



Psychological Variables as Correlate of Students' Academic Achievement in Secondary School Economics in Oyo State, Nigeria

Emmanuel Olusola Adu¹ and Titi Oshati²

¹Faculty of Education, University of Fort Hare, South Africa

²Department of Education Management, University of Ibadan, Ibadan, Nigeria

Cell: ¹<+27849251948>, Telephone: ²<+234 8023170934>, Fax: ¹<+27 407047117>,

E-mail: ¹<eadu@ufh.ac.za> ²<oshatti@yahoo.com>

KEYWORDS Psychological Variables. Study Habit. Locus of Control. Self- efficacy. Secondary School. Achievement in Economics

ABSTRACT This paper examines the psychological variables as correlate of students' academic achievement in secondary school. There is an alarming concern about the fact that students' achievements in the Secondary School Certificate Economics have remained poor. It is against this background that this study investigated the relationship between psychological variables (study habit; locus of control and self-efficacy) and secondary school students' achievement in economics. The study adopted a survey research design of the ex-post facto type. A purposive sampling technique was used to select sample. Data was analyzed using Pearson Product Moment correlation and multiple regression statistics. The findings revealed that the study habit made the greatest contribution to their achievement in Economics ($b = .653$; $p < .05$). This is followed by locus of control ($b = .580$; $p < .05$). These two variables made contributions which are significant. Only self-efficacy made no significant contribution to their achievement in Economics ($b = .450$; $p > .05$). It is, therefore, recommended that these factors should be taken into consideration in order to enhance the understanding of economics.

INTRODUCTION

Education has been responsible for the upliftment of the human conditions. Alade (2004) observed that the primary concern of education is the elevation of human conditions. Through education, people are enabled to develop their knowledge and skills, adopt new behavior and be able to survive in the society. In the same vein, Oderinde (2005), opined that all over the world, education is the key to development which clearly demonstrated that education play vital roles in the development of an individual, society and the nation as a whole. The revised National Policy on Education (FRN 2004) stated that no education system can rise above the quality of its teachers. This has made the subject of teacher effectiveness a perennial one in educational discourse since the quality of education at any level is highly dependent on the quality and dedication of the teachers (Ajiboye et al. 2005). Both the developed and developing nations have been making huge investments on education. Anderson (2004) observed that teacher salaries still account for 70 to 90% of the education budget in most countries. This is due to the fact that it is the teacher who determines the

ambience of the classroom and together with other members of staff, the ambience and expectations of the school. Some teachers plan and execute these elements more effectively than others.

The teaching of Economics provides a learner with the opportunities to live meaningfully within the changing economic world. This made the National Policy on Education (2004 revised) to integrate the theoretical foundation of the subject with their practical applications. It is as a result of this that the National Curriculum and Oyo State syllabus for Senior Secondary School (SSS) (2004) listed the following objectives for Economics:

- ♦ To equip students with the basic principles of Economics necessary for useful living and higher education;
- ♦ To prepare and encourage students to be prudent and effective in management of scarce resources;
- ♦ To raise student respect for the dignity of labor and appreciation of economic, cultural and social values of our own society; and
- ♦ To enable students acquire knowledge for the practical solution of the economic problems of the society, Nigeria, developing countries and the world at large.

From the highlighted objectives, the question is often asked – why study Economics? To provide an answer, Adu et al. (2009) put forward the identified reasons:

- ♦ The study of Economics enables a student to understand the nature of the complexity of the economic activities in which he is only a very small part.
- ♦ It enables students to understand and appreciate various government policies where choices have to be made such as probably to spend more money on free education and therefore provide less employment opportunities.
- ♦ The study of Economics provides the students with basic skills for analyzing Economic problems thereby preparing them better for positions where economic decisions have to be made.
- ♦ The study of Economics helps government to promote growth and development therefore improving the quality of life of the citizens.
- ♦ Knowledge of Economics is useful to analyze fascinating patterns of socio-economic behavior.
- ♦ The study of Economics is useful to understand and alter the inequalities in the distribution of income and opportunities.

In view of the above, every society is faced with three fundamental Economic problems: what to produce? How to produce? and For whom to produce? These problems are solved through the study of Economics. Economics has been widely accepted by many Nigerians to the extent that many students are now writing its examination at the end of their Senior Secondary School level.

Despite the relevance of Economics to everyday life in the area of commerce and industry, the teaching of the subject in Nigeria is characterized by many inadequacies. Nigerian's secondary school teachers of Economics have a few materials on the teaching of Economics to work with. Audio-visual aids are either not available or are insufficient in quality, or what is available is usually inappropriate. These have affected the effectiveness of teachers of Economics (Adu 2004).

