Chapter-2

REVIEW OF LITERATURE

The review of related literature is an important part of any scientific research. A review of related literature provides the researchers an insight into the problem that the investigator is going to undertake. It also helps in determining objectives and formulating hypothesis. Therefore, the main objective of a review of related literature is to have an understanding of the trends of research in the field and about the gaps in research if any. In this chapter an attempt is made to survey the earlier works done in India and abroad. These studies will help the investigator in planning and the following chapter provides a review of the literature on factors that can affect academic achievement. There are number of studies relating to the academic achievement done in the past.

The study of academic achievement is one of the most significant topics in the field of educational research. There is a range of factors that affect the quality of performance of students (Waters & Marzano, 2006). Over the past several decades research has firmly established classroom learning environment as a thriving field of study (Deng, 1992; Edmonds & Federiken, 1979; Fraser, 1981; Walberg, 1979). Climate could positively influence the health of the learning environment, or it could significantly impede learning. Thus, feedback about climate could play an important role in reform (Freiberg, 1998). The benefits derived from information regarding climate and academic achievement could lead to identification of strategies that schools could take in designing effective interventions to produce improved academic performance in students. Considering the potential significance of classroom environment, attention should be given to its continued investigation, thus there is need to examine the relationship between academic achievement and classroom environment has proven to be vital, and there is lack of study in this field specifically in the rural and urban area of Chhattisgarh State.

The first effort in this direction in India can be seen in the first educational research survey (as cited in Stanley, 2005) studied by Buch (1974). The trend report on achievement included categories namely, correlates in general, personality correlates, socio-economic status, backwardness and failure, over and under
achievement and miscellaneous (Dave, 1974). The trend report in the second survey of research in education (Dave & Anand, 1979), classified studies under the same categories namely correlates in general, personality correlates, socio-economic status, backwardness and failure, over and under achievement and miscellaneous. However, the category: backwardness and failure was replaced by poor curriculum organization. The trend report in third survey of research in education classified studies on correlates of achievement under eight categories: personality creativity and achievement, affective correlates, socio-economic status and achievement, over and under achievers, achievement of SC/ST students, institutional characteristics and achievement and miscellaneous (Anand & Padma, 1987). In the fourth survey of research in education, studies on correlates of achievement classified by Padma, (1991) namely (i) variable, (ii) educational level, (iii) subjects. The variables were further analyzed under four broad categories, viz., student related, teaching related, sociological and other. Student related variable were intelligence, anxiety, values, interest and aptitudes etc. Teaching related variable were mostly the process variables dealing with method of teaching and classroom interaction. Socio-economic status was the predominant sociological variable with home environment, parental attitude, aspiration, encouragement and cultural influences as the second level variables. Other variables included language ability and homework. In the fifth survey of research by Balasubramanian (1997) has discussed broad categories that include the cognitive variables, the affective variables and environment (School and Home) related variables as correlates of achievement.

There is a wealth of studies documenting, educational attainment of students in other countries also. It is thus, evident that the researches on determinants of achievement have expanded in many directions. However the factors that affect academic achievement can be grouped into three main categories:

1. **Personal Factors** – which include intelligence, motivation, self concept, study habit, anxiety, interest, level of aspiration etc.

2. **School Factors** – includes school environment, classroom environment, teacher education, student-teacher relationship, teacher support, teaching method etc.
3. **Socio-cultural Factors** – includes family environment, parental education, socioeconomic status, parental involvement.

1. **Personal Factors**

Researches on the personal factors of academic achievement take currently into account of individual variables, among which intelligence, motivation, self-concept, study habit, anxiety, interest acquire relevance. These variables along with some other variable are discussed below:

**Intelligence**

Smith, Smith and Dobbs (1991) studied relationship between vocabularies Test revised; wide range achievement and Wechsler Intelligence Scale for Children (WISC) revised and found that high correlation exist between intelligence and scholastic achievement. Several researchers examined the relationships between academic achievement and intelligence (Allik & Realo 1997; Gagné & St Père 2002; Saleh, I. Al. et. al. 2001; Kossowska 1999; Kobal & Musek 2001; Koke & Vernon 2003) and found positive relationship between intelligence and academic achievement. Harris (2004) studied about measured intelligence, achievement, openness to experience and creativity and found that achievement had small to moderate positive correlations with an intelligence factor. Colom and Mendoza (2006) studied the intelligence predicts scholastic achievement irrespective of SES factors in Brazil and found that intelligence does predict the children differences in scholastic achievement. The results emphasized personal intelligence as a genuine predictor of individual differences in scholastic achievement.

Laidra, Pullman and Allik (2007) studied the personality and intelligence as predictors of academic achievement in a large sample of 3618 students (1746 boys and 1872 girls) in Estonia. Intelligence as measured by the Raven’s Standard Progressive Matrices was found to be the best predictor of students’ grade point average (GPA) in all grades.

Deary, Strand, Smith, and Fernandes, (2007) examined the relationship between intelligence and educational achievement and found strong correlation between intelligence and academic achievement.
Rohd and Thompson (2007) studied predicting academic achievement with cognitive ability and found that the measures of general cognitive ability continued to add to the prediction of academic achievement. Further, the studies of Fraine, Damme and Onghena (2007) Ehrmann and Massey (2008) told that students having higher intelligence are high achievers in academic performance than the students having low intelligence.

Habibollah et al., (2009) studied gender difference in creative perceptions of under graduate students and found that there is no significant relationship between academic achievement and intelligence. Royce (2009) studied on the grade integrity and the representation of academic achievements and found that the student’s academic achievement is to some extent affected by the grade integrity. Steinmayr et al. (2010) studied that do intelligence and sustained attention interact in predicting academic achievement and found that intelligence serves as significant predictors to academic achievement. Naderi (2010) studied intelligence and academic achievement: an investigation of gender differences and found that the relationship between intelligence and academic achievement is complex. It may vary by gender and by the intelligence measure used.

Mudasir and Yatu (2012) studied a comparative study of intelligence and academic achievement of Kashmiri and Tibetan students and found significant mean differences between the two groups under investigation.

**Anxiety**

The academic achievements of the students are badly affected due to rise in anxiety in the society. There is no denying to the fact that anxiety has increased in the society. It is not only affects education but also students’ personalities which remain the whole time their lives.

