educational Review*, 31, 47-68.
- SINGH, S., S.N. PANDA, AND V.V. UPMANYU. 1998. Forgetting of Word Associates in Relation to Recall Interval. *Journal of Indian Academy of Applied Psychology*, 24, 79-82.
- SINGH, S., R.R. SAXENA, V.K. JAIN, O.P. ARORA, K.B. RATH, J.K. GUPTA, AND M.K. GUPTA. 1995. Effect of School Policies and Practices on Students' Achievement. In *Effectiveness and Learning Achievement at Primary Stage: International Perspective*. NCERT. New Delhi.
- SINGH, S. AND R.R. SAXENA. 1995. Achievement Difference and School Effects. *Indian Educational Review*, 30, 1-20.
- SINGH, T. AND K.N. TRIPATHI. 1994. Locus of Control, Reward and Task Motivation. *Indian Journal of Psychometry and Education*, 25, 109-116.
- SINGH, V. AND S. SAXENA. 1993. Home Environment and Aggressive Behaviour. *Indian Journal of Psychometry and Education*, 24, 115-117.

- SINGHAL, S. AND B. LIEGISE. 1994. Schools and Creative Thinking of Students: Some Evidence from Nagaland. *Perspectives in Education*, 10, 237-243.
- SINHA, B.P. AND A.K. SINGH. 1995. Adjustment as the Factor of Parent's Aggression and Strictness. *Perspectives in Psychological Researches*, 17-18, 93-98.
- SINHA, N. 1992. A Social and Psychological Study of Academically Talented and Average Students. *Researches and Studies*, 43, 16-19.
- SINHA, R.K. AND A. SHARMA. 1995. Deprivation Level and Students' Perception of Socio-emotional Climate. *Psycholinguia*, 24, 61-64.
- SONAWAT, R. 1993. Aggression in Kindergarten Children. *Journal Indian Education*, 18, 46-51.
- SRIVASTAVA, A.K. AND G. MISRA. 1999a. An Indian Perspective on Understanding Intelligence. In W. J. Lonner, D. L. Dinnel, D. K. Forgays and S. A. Hayes (Eds.), *Merging Past, Present, and Future: Selected Proceedings of the 14th International Congress of the International Association for Cross-cultural Psychology* (pp. 159-172). Lisse, Swets and Zeitlinger, The Netherlands.
- SRIVASTAVA, A.K. AND G. MISRA. 1999b. Social Representation of Intelligence in the Indian Folk Tradition. *Journal of Indian Psychology*, 17, 23-38.
- SRIVASTAVA, A.K., A.M. TRIPATHI, AND G. MISRA. 1995. Western and Indian Perspectives on Intelligence. *Indian Educational Review*, 30, 30-45.
- SRIVASTAVA, A.K., A.M. TRIPATHI, AND G. MISRA. 1996. The Status of Intelligence Testing in India: A Preliminary Analysis. *Indian Educational Review*, 31, 1-11.
- SRIVASTAVA, N.C. 1996. Academic Achievement in Literary Subjects at Junior High School Stage as Predictor of Success for High School Examination. *The Progress of Education*, 30, 140-143.
- SRIVASTAVA, N.C. 1993. Verbal Test of Intelligence as a Predictor of Success in Science and Mathematics. *Psycholinguia*, 23-65-70.
- SRIVASTAVA, R.K. 1998. A Study of Self-concept of High School Pupils in Relation to their Sociometric Status. *Indian Journal of Psychometry and Education*, 29, 49-52.
- SRIVASTAVA, R.K. 1995. Effect of the Parent-child Relationship Perception upon the Academic Achievement of Class V Pupils. *Praachi Journal of Psychocultural Dimensions*, 11, 27-31.
- SRIVASTAVA, R.K. AND R. RANA. 1996. Parental-behaviour and Sociometric Position of Children. *Indian Journal of Educational Research*, 15, 47-53.
- SUDHIR, M.A. AND V. KHAIANGTE. 1997. Personality and Creativity among Secondary School Students: A Study in Talent Development. *Indian Educational Review*, 32, 115-125.