Although, there is an increase in the number of students that are offering the subject, achievement in Economics has not been as good as it has been before the introduction of a new

Economics syllabus which incorporated some elements of Mathematics. The situation has been posing serious problem for the students in the Senior Secondary School classes partly as a result of the carry over effects of the negative attitudes which they have towards Mathematics and ineffectiveness on the part of the teachers. The ineffectiveness is caused by student – teacher interaction, students' failure to ask questions and the use of lecture method which were identified as the main cause of poor achievement in Economics (Adu and Ayeni 2004). They demonstrated that achievement of candidates in Economics is not only poor generally but continues to fall over the years in a study on an "appraisal of trends in achievement of students in Economics at the Senior Secondary Certificate Examination in Oyo State" (Adu and Ayeni 2004).

Previous research findings have shown that students' achievement is affected by different factors such as learning abilities, race, and gender (Hanzen 2000). Some of the researchers even tried to explain the link between students achievement, economic circumstances and the risk of becoming a drop-out that proved to be positive (Akinsola 2008). Chansarkar and Mishaeloudis (2001) explained the effects of age, qualification, and distance from learning place, etc. on student achievement. Accordingly, the achievement of students is not affected by such factors as age, sex and place of residence but is associated with performance in quantitative subjects. It was also found that those who live near a university perform better than other students because the university environment serves as motivation for them to study very well hoping that one day they too will be admitted so that they can enjoy the facilities that they do see every day when they are going to school. This has psychological implication in their quest to study and prepare very well for the examination. Supporting the views above, Carol (2007) remarked that student performance in principles of macroeconomics classes was dependent on many factors. Natural ability needs to be supplemented with motivation and effort.

According to him, a study by Borg and Shapiro tried to predict student's performance based on the personality type of the instructor. The results found that a student would do better in the class if the student and professor had similar learning styles. Considering other factors

which could influence students' achievement in a school subject especially economics are organization climate, Teachers' characteristics and quantitative ability had been identified (Adu et al. 2011). Therefore, to them quantitative ability was defined as a measure of a student's "ability to apply knowledge of mathematical concepts and principles, to demonstrate flexibility in thinking, to identify critical features on new situations, to make correct generalizations and to compare mathematical expressions"

Statement of the Problem

There has been a trend of poor achievement in Economics in Secondary Schools. It is therefore necessary to gear research work in Economics Education towards finding solutions to the factors responsible for students' failure in the subject. Hence, this study investigated the psychological variables (study habit; locus of control and self-efficacy) as determinant of students' achievement in economics. The study also investigated the relative contributions of each of the three (3) variables such as: study habit; locus of control and self-efficacy to the variance of achievement in Economics.

Literature Review

Study Habits and Academic Achievement

There are many factors responsible for underachievement like, motivation, study habits, attitude towards teacher, attitude towards education, school and home background, concentration, mental conflicts, level of aspiration, self-confidence, examination fear, etc. (Sirohi 2004). Poor habits of study do not only retard school progress but can develop frustration, destroy initiative and confidence and make prominent the feeling of worthlessness towards oneself and the subject under study whereas effective methods ensure success, happiness and sense of accomplishment (Smith and Littlefield 1948). All too often, students perform poorly in school simply because they lack good study habits. In many cases, students don't know where to begin, don't fully understand the material, are not motivated by it, or feel that there was too much work given to them with too little time to complete or study it. If their studying skills do not improve, these students will continue to test poorly and not perform to their fullest potential

in a study of underachievement in relation to study habits and attitudes by Sirohi (2004) the most significant factor contributing to underachievement is poor study habit which has been indicated by 100% underachievers in their study.

It is proper habit of work and insistence on them in every detail and over a long period of time that creates right attitudes and values (Secondary Education Commission 1952). Since learning is not a team sport but an activity that involves solely the student and the knowledge, it behooves on individual students to set a good work or study habits rather than been vagarious. Since certain skills need to be acquired at an early age—particularly mathematics and reading, writing, and thinking in one's native language—it is important that the idea of self-teaching be inculcated in the earlier years so that learning these essential skills can automatically lead to the development of good study habits.