Eysenck (2001) found that test-anxiety creates irrelevant thoughts, preoccupation, and decreased attention and concentration thus, leads to academic difficulties. When attention and concentration are impaired, this will disrupt memory and as a result will lead to low academic achievement (Needham, 2006).
Hancock (2001) studied effect of test anxiety and evaluation threats on students’ achievement and motivation at post-secondary level and found statistically significant results that student with high anxiety level performed poorly and was less motivated to learn.

Cassady and Johnson (2002) studied cognitive test anxiety and academic performance and found that anxiety exerts a significant stable and negative impact on academic performance measures. Davis (2004), found that test-anxiety decreases attention span, memory and concentration, then leads to low academic performance. Masson et.al. (2004) found that high school students with high test–anxiety had a poor school performance. Chepell et al. (2005) studied test anxiety and academic performance in undergraduate and graduate students and found negative relationship between test anxiety and academic achievement.

Nicholson, (2009) studied the effect of test anxiety on student achievement of grade 11 students, and found that anxiety and achievement are related to each other. Khalid and Hasan (2009) studied about test anxiety in high and low achievers, and found vice-versa relationship.

Oludipe (2009) studied influence of test anxiety on performance level on numerical tasks of secondary school physics students and found that low test anxious students performed better than high test anxious students on both numerical and non-numerical tasks in physics.

Eysenk (2009) studied the effect of anxiety on academic performance and he suggested that “A lot of the negative effects of anxiety appear to be caused by difficulties with controlling attention. This suggest that training techniques designed to enhance attention control the ability to ignore distractions and to switch attention from one task to another – could help anxious students to achieve their academic potential.

Rana and Mahmood (2010) studied the relationship between test anxiety and academic achievement and found that test anxiety is one of the factors which are responsible for student’s achievement and low performance but, it can be managed by appropriate training of students in dealing with factor causing test anxiety.
Yousefi et al., (2010) examine the relationship between Test-Anxiety and academic achievement among Iranian Adolescents and found that there is a significant correlation between test anxiety and academic achievement among adolescents. In addition, there is a significant difference of academic achievement between male and female adolescents whereby female score higher in their academic achievement. It is suggested that academic achievement be improved in school settings with hold up strategies such as educational guidance, counseling and other psycho-educational program such as teaching life skill.

Al-Qaisy (2011) studied the relationship of depression and anxiety in academic achievement among group of university students and found that females are more anxious than males, while males are more depressed than females. Additionally, the result indicates that there is positive relationship between achievement and anxiety, while a negative relationship is found with depression. Rohen Meetei,( 2012) stated that academic anxiety is a kind of state anxiety which relates to the imminent danger from the environment of the academic institutions including teachers, certain subjects like Mathematics, English etc..

Nadeem, Ali, Maqbool and Zaidi (2012) studied impact of anxiety on the academic achievement of students having different mental abilities at university level in Bahawalpur, Pakistan and found that with the increase in anxiety academic achievement decreases both in male and female students.

Motivation

An ambiance or environment that nurtures the motivation to learn can be cultured in the home, in the classroom, or, at a broader level, during an entire school. Much of the recent research on educational motivation has rightly centered on the classroom, where the greater part of learning takes place and where students are most likely to acquire a strong motivation to gain new knowledge (Ames 1987, Brophy 1987, Tucker, Zayco & Herman,2002, Wlodkowski & Jaynes 1991.).

Bank and Finalpson (1980) studied successful motivation of students in academic activities and found that successful students were significantly higher motivation for achievement than unsuccessful students. Motivation is the key not only to effective learning but also to good discipline. It is expected that educators will
involve learners in learning activities so that effective learning can occur, but de-
motivated learners will not become involved. Pretorius (1998) found that lack of
motivation can lead to school fatigue, bunking, leaving school, underachievement and
problem behavior.

Tella (2007) studied the impact of motivation on student’s academic
achievement and learning outcomes in mathematics among secondary school students
in Nigeria and found that gender difference were significant when impact of
motivation on academic achievement was compared in male and female students.
When extent of motivation was taken as variable of interest on academic achievement
in mathematics significant difference seen.

Kusarkar, et al., (2011) examine how motivation affect academic performance
data on motivation, study strategy and effort was collected 383 medical University
students, Medical Center, Amsterdam and their academic performance results were
obtained from the student administration. Structural equation modeling analysis
techniques was used. A structural equation modeling analysis revealed that motivation
positively correlated with academic performance through deep strategy towards study
and higher study effort.

**Study Habit**

National Assessment of Educational Progress (NAEP) in 1994 conducted
research to find out the relationship between study habits and academic achievement.
The findings of this research revealed a positive correlation between study habits
and academic achievement of elementary and secondary school students.

Onwueguzie, Slate, & Schwartz, (2001) conducted a series of studies to find
out the relationship between study habits and academic success, and reported a
positive relationship between them.

Nandita and Tanima (2004) conducted a study to find a relationship between
study habits and attitude towards studies with academic achievement in Geography.
This study was conducted using secondary school students in the 9th class in schools
in Bhadrak, a district of Orissa in India. The coefficients of correlation were
calculated between the variables: study habits, attitude towards study and academic
achievement in Geography. It was found that there existed a positive significant relationship between attitude towards studies and academic achievement and between study habits and attitude towards studies.

Karim and Hassan (2006) studied reading habits and attitude in the digital age. Analysis of gender and academic program differences in Malaysia and found that the exponential growth of digital information changes the way students perceive study material, affects reading and how printed materials are used to facilitate study.

Novhi (2008) studied about study habit and skills and academic achievement of students in Kerman University of Medical Science and found a significant correlation between study skill and academic achievement. He stated that study skill is one important factor determining academic achievement of students. We must replace ineffective models and habit of study with more fruitful skill in order to gain better learning.

Nuthana and Yenagi, (2009) studied the influence of study habits, self concept on academic achievement of boys and girls and found significant relationship with achievement.

Gurubasappa (2009) studied intelligence and self concept as correlates of academic achievement of secondary school students with the objective to find out the relationship between academic achievement with intelligence and self concept by taking a sample of 400 students and found that there was high significant correlation between academic achievement with intelligence and self concept; there was significant difference in the academic achievement of students with different levels of intelligence and self concept; there was significant difference in the academic achievement of students in context of gender, type of school, medium of instruction, locality and socio economic status.

Ahmad, Hamid and Ganaie (2012) studied self concept, level of aspiration and academic achievement of physically challenged and normal students at secondary level in district Barramullah. Results of the study highlight that the normal secondary school students have high real self concept, level of aspiration and academic achievement as compared to physically challenged students. On the other hand,
physically challenged students were found to have high ideal self as compared normal student.