- SUKHIA, S.P., P.V. MEHROTRA, AND R.N. MEHROTRA. 1963. Elements of Educational Research. Allied, New Delhi.
- SUMAN, S. 1993. Residential Background and Addiction to Intoxicants. *Indian Journal of Psychometry and Education*, 24, 7-10.
- SUMATHY, M. 1994. Hemisphericity, Divergent Thinking and Problem-solving Ability in Physical Science of the Plus-two Students in Salem. Unpublished Doctoral Dissertation submitted to Madras University. *Indian Journal of Psychometry and Education*, 28, 137-141.
- SUNDER, D.L. 1995. Relationship between Risk Taking and Information Seeking in Decision-making. *Indian Journal of Applied Psychology*, 32, 80-83.
- SUNDARRAJAN, S., S. SABESAN, AND A. ETHIRAJ. 1994. Self-esteem in High School Pupils. *Experiments in Education*, 22, 69-72.
- TALLA, M. 1993. A Study on the Impact of Television on Early Childhood Behaviour (2-8 years), with Special Reference to Affective Domain. Unpublished Doctoral

- Dissertation in Education, Osmania University, Hyderabad.
- TALUJA, H. AND R. ZANUDDIN. 1993. The Development of Non-autonomy, Non-achievement and Non-affiliation in Children of Working and Non-working Mothers. *Journal of Community Guidance and Research*, 10, 213-216.
- TANDON, U. 1994. A Comparative Study of Self-concept among High and Normal IQ Adolescents in Relation to Creativity, SES and Academic Achievement. Unpublished Doctoral Dissertation in Education, Kanpur University, Kanpur.
- THAKUR, R.C. 1993. Impact of Home and School Environment in the Phenomenon of Wastage Occurring at the Stage of Primary Education. *Bharatiya Shiksha Shodh Patrica*, 12, 33-40.
- THIAGARAJAN, A.P., S.S. KRISHNAN, AND K. JEYALATHA. 1995. A Study of Teaching Competency and Achievement. *Indian Journal of Psychometry and Education*, 26, 61-63.
- TICKOO, S. AND JAGDISH. 1997. Relationship between Achievement Motivation and Mental Health among School Students. *Indian Journal of Psychometry and Education*, 28, 137-141.
- TOMAR, V. 1999. Aggression: As a Function of Humour, Economic Status, and Gender. *Journal of Personality and Clinical Studies*, 15, 52-55.
- TREHAN, M. 1994. Adjustment as a Function of Sense of Humour, Degree of Aggression and Inferiority Feelings. Unpublished Doctoral Dissertation in Psychology, Meerut University, Meerut.
- TYAGI, M. 1999. Altruism as a Function of Sex and Intelligence. *Praachi Journal of Psycho-cultural Dimensions*, 15, 95-98.
- UPMANYU, V.V. AND S. BHARDWAZ. 1994. Loneliness, Sex Role Identity and Depression. *Journal of Indian Education*, 20, 35-41.
- UPMANYU, S. AND V.V. UPMANYU. 1995. Loneliness at Adolescence : Correlates, Attribution and Coping. Unpublished Manuscript, Sohanlal DAV College of Education, Ambala city.
- UPADHYAYA, G.C., K. SETH, R. KAPOOR, AND R. SONI. 1996. Innumeracy and Reading Readiness Levels of Entrants to Class I. In *Studies on Classroom Processes and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- UJJWALARANI, M.V. 1993. Differential Impact of Social and Economical Disadvantages on Approval Motive. *Indian Journal of Applied Psychology*, 30, 8-13.
- VANI, E.M. 1995. Sex, Type of School, Standard, and Mental Heith of High School Students. *Experiments in Education*, 23, 83-87.
- VED PRAKASH. 1994. A Study of Educational Aspirations, School Adjustment and Values of +2 Arts and Science Male Students in Relation to School Environment. Unpublished Doctoral Dissertation in Education, Punjabi University, Patiala.