Locus of Control and Academic Achievement

It has often been said that obtaining a good education is the key to being successful in the world. But what determine being successful while in school? While many factors may contribute to school achievement, one variable that is often overlooked is locus of control (Grantz 2006). Locus of control refers to an individual's generalized expectations concerning where control over subsequent events resides (WikEd 2005). In the context of education, locus of control refers to the types of attributions we make for our success and for/or failures in school tasks (Grantz 2006). Locus of control is grounded in expectancy-value theory, which describes human behavior as determined by the perceived likelihood of an event or outcome occurring contingent upon the behavior in question, and the value placed on that event or outcome. More specifically, expectancy-value theory states that if (a) someone values a particular outcome and (b) that persons believes that taking a particular outcome action will produce that outcome, then (c) they are more likely to take that particular action (WikEd 2006).

Locus of control is the perceived source of control over our behavior. It influences the way we view ourselves and our opportunities (Gershaw 1989). According to Gershaw (1989), locus of control can be classified into a bipolar dimension from internal to external controls. Internal

control is the term used to describe the belief that control of future outcomes resides primarily in oneself. In other words, people with internal locus of control believe they control their own destiny (Gershaw 1989). External control refers to the expectancy that control is outside oneself, either is in the hand of other powerful people or due to fate/chance or luck.

Research has shown that having an internal locus of control is related to higher academic achievement (Findley and Cooper 1983), students with internal locus of control earn better grades and work harder (Grantz 2006) and include spending more time on home work as well as studying longer for test. These make sense because if you believe working hard pay off then you are likely to do so (Grantz 2006).

External locus of control may be caused by continued failure in spite of continued attempts at school tasks (Bender 1995) and a high external locus of control, in turn, leads to a lack of motivation for study and school in general (Grantz 2006). If one has an external locus of control, he may feel that working hard is futile because their efforts have only brought disappointment. Ultimately, they may perceive failure as being their destiny (Grantz 2006). In other words, students with an external locus of control are more likely to respond to failure by giving up hope and not trying harder (Anderman and Midgley 1997). Out of the 36 studies reviewed by Bar-Tal and Bar-Zohar (1997) on locus of control and academic achievement 31 of the studies indicated a significant relationship with internals having higher achievement than external.

Self-Efficacy and Academic Achievement

Self-efficacy is mediated by a person's beliefs or expectations about his/her capacity to accomplish certain tasks successfully or demonstrate certain behavior (Hackett and Betz 1981). This expectation determines whether or not a certain behavior or performance will be attempted, the amount of effort the individual will contribute to the behavior, and how long the behavior will be sustained when obstacles are encountered (Brown 1999). Some researchers believe that greater efficacy enables teachers to be less critical of students when they make errors (Ashton and Webb 1986), to work longer with a student who is struggling (Gibson and Dembo 1984) and be less inclined to refer a diffi-

cult student to special education (Soodak and Podell 1993).

Researches have also shown that teachers with a high sense of efficacy exhibit greater enthusiasms for teaching (Allinder 1994) and have greater commitment to teaching (Coladarci, 1992) and are more likely to stay in teaching (Burley et al. 1991). Teacher's sense of efficacy has also been related to student outcome such as achievement (Armor et al. 1976) motivation (Midgley et al. 1988). In addition teachers' efficacy beliefs also related to their behavior in the classroom. The effort they invested in teaching, the goals they set, and their level of aspirations are products of their efficacy beliefs. Teachers with a strong sense of efficacy tend to exhibit greater level of planning and organization (Allinder 1994) are more open to new ideas (Guskey 1988) and are more willing to experiment with new methods to better meet the needs of their students (Stein and Wang 1988).

When individual have low self-efficacy expectations regarding their behavior, they limit the extent to which they participate in the endeavor and are more apt to give up at the first sign of difficulty (Brown 1999). In other words, low efficacy beliefs may serve as barrier to teachers teaching effectiveness and efficacy. When teachers have a low self-efficacy, their teaching may tends to be characterized by authoritative, teacher-centered roles with a less clear understanding of the various development levels of their students. To Rubeck and Enochs (1991), teachers who were weak in content knowledge background tended to have significantly lower personal efficacy than did teachers with strong content background. Teachers with a high self efficacy may tend to teach in ways characterized by the use of inquiry approaches more students centered, beliefs that they can help any students overcome learning and succeed, and are more knowledgeable of their students development levels. The role of self-efficacy helps to examine why people's performance attainment might differ even when they have similar knowledge and skills (Pajares and Miller 1995). From the fore going review, it is clear that the way teachers view themselves and their roles in the teaching context is at least partially derived from their self-efficacy beliefs.