Fazal, Hussain, Majaka and Massood (2012) studied the role of study skills in academic achievement of students and found significant relationship of time management skills, reading and note-taking skills with academic achievement.

Oluwatimimilehim, and Owoyele (2012) studied about study habits and academic achievement in core subjects among junior secondary school students ONDO State Nigeria. They found that all the study habits’ subscales, teacher ‘Consultation’ was most influential while the time allocation exercise, concentration, note taking reading and assignments were regarded as less integral to students’ academic performance.

Ayodele (2013) studied study habits as influence of academic performance of university undergraduates in Nigeria and found that faculty is a significant determinant of undergraduates study habit. Gender has been found not to influence the determinants of undergraduates’ study habit.

Saini (2013) studied academic achievement of scheduled caste secondary school students in relation to study habit, home environment and school environment and found no significant relationship between study habit and academic achievement. Home environment had significant effect on academic achievement. School environment does not play a significant role in academic achievement.

**Level of aspiration**

Level of aspiration is another variable that affects academic achievement. Singh (1983) studied the effect of level of aspiration on achievement and found that rural students received lower marks than urban students and there was a positive correlation between level of aspiration and achievement.

Abu Hilal (2000) studied the structural model of attitudes towards school subjects, academic aspiration and achievement and structural analysis revealed that 'attitudes to school' influence achievement, but only indirectly. Level of aspiration had
significant direct effect on achievement and mediated between 'attitudes' and achievement.

Naglieri and Bornstein (2003) studied about self concept and academic achievement in Slovenia and France and found that self concept is significantly correlated with academic achievement.

Vaidya (2006) studied educational aspiration of higher secondary students and compare the academic achievement of students of formal and non formal education and found that there was significant difference in the academic achievement between the students studying through formal and non formal education in Telgu test; significant difference exist between students studying through formal and non formal mode of education in their academic achievement in the areas of vocabulary, reading comprehension, writing and grammar; students from non- governmental school had higher educational aspiration than the students from government school.

Sharmistha (2008) has made a comparative study of factors affecting academic achievement of school going adolescent boys and girls and found that the factor like daily routine of the students tuitions' content viewed on TV were positively correlated with academic achievement and there is no significant gender difference seen in academic achievement.

Uniyal (2007) examined level of aspiration and scholastic achievement in relation to gender and caste with the objective to study the level of aspiration that determined the scholastic achievement by taking a sample of 514 adolescents and found that there exists a very high significant difference in between the high and low achiever students in overall aspiration scale; gender and achievement of students do have interactive effects on level of aspiration; level of aspiration was significantly influenced by scholastic achievement of students.

Tella, Tella, and Adeni (2009) studied the locus of control, interest in schooling, self-efficacy and academic achievement and found that locus of control, interest in schooling and self efficacy jointly and relatively contribute significantly to the prediction of academic achievement of the Junior Secondary School Students. Based on these findings, the need to continuously stimulate the interest of the students...
and teaching them time management and for teachers to see all the three variables on the study as important and improve them simultaneously was emphasized.

2. School Factors

The school determinants constitute probably the more recent research field on academic achievement. This concept to the effective school research, which has helped in the recognition of some variables and school operating patterns related with students’ performance as well as a more positive environment for learning. At the school level factors of academic achievement includes school environment, classroom environment, teaching methods, student teacher relationship etc. These factors along with some other factors are discussed below.

Classroom Environment

Classroom learning environment, referred to the classroom social atmosphere in which learning occurs. Fraser (1994) indicated these learning environments as the social-psycho-logical contexts or determinants of learning.

Psychological environment refers to the social quality of the school and classroom; particularly it relates perceptions and feelings concerning social relationships among student and teachers (Arezoy, 2007). The classroom psychological environment, which refers to classroom social environment, classroom social interaction, and classroom social relationship are often used interchangeably when discussing the classroom learning environment (Cheng, 1994). Learning environment researches, which were firstly started in Western countries, showed strong emphasis on the use of a variety of validated questionnaires that assess student’s perceptions of their classroom learning environment. Later, researches on learning environment were started in Asia countries and researchers have conducted studies that have cross-validated the main contemporary classroom environment questionnaires (e.g. Questionnaire on Teacher Interaction, Science Laboratory Environment Inventory, Constructivist Learning Environment Survey, and What Is Happening in This Class?) which were originally developed in English.
The classroom environment is the important determinant of student learning in educational system (Fraser, 1994, 1998a). Students learn better when they perceive their classroom environment more positively, hence the study of classroom environment has become a concern to educators, researchers, administrators of school system and parents. Numerous researches on classroom environment have been carried out years ago and have provided important information for educators and researchers on student’s perception of classroom environment (Anderson & Walberg, 1974; Fraser, 1989; 1998a, 1998b; Nielson & Kirk, 1974).

Freiberg, (1998) stated that climate could positively influence the health of the learning environment, or it could significantly impede learning. Thus, feedback about climate could play an important role in reform. Masutha and Ackermann (1999), classroom climate significantly influences learner's achievement. A positive classroom climate that enhances academic achievement is facilitated by support, positive feedback, interest in learner's progress, and deliberation of learner's feelings.

Fraser and Fisher (1982) studied relationship between students affective and cognitive outcomes and their perceptions of classroom psychological environment as measured by the individualized classroom environment questionnaire (ICEQ) and the classroom environment scale (CES) were investigated for a sample of 1,083 junior high school students in 116 classroom. Result showed that the ICEQ and CES give appreciable unique contribution to explaining outcomes variance.

Fraser (1984) studied the effects of classroom climate on student outcomes: A replication in two developing countries and found significant relationship between student outcomes and classroom climates among students in both Indonesia and Thailand.

Fraser (1986) studied differences between students and instructors perceptions of actual and preferred classroom environment and found that both students and instructors preferred a more favorable classroom environment than the one actually present and second instructors perceived the environment of their classes more positively than did their students in the same classrooms.
Schibeci (1987) studied effect of classroom environment on science attitudes, involved a total of 1125 secondary school students. This three phase study found statistically significant association between environment and attitudes.

Diekhoe, and Wigginton, (1992) studied college faculty perception of classroom environment and found that perceptions of classroom environment are linked to self perceptions. The large college classroom appears to be sufficiently ambiguous that professors’ perceptions of classroom environment reflect a self projecting tendency.