- VED PRAKASH, AND P. PANDA. 1996. Literacy and Numeracy Attainments of Class II Students in DPEP States: A Meta-analysis. In *Studies on Classroom Processes and School Effectiveness at Primary Stage: International Perspective*. NCERT. New Delhi.
- VERGHESE, N.V. 1995. School Facilities and Learner Achievement: Towards a Methodology of Analysing School Facilities in India. *Perspectives in Education*, 11, pp. 97-108.
- VERMA, B.P. 1993. Creativity Styles of University Women Students. *Psycholinguia*, 23, 105-113.
- VERMA, B.P. 1994. Cognitive Style as a Function of Gender and Personality. *Educational Herald*, 25, pp.18-28.

- VERMA, B.P. 1995. Creativity Styles of Women Students in Relation to their Rural Urban Background. *Progress in Education*, 29. 196–198.
- VERMA, B.P. 1996a. Study Habits, Locus of Control, and Academic Performance. *Indian Journal of Psychometry and Education*, 27. pp.1–6.
- VERMA, B.P. 1996b. Intellectual Ability, Test Anxiety and Achievement in Different School Courses. *Indian Journal of Psychology*, 71. pp.115–119.
- VERMA, B.P. 1996c. Test Anxiety and Study Habits: A Study of Their Main and Interaction Effects on Academic Achievement. *Indian Journal of Applied Psychology*, 33. pp.55–61.
- VERMA, B.P. 1997. The Family Climate and Creative Personality. *Journal of Educational Research and Extension*, 34. pp.25–33.
- VERMA, B.P. 1997. Learning Style Preferences of Intellectually Gifted Adolescents and Implications for Instruction. *Journal of Education and Psychology*, 55. pp.28–38.
- VERMA, B.P., AND M. GUPTA. 1996. Modes and Styles of Learning as Functions of Personality and Motivation. *Psycholinguia*, 26. pp.37–42.
- VERMA, B.P. AND R. RAMAMURTI. 1998. Interface Between Prolonged Deprivation and Intelligence as Determinant of Values, Needs and Adjustment of Male and Female Students at +2 Stage. *Indian Educational Review*, 34. pp.79–89.
- VERMA, B.P. AND G.Q. SHEIKH. 1996. Cognitive Style, Personality and Psychological Needs. *Journal of Psychological Researches*, 40. pp.62–68.
- VERMA, B.P., G.Q. SHEIKH, AND SANGITA. 1997. Study Habits of Adolescent Students as Related to Academic Motivation and Test Anxiety. *Psycholinguia*, 27. pp.107–110.
- VERMA, M., B.B. SINGH, B. MISHRA, AND R.K. SHUKLA. 1993. A Study of Rural Elementary Education with Reference to Socio-cultural Deprivation. *Indian Journal of Adult Education*, 54. pp.37–40.
- VERMA, O.P. AND M. THAKUR. 1993. Self-concept of Socially Stigmatised Individuals. *Psycholinguia*, 23. pp.37–51.
- VERMA, S. AND R. KUMAR. 1999. A Correlational Study Habits and Achievement in Different School Courses. *Indian Journal of Psychometry and Education*, 30. pp.53–56.
- VERMA, S., M. QUMRA, AND H. BALA. 1995. Experiencing Daily Hassles and a Sense of Well-being in the College Youth. *Journal of Community Guidance and Research*, 12. pp.77–85.
- VIG, D. AND P. NANDA. 1999. Aggressive Behaviour of Adolescent Boys. *Praachi Journal of Psycho-cultural Dimensions*, 15. pp.125–128.
- VINOD, R. AND S. KADLASKAR. 1995. Exploration into Brain Reference of the Adolescent Girl Students, in Relation to Giftedness and Behavioural Intelligence. ERIC Research Project. Jnana Prabodhini Institute of Psychology, Pune.
- YADAV, R.S. 1995. A Composite Model of Cognitive, Psychomotor and Affective Domain Abilities: A Factor Analytic Study. D.Litt. Unpublished Dissertation in Education. H.N. Bahuguna University. Srinagar.