Research Objectives

The study sought to achieve the following research objectives.

1. To find out the composite effect of psychological variables (study habit; locus of control and self-efficacy) on students' achievement in Economics
2. To ascertain the relative effects of psychological variables (study habit; locus of control and self-efficacy) on students' achievement in Economics
3. To investigate which of the psychological variables (study habit; locus of control and self-efficacy) would predict students' achievement in Economics

Research Questions

The study sought answers to the following research questions.

1. What is the significant composite effect of psychological variables (study habit; locus of control and self-efficacy) on students' achievement in Economics?
2. What are the relative effects of psychological variables (study habit; locus of control and self-efficacy) on students' achievement in Economics?
3. Which of the psychological variables (study habit; locus of control and self-efficacy) would predict students' achievement in Economics?

METHODOLOGY

The study adopted survey research design of the ex-post facto type. The study aimed at the composite and relative effects of psychological variables (study habit; locus of control and self-efficacy) on the student achievement in secondary school Economics. The population for the study consisted of all the senior secondary school Economics students in all public senior secondary schools in the thirty three Local Government areas of Oyo State. Five (5) schools were randomly selected in each local government which gave a total of thirty (30) schools that were involved in the study while twenty (20) senior secondary schools class II Economics students were randomly selected in each school. This gave a total of six hundred (600) students that were involved in the study. The choice of SSII students was borne out of their maturity and to allow for follow up. They had been exposed to Economics in SSI, thus they already had some good knowledge of the subject.

Ethical and Validity Consideration

The researchers endeavoured to ensure that the research team has the necessary professional expertise and support. The researchers also endeavoured to ensure that the research process does not involve any unwarranted material gain or loss for any participants. Additionally, endeavoured to ensure factual accuracy and avoid falsification, fabrication, suppression or misinterpretation of data by assigning an independent colleague to verify content validity.

Reliability of Instrument

Cronbach alpha was used to measure the reliability of the instruments with the coefficient value of 0.78; with this value the instrument is found to be reliable.

Data Analysis

The data collected were analyzed using both descriptive and inferential statistics. Descriptive statistics, involving frequency counts and percentages were used to present the characteristics and responses of the respondents descriptively. Also, inferential statistics, involving Pearson Product Moment Correlation and Multiple regression analysis were used to determine the relationships among the independent variables and the dependent variable. All tests were carried out at a = .05.

RESULTS AND DISCUSSION

Research Question 1:

What is the composite effect of the psychological variables (study habit; locus of control and self-efficacy) on students' achievement in Economics?

From the Table 1, it could be observed that students' locus of control has a negative and significant relationship with student achievement in Economics ($r = -.582$; $p < .05$). However, their study habit has a positive and significant relationship with achievement ($r = .048$; $p < .05$). Furthermore, the results show that self-efficacy percentages has a negative but significant relationship with achievement ($r = -.097$; $p < .05$).

Taken together, the composite effect of the psychological variables (study habit; locus of

Table 1: Pearson Correlations of psychological variables (study habit; locus of control and self-efficacy) on students' achievement in economics

Variables	Achievement	Locus of control	Study habits	Self-efficacy
Achievement	1.000	-.582*	.048*	-.097*
Locus of control	-.582*	1.000	-.105	.092
Study habit	.048*	-.105	1.000	-.052
Self-efficacy	-.097*	.092	-.052	1.000

*significance at $P < .05$

control and self-efficacy) is presented in Table 2.

Table 2: Summary of regression analysis on students' knowledge of psychological variables

R	R square	Adjusted R square	Std. error of the estimate
.584	.341	.340	1.5730

The table shows that the psychological variables (study habit; locus of control and self-efficacy) taken together, correlate positively with student achievement in Economics ($R = .584$). Also, the variables could explain 34.0% of the total variance in the dependent variable (adjusted $R^2 = .340$). The remaining 66.0% is due to other factors considered in this analysis.

The table tests the significance or otherwise of the composite effect. From Table 3, the R value of .584 is significant ($F(3, 2156) = 371.770$;

$p < .05$). This shows that the R value is not due to chance.

Research Question 2:

What are the relative effects of psychological variables (study habit; locus of control and self-efficacy) on students' achievement in Economics?

The table shows that students' study habit made the greatest contribution to their achievement in Economics ($\alpha = .653$; $p < .05$). This is followed by Locus of control ($\alpha = .580$; $p < .05$). These two variables made contributions which are significant. Only Students' self-efficacy made no significant contribution to their achievement in Economics ($\alpha = .450$; $p > .05$).