Cheng (1994) studied about relationship between student affective performance and classroom physical environment, social climate and management style and found that good classroom environment is highly correlated with student affective performance.

Lim (1995) studied about perception of classroom environment, school types, Gender and learning styles of secondary school students. Two instrument the individual classroom environment questionnaire (ICEQ) and the learning style inventory 1985 (LSI) were administered in Singapore to a stratified random sample of 1733 secondary students from nine secondary schools, and found that school type had the most influence on the students perceptions of both actual and preferred classroom environment, gender had an influence too, but mainly on perceptions of actual classroom environment. Learning styles of students had the least influence.

Dorman (1997) studied the relationships between school and classroom environment. The study involved a sample of 2,211 students and found weak relationship between school and classroom environment.

Mc Robbie, Roth and Lucus, (1997) examined the multiple learning environment in a physics classroom and found that the nature of the classroom learning environment and psycho-social interaction can make a difference in how the students learn and achieve their goals

Hanrahan (1998) studied the effect of learning environment factors on students; Motivation and learning. This paper reports qualitative study of the learning environment of a year II biology class. The main method used for data gathering were
participant observation, interviewing and a written response survey (CES, Tobin 1993) and found that even though the students viewed the class positively, and described themselves as highly motivated to learn, the level of cognitive engagement was affected by two interrelated factors, the control the hand over almost all activities, and student beliefs about learning in this context.

Backer (1999) studied the effect of teacher student interaction and relationship quality on student school /satisfaction in poor urban, African American Classrooms. He found that students who are dissatisfied with their classroom environment received less negative feedback when seeking assistance from their teacher and when teacher initiated contact regarding academic work but more negative feedback about their behavior when compared to students who were satisfied at school.

Kim (2000) studied classroom environment and teacher interpersonal behavior in Korea. The questionnaires were administered to 543 students in 12 different Korean schools and found positive relationships of classroom environment and interpersonal teacher behavior with students attitudinal outcome, Relative to girls, boys perceived their learning environments and their teachers interpersonal behavior more favorably and reported more favorable attitudes toward their science class.

Hopson (2001) studied the effect of a technology enriched classroom on student development of higher order thinking skills and student attitude towards computer. A sample of 80 sixth grade and 86 fifth grade students was tested using the Ross test of higher cognitive processes and surveyed using the computer attitude questionnaire. The creation of a technology enriched classroom environment appears to have had a positive effect on student acquisition of higher order thinking skills. This study identified several implications related to classroom design to enhance the development of higher order thinking skill. Teachers reported that the technology enriched classroom differed from the traditional classroom in several significant ways.

Ryan (2001) studied perception of the social environment of their eighth grade classroom related to change in motivation and engagement when they moved from seventh to eighth grade. In general, prior motivation and engagement whereas gender, race and prior achievement were not related to change in motivation or engagement.
Dorman, Fisher and Waldrip (2002) studied linking students perception of learning environments and assessment with academic efficacy and attitude to science in Australian secondary schools. Result showed that classroom environment and student perceptions of assessment were significant positive predictors of academic efficacy and attitude to science.

Burnett (2002) studied the relationships between teacher praise and feedback, and students perceptions of the classroom environment. He found that negative teacher feedback and effort feedback were both related to students’ relationships with their teacher, while ability feedback was associated with perceptions of the classroom environment. Praise was not related to classroom environment or teacher student relationships.

Dorman, Adams, and Ferguson, (2003) studied association between classroom psychological environment in mathematics classroom and academic efficacy. A sample of 3,602 mathematics students from Australian, British and Canadian secondary schools responded to an instrument that assessed 10 dimensions of mathematics classroom environment (Vis. Student cohesiveness, teacher support, investigation, task orientation, cooperation, equity, involvement, personal relevance, shared control, student negotiation) and found that classroom environment relates positively with academic efficacy. A commonality analysis showed that the 3 constructivist learning environment survey scales did not contribute greatly to explaining variance in academic efficacy.

Beak and Choi (2002) studied relationship between students’ perceptions of classroom environment and their academic achievement in Korea and found that the seven subscales in the CES i.e. involvement, affiliation, and competition task orientation order and organization rule clarity and teacher control, had a significant correlation with students’ academic achievement.

Suzanna, (2003) studied classroom environment and academic performance at Kolei Yayasan Pelajaran Mara Kualalumpur and find out that student with good academic performance participated more actively in class compared to students with average and poor academic performance. Student who performed poorly in academic perceived the prevalence of teacher-student interaction in classroom but they were
less confident to establish good rapport with their lectures. Good performance students regarded teachers’ teaching efficiency highly, followed by the average and poor performing student respectively.

Sandra (2004) studied that how Teacher’s beliefs about teaching and learning influence their instructional practices and students goals in the classroom is important for understanding how to create learning environments focused on mastery and understanding, the current investigation examined relationships among teacher beliefs, instructional practices and classroom goal orientation in high school science classrooms. Path analysis techniques were used to analyze responses and revealed that personal teaching efficacy and teachers perceptions of a supporting school culture were related to teachers use of instructional practices focused on task master and understanding.

Jayshree Chrisenduth (2006) studied influence of classroom climate on academic achievement of learners in secondary schools, and found that a significant positive correlation exists between classroom climate and academic achievement of learners in secondary schools. The research further confirmed that the lack of organization of learning space, lack of learner involvement in lessons and lack of classroom discipline contributes to poor academic achievement in secondary schools.

Chang (2006) studied the possibilities of differential impact on students’ earth science learning outcomes between different actual learning environment spaces by using a newly developed ESCLEI (Earth science classroom learning environment instrument) and found that preferred actual space (PAS) between post treatment perception and pretreatment preferences accounted for a more substantial and statistically significant amount of learning outcomes in terms of students attitudes toward the subject matter with greater than large effect size, concerning practical significance in the actual earth science classroom. There finding suggest that earth science instruction in the secondary school should bridge the gap between students preferred / perceived learning environment with the aim to enhance their learning outcomes.

Talton & simpson, (2006) studied the relationship of classroom environment to attitudes towards science and achievement in science among tenth grade biology
students the result of the study indicated that student attitudes towards the classroom environment predicted between 56 to 61% of the variance in attitudes towards science. (2) student attitudes towards the classroom environment predicted between 5 to 14% of the variance in achievement in science. (3) Student attitudes towards science and attitudes toward the classroom environment predicted between 8 to 18% of the variance in achievement in science.

Wang & Thomas (2006) studied the effect of a web based learning environment on student motivation in a high school earth science course. The web LE was implemented in the teacher’s tenth grade classroom as a three day student centered learning activity. This study revealed multiple forms of evidence that the web – LE and the associated learning activity improved students’ motivation.

Fraser (2007) studied classroom home and peer environment influence on student outcomes in science and mathematics. Finding confirmed the importance of extending research on classroom learning environment to include the learning environment of the home and the peer group. Only the classroom environment accounted for statistically significant amounts of unique variance in student achievement scores. Nazmiye Arisoy (2007) studied examining 874 grade students’ perception of learning environment of science classrooms in relation to motivational beliefs and attitudes and found that gender had a significant effect on students’ constructivist learning environment their adaptive motivational beliefs and their attitude towards science. He also found that all constructivist learning environment variables and all the motivational beliefs variables were positively related with each other.

Dorman (2008) studied students’ perceptions of actual and preferred classroom environment using, what is happening in the class? Questionnaire (WIHIC). A sample of 978 secondary school students from 63 classes in Queensland responded to the WIHIC and found statistically significant difference between actual and preferred environments and that the gap between actual and preferred environment was smaller for more positive classroom environments.

Furong (2008) studied the rural urban difference in classroom environment in compulsory education in the eastern coastal developed areas of China. He found that
per capita GDP of a region is a main factor affecting classroom environment. The three main types of the actual classroom environment are high, middle and low ones, which distribute in a descending way in big cities, middle sized and countries and found significant difference between urban and rural areas.

Lau, and Lee (2008) studied Hong Kong students’ achievement goals and their relations with students perceived classroom environment and strategy use, based on the multiple goal perspective of goal orientation theory and find that students perceived classroom environment was significantly related to their personal achievement goals and strategy use.

Sungur, (2009) studied relationship between classroom environment perceptions self regulation, and science achievement. He found that student’s perception of classroom environment concerning motivating tasks autonomy support and mastery evaluation were positively associated with motivational and cognitive components of self regulation and science achievement.

Guardino and Fullerton, (2010), examined changing behaviors by changing the classroom environment and stated that modifications to the classroom environment increased academic engagement and decreased disruptive behavior.

Okurut (2010) studied about secondary students, perception of mathematics classroom learning environment and their association with their motivation towards mathematics. A sample of 81 students (19 male 62 female) in two schools was used. Student perceptions of the classroom environment were assessed using a modified what is happening in this class? (WIHIC) questionnaire. The results suggest that teachers wishing to improve student motivation towards mathematics, in general, should emphasize the learning environment dimensions that are assessed by the WIHIC, the findings have implications for teachers of mathematics and head teachers particularly those in secondary schools.

Sadeghi (2010) studied about affecting the classroom psychological environment (CPE) on approaches of student learning in Guilan University, Iran. It focused on nine subscales of the CPE as involvement affiliation teacher support, task orientation, competition, order and organization, rule clarity teacher control and innovation. He found that the subscale of involvement had the largest discrepancy
between preferred and actual form and the subscale of competition had the smallest discrepancy.

Okonkwo (2010) examined the Relationship between secondary school students’ perceptions of classroom learning environment and their achievement in chemistry and found that high achievers among secondary school chemistry students had more positive perceptions of their classroom environment than the low achievers.

Okoh (2011) examined the comparison between perceptions of classroom environment by biology students in public and private secondary schools and found that high achievers in secondary school biology had more positive perception of their classroom environment than the low achievers.

Wei & Elias (2011) studied the relationship between students’ perception of classroom environment and their motivation in learning English language. The sample of study was 140 students in a secondary school in Malacca. The data were collected using questionnaires. The finding indicated that majority of the students perceived their classroom as having affiliation and they were extrinsically motivated. The finding also revealed that students, affiliation and task orientation in the classrooms were positive and significantly correlated with their motivation whereas students, involvement was negatively correlated.

**Involvement** Measures the extent to which student have attentive interest in the class activities and participate in discussion and do additional work on their own and enjoy the class is considered.

Research evidence in the United States has suggested that student academic involvement is a powerful predictor of their achievement wentzel (1993) Hong and Lee (2000) Rao and Moely and Sachs (2000) have shown that student academic engagement is positively related with their academic achievement.

According to Steyn (2001) learner involvement, support and encouragement are important factors influencing learner's success. Learner-educator relationships are facilitated by co-operative, accepting environments whereas praise, recognition and
respect contribute to creating positive classroom environment. Learner's achievement is enhanced when educators establish an academically demanding classroom that has clearly defined objectives, explicit instructions and an orderly and efficient environment. Astin’s (1984) stated that "student involvement refers to the amount of physical and psychological energy that the student devotes to the academic experience.” Astin describes an involved student is one who devotes energy to academics, spend a great deal of time on campus, participate in student organizations and activities and interacts with his or her faculty (Monroe Community College, 2004). Involvement theory states that students learn more when they are involved in all aspects of school life. An involved student will enjoy his or her experience and, in turn, stay in college (Huttey, 2004)

The consequence of student faculty interaction is critical; student involvement with faculty has a direct positive relationship to learning, academic performance and degree attainment (Astin, 1993). Students’ involvement in extracurricular activities is generally considered advantageous to their overall educational experience. Interpersonal skills and leadership abilities increased with student involvement. Student satisfaction also improved with student involvement in student life functions (Astin, 2001). Evidence suggests that participating in extracurricular activities integrates students and has a positive impact for “persistence and degree competition” (Pascarella & Terenzini, 1991,). He told (1991) that students who interact with faculty, staff, and their peers outside of the classroom form educated opinions, attitudes, values, and aspirations based on those interactions. Students create their identity and become autonomous when they become engaged and involved in out of class activities. House, (2000) studied The effects of student involvement on the development of academic self-concept and found that involvement in campus activity increase confidence and leadership skill..

Learning communities are another place where students can become involved on campus learning enhanced when interaction between new students and their poor, faculty and staff increases (Banta, 2001). Northern Arizona University (NAU) revealed that involvement equals retention (Nason-Saltonstall, 2004). Students who feel connected to their college campus appear to feel better about their experience and, in turn, stay through graduation (Astin, 2001; Kentuky Council on Post-secondary
Garland (2010) studied “Assessing the relationship between student involvement and academic performance in higher education and found significant relationships between GPA and the number of student organizations in which they participated, officer status within student organizations, and the length of time of participation in student organization(s).