Research Question 3:

Which of the psychological variables (study habit; locus of control and self-efficacy) would predict students' achievement in Economics?

Table 3: ANOVA table for regression on students' knowledge of psychological variables

Source of variance	Sum of squares	DF	Mean square	F	Sig.
Regression	2759.522	3	919.841	371.770	.000*
Residual	5334.411	2156	2.474		
Total	8093.933	2159			

*significance at $P < .05$

Table 4: Relative effects of quantitative ability variables on achievement

Sources of variance	Unstandardized coefficient		Standardized coefficient	Rank	t	Sig.
	B	Std. Error	Beta			
(Constant)	29.093	.365			79.789	.000
Locus of control	-.612	.019	.580	2 nd	-3.839	.000*
Study habit	.977	.011	.653	1 st	10.871	.000*
Self-efficacy	29.093	.365	.450	3 rd	-.562	.610

* Significant at $P < .05$

From Table 4, locus of control ($B=-.612$; $t=-3.839$; $p<.05$) and study habit ($B=-.977$; $t=10.871$; $p<.05$) could predict student achievement in Economics. Only students' self-efficacy could not predict the dependent variable ($B=-8.17E-03$; $t=-.562$; $p>.05$).

DISCUSSION

Considering psychological variables (study habit; locus of control and self-efficacy), the findings revealed that students who had locus of control; study habit and self-efficacy were able to achieve better in Economics. This shows that any student who possesses psychological variables (study habit; locus of control and self-efficacy) would easily perform better in any Economics examination. Consequently, the findings have emphasized the role which study habit and locus of control could play in students' achievement in Economics. Thus, for any teacher to be effective in impartation of knowledge in the students in Economics, he/she should be able to look into how students could develop these variables. This study corroborates the findings of studies such as Akinsola (2008), which revealed high significant main effect psychological variables (study habit; locus of control and self-efficacy) on students' achievement in Mathematics.

Locus of control has a negative and significant relationship with student achievement in Economics. Study habit has a positive and significant relationship with achievement in Economics. Self-efficacy has a negative and significant relationship with student achievement in Economics. The variables [Locus of control, Study habit and Self-efficacy] have positive multiple correlations with Students' achievement in Economics.

The composite effect of the psychological variables on students' achievement in Economics is positive and significant. Study habit made the greatest contribution to student achievement in Economics. Locus of control made the next in order to magnitude of contribution to student achievement. The two variables made contributions which are significant. Only self-efficacy made no significant contribution to student achievement in Economics. Locus of control could predict student achievement in Economics.

CONCLUSION

The study has shown that two out of the variables contribute to the prediction of the variance of secondary school students' achievement in Economics. Therefore, appropriate measures should be taken to ensure that the variables are adequately and appropriately managed so that their contributions to Economics teaching and learning would be positive rather than negative.

RECOMMENDATIONS

This study recommends among others that teachers should pay more attention to the psychological variables that can affect the effective teaching and learning of the students in their classes. The factors should also be considered in order to enhance the understanding of economics.

REFERENCES

- Adu EO 2002. *Two Problem-based Learning Strategies, Quantitative Ability and Gender as Determinants of Students' Academic Achievement in Economics*. PhD Thesis. Department of Teacher Education. Oyo State, Nigeria: University of Ibadan, pp. xviii, 210.
- Adu EO 2004. *An Introduction to Economics Education: A Basic Text for Tertiary Institutions Students*. Ibadan, Nigeria: Educational Research and Study Group.
- Adu EO, Ayeni AO 2004. An appraisal of trends in performance of students in Economics at the SSCE in Ibadan North LGA of Oyo State (1994-1998). In: DF Elaturoti, K Babarinde (Eds.): *Teachers' Mandate on Education and Social Development in Nigeria*. Ibadan: Sterling-Horden Publishers, pp. 129-141.
- Adu EO, Ojelabi SA, Hammed A 2009. Quantitative ability as correlates of students' academic achievement in secondary school Economics in Oyo State, Nigeria. *Journal of African Research Review*, 3(2): 322-333
- Adu EO, Adeyanju HI, Sobola I 2011. Organizational climates as correlates of students' academic achievement in secondary school economics in Oyo State, Nigeria. *Centre for Educational Development and Policy Issues in Africa (CEDPIA)*, 4(1): 71-83
- Ajiboye JO, Adu EO, Amosun PA 2005. *Introduction to Social Studies: A Basic Text for Tertiary Institution Students*. Ibadan: Educational Research and Study Group.
- Alade IA 2004. Improving the status of vocational technical education: A route to National development. In: DF Elaturoti, K Babarinde (Eds.): *Teachers' Mandate on Education and Social Development in Nigeria*. Ibadan: Sterling-Horden Publishers, pp. 95-105.