**Affiliation**

Affiliation assess the level of friendship students feel for each other i.e. the extent to which they help each other with homework get to know each other easily, and enjoy working together. Students’ relationships within classroom were related to students’ academic progress. Adolescents spend a large amount of time with their peers during the course of each school day it is rational to expect that they influence one another’s academic engagement and achievement outcomes. Researcher revealed that peers affect all facts of a student’s life, mainly social and emotional adjustment, educational aspirations and day to day behavior in school (e.g. Berndt, 1999; Fuligni et al., 2001; Steinberg, Dornbusch and Brown, 1992). Fuligni et al 2001 found peer influence peaks during adolescence. Lubbers, (2006) studied the impact of peer relations on academic progress in junior high school and found that students who were accepted by their peers had lower probabilities to retain a grade or to move downward in the tract system.

Jacobson and Burdral (2012) studied academic performance in middle school: Friendship influences Result support that adolescents’ relationships with peers influence academic performance specifically social support was significantly and positively related to academic performance.

**Teacher support**

Measures the amount of help, concern and friendship the teacher directs toward the students. Teacher plays a vital role to create environment that supports effective teaching and learning in the classrooms. Thus the organization of learning space: learner involvement and discipline in the classroom are important factors influencing academic achievement. Teacher support refers to students’ beliefs that their teachers care about them, value them and establish personal relationships with them (e.g., Fraser & Fisher, 1982; Goodenow, 1993; Trickett & Moos, 1973).
Researchers have found positive associations between perceptions of teacher support and students’ adaptive motivational beliefs and engagement behaviors. When students view their teacher as supportive, they report higher levels of interest, valuing, effort, and enjoyment in their school work (Fraser & Fisher, 1982; Midgley, Feldlaufer & Eccles, 1989; Trickett & Moos, 1974), a more positive academic self-concept (Felner, Aber, Primavera, & Cauce, 1985), and greater expectancies for success (Goodenow, 1993). Perceiving the teacher as supportive is also related positively to asking for help with school work when needed (Newman & Schwager, 1993), use of self-regulated learning strategies (Ryan & Patrick, 2001), and a desire to comply with classroom rules (Wentzel, 1994). Perceived teacher support is related negatively to absenteeism (Moos & Moos, 1978) and disruptiveness in the classroom (Ryan & Patrick, 2001).

Bartholomyy (1996) studied “student and teachers as partners in the classroom community: A study of classroom social environment and found that significant difference in students’ perceptions of the ideal and actual classroom social environment. Students indicated a preference for significantly more involvement, affiliation teacher support, personal goal attainment, organization and clarity and student influence than they saw in their actual classroom environment. Students preferred ideal classroom environments in which they could be actively involved in the learning process. They indicated a preference for interactional activities with other students and with their instructors. Students expressed interest in opportunities for exploring personal interest in relation to the course, relating their courses to their own experiences and having opportunities to be partners with the teacher in planning for class activities to support the concepts of the course.

Goh and Khine (2002) found that a good teacher-student relationship is superior to the formation and maintenance of a positive classroom environment. Ma, (2003) studied the “Sense of belonging to school: Can school make a difference?” and stated that Student perception of teacher support have been related with greater feelings of school belonging and greater school engagement and motivation as well as better academic performance.

Montalve, Mansfield & Miller (2007) studied the liking or disliking the teacher: Student motivation, engagement and achievement and found that students will put forth greater effort and demonstrate a higher degree of persistence if they like
their teachers. Finding also indicates that students attain better grades in classes taught by teachers they like. Teachers liked by students shared characteristics such as constructing a classroom setting with an emphasis on learning, giving effective feedback, and encouraging tenacity when work becomes challenging these traits all increase student achievement.

Hallinan (2008) studied the teacher influences on students' attachment to school and found that when students’ needs to be valued and respected are met, their attachment to school increases.

Ushakumari (2008) studied the relationship of teacher aptitude with academic achievement and certain psychological variables of primary teacher. Trainees of Kerala and found aptitude towards teaching profession as the major variable having relation. Significant relationship with teacher aptitude and its entire four constructs viz., instructional awareness, educational problem solving, creativity and mental ability.

Chiaki Konishi (2010) examine “Do school bullying and Student–Teacher relationships matter for academic achievement” and found that positive teacher-student relationship were associated with better school performance.

**Task Orientation/ Competition/Teacher Control**

Research suggested that student academic engagement is a significant predictor of their academic achievement (Wentzel, 1993). Students’ academic engagement is positively associated with their achievement outcomes (Hong & Lee, 2000; Rao, Moely, and Sachs, 2000). Hong and Lee found that high achieving group were more self motivated, persistent and responsible in doing their homework than low achieving group.

Gneezy, Niederle and Rustichini (2003) studied performance in competitive environments: gender differences and found that, as we increase the competitiveness of the environment, a significant increase in performance for men, but not for women. This result shows significant gender gap in performance.
Lam, Yim, Law, and Cheung (2004) studied the effects of competition on achievement motivation in Chinese classrooms and found that competition had a positive impact on performance goals and learning motivation in the classroom.

Classroom control has often been defined as a single dimension running from teacher control to student autonomy. Classroom discipline that promotes academic achievement reflects learner behavior that is not disorderly and does not interfere with the activities of the lesson. Classroom management strategies indicate that educators act according to code of conduct of the school when learners break rules they try to understand learners' behavior and provide support. Learners in orderly classrooms are extrinsically motivated when educators provide positive feedback and frequent verbal support and praise four distinct perceived classroom control styles were determined, based on the balance between teacher and student control over learning.

Eshel and Kohavi (2003) studied on perceived classroom control, self regulated learning strategies, and academic achievement and found significant relationship between four classroom control style and student achievement.

Dettmer (2004) posited that “learning by losing” was a valuable process for students preparing for professions where working under pressure was necessary.

Kiany and Shayestefar, (2011) studied high school students’ perceptions of EFL teacher control orientations and their English academic achievement. Sample consist of 732 English (EFL English as a Foreign language) students studying in three major field of high school (Mathematics Natural Science and Humanities). The result of multilevel analysis explained that relatively large amount of variance was found by the control variable and student variable and teacher control had a statistically significant effect on student outcomes many factors within classrooms can effect students’ academic performance. In particular, the authority structure of classrooms that encourages students to be autonomous in their learning is related to their intrinsic motivation. Similarly, one important factor linked to classroom climate is teachers’ control orientation. Teachers’ orientations whether they believe that children should be controlled or be given freedom to make decision determines the structure of classrooms which in turn effect students’ motive to learn (Deci, Schwartz, Shenman & Ryan, 1981). Cornell and Welborn (1991) and Ryan and Powelson’s
(1991) model suggesting that in the classroom the autonomy support and caring or relatedness are intertwined and satisfy students’ needs for autonomy and belonging which are necessary for optimal learning environment.

Akhtar Selina (2003) examined the relationships between teachers’ control orientations, perceived teachers’ control behavior and students’ motivation and he found that caring and humanistic classroom climate enhances students’ social motivation, social motivation and their relation with teachers and peers, strongly influence their academic performance.

Innovation

Woodward and Baxter (1997) studied the effects of innovative approach to mathematics on academically low achieving students in mainstreamed setting and found that Innovative methods in Mathematics are viable for students with average and above average academic abilities and that students with learning disabilities or those at risk for special education need much greater assistance if they are to be included in general education classrooms. The extent to which the teacher attempts to use new techniques and attempts to use new techniques and encourages creative thinking in the students in considered.

Wong, Li, Choi and Lee (2008) studied “Insights into Innovative Classroom Practices with ICT : Identifying the Impetus for Chang” and found that ICT has made a positive impact on changing the modes of teaching and learning in classroom practices from a teacher centered approach to one that is student centered, irrespective of region, school level and type of school.

Socio-Cultural Factors

Sex

Refers to a person’s biological status and is typically categorized as male, female, or intersex (i.e., typical combinations of features that usually distinguish male from female) and gender refers to the attitudes, feelings, and behaviors that a given culture associates with a person’s biological sex. Over the last decade there has been evidence
of a growing gender gap in academic achievement (Fergusson & Horwood, 1997; Hillman & Rothman, 2003; Praat, 1999; Thiessen & Nickerson, 1999; Weaver-Hightower, 2003). Educational statistics have indicated that females are outperforming males at all levels of the school system, attaining more school and post-school qualifications, and attending university in higher numbers (Alton Lee & Praat 2001; House of Representatives Standing Committee on Education and Training, 2002; Mullis et al., 2003; Office for Standards in Education, 2003). Although males have traditionally out performed females in mathematics and science, this advantage now disappearing (Benbow & Stanley, 1980; Hyde, Fennema & Lamon, 1990; Hyde & Linn, 2006; Spelke, 2005). These findings have caused widespread concern about male educational achievement and have led to considerable speculation and discussion about the origins of gender differences in education.

Several studies have provided reports that there are no longer distinguishing differences in the cognitive, affective and psychomotor skill achievements of students in respect of gender (Arigbabu & Mji 2004; Bilesanmi-Awoderu, 2006; David & Stanley, 2000; Din, Ming, & Esther, 2004; Freedman, 2002; Sungur & Tekkaya, 2003, etc.). However, Aguele and Uhumniah (2008); Billings (2000); Croxford (2002); Eccles, Lord, Roeser, Barber, and Jozefowicz (1997); Hyde and McKinley, (1997); Kolawole, (2007), etc., in their studies found that male students performed better than female students in the cognitive, affective and psychomotor skill achievements. Studies conducted by Billings, (2000), Eccles, Lord, Roeser, Barber, and Jozefowicz (1997) Aguele and Uhumniah (2008) found, that male students achieved significantly better than female students in science education.

Samuel and John (2004) examined how the cooperative class experiment (CCE) teaching methods affect students’ achievement in Chemistry. They found that there was no significant difference in gender achievement between the experimental and control groups, but girls had a slightly higher mean score than boys did.

Kolawole (2007) found that boys performed better than girls in both cooperative and competitive learning strategies when he conducted a research on the effects of competitive and cooperative learning strategies on Nigerian students’ academic performance in mathematics.
Oludipe (2012) studied gender difference in Nigerian junior secondary students’ academic achievement in basic science and found there was no significant difference in academic achievement of male and female students at the pretest, posttest, and delayed posttest levels respectively. Findings of this research recommended that in order to encourage more women into pure sciences, and science-oriented courses, interventions need to be designed that focus not only on the academic achievement of girls but also in how to make science-related occupations more interesting for young, high achieving girls.

**Parental Education**

Many factors influence a child’s academic achievement beyond a child’s innate ability, the neighborhoods children live in, the qualities of the school and parents education, income of the family etc. all have an effect. According to the National Institute of Health, the education level of a parent is a significant predictor of a child’s educational achievements and behavior outcomes.

Possibly the most important and direct explanation of the link between parent’s education and their children’s academic achievement relies on the assumption that parents learn something during schooling that influence the way in which they interact with their children around learning activities in the home (Crowny & Bradley 2002; Pamela & Kean 2005)

The literature on achievement constantly has shown that parent education is important in predicting children’s achievement (Klebanav, Brooks – Gunn & Dunkan, 1994; Haveman & Wolfe, 1995; Smith, Brooks – Gunn & Klebandv, 1997). Majority of the literature on parents, education pertains to the direct, position influence on achievement (Jimerson, Egeland & Teo, 1999; Luster Rhoades & Haas, 1989). The literature also suggests that it influences the beliefs and behaviors of the parent, leading the positive outcomes for children and youth (Eccles, 1993); Klebanov, Brooks – Gunn and Dunkan (1994) found that both mother’s education and family income were important predictors of the physical environment and learning experience in the home bat that mothers’ education alone was predict of parental warmth. Smith Brooks Gunn and Klebandv (1997) found that the association of family income and parents’ education with children’s academic achievement was
mediated by the home environment, if the parents are educated, the more elevated is the socio-economic status and more satisfaction stems from it, along with concomitant privileges, facilities and behavioral stances (Khan, Anila & Pervez 1991. There is considerable evidence pointing to the level of parental education as a strong predictor of children’s success in the educational system Crowyn and Bradley (2002) also found that maternal education has the most consistent direct influence on children’s cognitive and behavioral outcomes.

**Socioeconomic Status (SES)**

Socioeconomic status (SES) is evaluated as a grouping of factors including income, level of education, and occupation. It is a way of looking at how persons or families fit into society using economic and social measures that have been shown to impact individuals' health and well-being. Socioeconomic status and health are closely related, and SES can often have profound effects on a person's health due to differences in ability to access health care as well as dietary and other lifestyle choices that are associated with both finances and education.

Significant studies have suggested that socioeconomic status is one of the best predictors of student achievement (Coleman, *et al.*, 1966; Lee, Bryk, & Smith, 1993). Parents educational status is considered one of the most stable aspects of Socio Economic Status (SES) because it is typically established at an early age and tends to remain the same over time (Sirin, 2005). It has been well documented that family plays a meaningful role in a child's academic performance and development (Cornell & Grossberg, 1987; Thompson, Alexander, & Entwisle, 1988; Tucker, Harris, Brady, & Herman, 1996). Mothers' levels of education and family incomes influence adolescent educational outcome expectancy beliefs (Rhea & Otto, 2001). A study by Campbell, Hombo and Mazzeo (1999) using NAEP data indicated that students who reported higher parental education levels tended to have higher average scores. Many factors in the family background have some associations with students’ success throughout school and in young adults’ eventual educational and occupational attainment. Such variables include family structure (socioeconomic status and intact/single parent families), parental education level, parental involvement and parenting style (Jacob & Harvey, 2005). More educated parents are assumed to create environments that facilitate learning (Williams, 1980; Teachman, 1987) and involve
themselves in their children’s school experiences and school environments (Steinberg et al., 1992; Useem, 1992). However, there are students who come from low-income and single parent homes who are high achievers and many students from high socio-economic and intact families who are low achievers. Students may also come from homes where the parents are highly educated and involved in their children’s education, yet achieve poorly at school (Jacob and Harvey, 2005).

Casanova, et al., (2005) studied on influence of family and socio demographic variables on students with low academic achievement and found differential pattern in the prediction of academic success. In the group of adolescents with normal academic achievement, socio-demographic variables better predict achievement, for students with low achievement, family variable play a more important role in predicting achievement.

Farooq, Chaudhury, Shafiq and Berhanu (2011) studied factors affecting students’ quality of academic performance and found that SES and parents’ education have a significant effect on students’ over all academic achievement. The high and average socio-economic level affects the performance more than the lower level. It is very interesting that parents’ academic performance more than their occupation in relation to their children’s academic performance at school.

Gupta, Sharma and Gupta (2012) studied the gender difference on the measure of academic achievement in adolescent students and found no significant difference between boys and girls.

Suleman et. al., (2012) studied the effect of parental socio-economic status on the academic achievement of secondary school students and found that parental SES, parents educational level, parental occupational level; and parental income level effect the academic achievement of students at secondary level. Therefore, it is strongly recommended that unemployment should be controlled and poor students should be provided scholarship, free books and other stationary.

Ogunshola and Adewale (2012) studied the effect of parental socio-economic status on academic performance of students in selected schools in Edu Lga of Kwara State Nigeria and found that parental educational qualification and health statuses of the students were identified statistical significant effect to the academic performance
of the students. Hence, home environment played notable role in the academic achievement of the respondents. However, parental SES and parental education background did not have significant effect on the academic performance of the students.

**Locale**

Locale is a demographic variable considered under the category of social variable in this study. People inhabit different parts of the world and lead different types of lives, their lifestyle change across the various region of this world and so do their thought processes. People all over the world have been divided into two distinct group is, classified as rural or urban depending on the density of human created structure and resident people in a particular area. The resources found in their regions or areas have a direct impact on their way of living.

Boylan and Mcswan (1978) reported that rural schools were inferior and lacking in the range of facilities with high staff turnover and suffered from lack of continuity in their curriculum. Obe (1984) observed a significant difference in rural-urban academic performance on the aptitude sub tests of the National Common Entrance Examination into Secondary Schools. He concluded that children from urban schools were superior to their rural counterparts. Some of the researchers namely, Edington and Martellaro (1984), Ward and Murray (1985) found no significant differences in the outcomes of students at urban and rural schools.

Blackwell and McLaughlin (1999), find the rural-urban location variable to be significant in explaining performance. The debate on the impact of this variable centers on the possibility that the differences in the performance of students in rural and urban schools are not due to the location per se, but rather to the fact that the characteristics of the students, their families and the schools differ in these two groups. Students in rural zones typically belong to families with few financial resources, their parents have low levels of education and the schools they attend are usually poorly endowed in terms of facilities and they are, generally, smaller than urban schools.

Fan and Chen (1999) studied academic achievement of rural school students: A multi-year comparison with their peers in sub-urban and urban schools and found
that, all else equal, rural students do not suffer disadvantage simply as the result of their residence in rural areas or their attendance at rural schools. Roscigno and Crowley (2001) reported that the academic performance of rural children typically lags behind that of urban children. Howley (2002) reported that there is no difference between rural and urban education. Owoeye (2002) found that there was a significant difference between academic performance of students in rural and urban area in public examinations. Nagaraju, Sumalatha, and Reddy,(2003) reported that the achievement of the pupils from urban areas was better than the achievement of pupils from rural areas.

Singh and Singh (2007) studied the impact of caste, gender and habitat on achievement in Mathematics at upper primary school level with the objective to study the impact of caste, gender and habitat on achievement by taking a sample of 200 students of eighth class and found that boys were better than girls on achievement in Mathematics and students of urban areas were better in achievement than the students of rural areas.

Usha (2007) revealed that urban pupils were found superior to rural pupils in their achievement. Bamman and. Ksheersagar (2008) found that achievement of the pupils from urban areas were better than the achievement of pupils from rural areas.

Dhanda and Singh (2009) found that urban area surpassed children from rural area in intelligence. Elizabeth (2009) found significant difference in academic achievement of the student, She found rural students have higher academic achievement than urban students. Joshi and Srivastava (2009) reported that the achievement of the pupils from urban areas was better than the achievement of pupils from rural areas.

Wobmann (2010), reported no significant differences in the outcomes of students attending rural and urban schools in Argentina.

Sing (2012) studied academic achievement of IX\textsuperscript{th} class students of district Solan of Himachal Pradesh in relation to their area of residence and self-concept and found no significant difference in the academic achievement of students at different levels of their self-concept.
Alokan et al., (2013) studied about rural and urban differential in student’s academic performance among secondary school students in Ondo State, Nigeria and his study revealed that there is no significant difference in the academic performance of students from rural environment. It can be concluded from the result that, all else equal, rural students do not suffer disadvantage in their academic performance simply as the result of their residence in rural areas or their attendance at rural schools. It was recommended; among others that rural deficit model should be further examined as educators take a new and more objective look at the performance of the many different types of rural students. Also, parents and students should not feel that they must attend metropolitan schools in order to achieve success.