- Anderson LW 2004. *Increasing Teacher Effectiveness*. 2nd Edition. Paris: UNESCO.
- Akinsola MK 2008. Relationship of Some Psychological Variables in Predicting Problem Solving Ability of In-service Mathematics Teachers. From <http://www.math.umt.edu/tmme/vol15no1/Akinsola_article10_pp.79_100.pdf> (Retrieved on 12 October 2012).
- Allinder RM 1994. The relationship between efficacy and the instructional practices of special education teachers and consultants. *Teacher Education and Special Education*, 17: 86-95.
- Anderman EM, Midgley C 1997. Changes in personal achievement goals and the perceived classroom goal structure across the transition to middle level schools. *Contemporary Educational Psychology*, 22: 269-298.
- Armor CP, Cox M, King N, McDonnell L, Pascal A, Panly E, Zellar G 1976. Analysis of the School Preferred Reading Programmes in Selected Los Angel's Minority Schools. *Report No. 2007-LAUSD*, Santa Monica. C.A: Rand Corporation (ERIC Document Production Service. No 130243).
- Bar-Tal D, Bar-Zohar Y 1977. The relationship between perception of locus of control and academic achievement. *Contemporary Educational Psychology*, 2: 181-199.
- Bender WN 1995. *Learning Disabilities: Characteristics, Identification, and Teaching Strategies*. 2nd Edition. Needham Heights, Mass: Allyn and Bacon.
- Brown BL 1999. Self-efficacy Beliefs and Career Development. *RRIC Identifier ED 429187*.
- Burley WW, Hall BW, Villeme MG, Brockmeier LL 1991. A Path Analysis of the Mediating Role of Efficacy in First-Year Teachers' Experiences, Reactions, and Plans. *Paper presented at the Annual Meeting of the American Educational Research Association*, Chicago, 23-26 June 1991
- Carol JD 2007. Factors Affecting Student Performance in Principles of Macroeconomics Courses. From <<http://google.com>> (Retrieved on 15 June 2007).
- Chansarkar BA, Michaeloudis A 2001. Student profiles and factors affecting performance. *International Journal of Mathematics, Education, Science and Technology*, 32(1): 97-104.
- Coldarci T 1992. Teachers' sense of efficacy and commitment to teaching. *Journal of Experimental Education*, 60: 323-337.
- Federal Republic of Nigeria 2004. *National Policy on Education*. Lagos: Federal Government Press.
- Findley MJ, Cooper HM 1983. Locus of control and academic achievement: A literature review. *Journal of Personality and Social Psychology*, 44: 419-427.
- Gershaw DA 1989. Line on Life: Locus of Control. From <<http://virgil.azwestern.edu/~daq/loc/controllocus.html>> (Retrieved on 11 November 2006).
- Gibson S, Dembo M 1984. Teacher efficacy: A construct validation. *Journal of Educational Psychology*, 76: 569-582.
- Grantz M 2006. Do you have the Power to Succeed? Locus of Control and its Impact on Education. From <<http://www.units.muohio.edu/psybersite/control/education.shtml>> (Retrieved on 30 May 2006).
- Guskey TR 1988. Teacher efficacy, self-concept, and attitudes towards the implementation of instructional innovation. *Teaching and Teacher Education*, 4: 63-69.
- Gutbezahl J 1995. How Negative Expectancies and Attitudes Undermine Females' Math Confidence and Performance: A Review of the Literature. Amherst, MA: University of Massachusetts. *ERIC Document Reproduction Service*, No. ED 380 279.
- Hansen JB 2000. Student Performance and Student Growth as Measure of Success: An Evaluator's Perspective. *Paper Presented at Annual Meeting of the American Educational Research Association*. New Orleans, Louisiana. 25 April 2000
- Hackett G, Betz N 1981. A self- efficacy approach to the career development of women. *Journal of Vocational Behaviour*, 18(3): 326-339.
- Midgley C, Feldlanfer H, Eccelles J 1989. Change in teacher efficacy and student self-and task-related beliefs in mathematics during the transition to junior high school. *Journal of Educational Psychology*, 81: 247-258.
- Pajares F, Miller MD 1995. Mathematics self-efficacy and mathematics performances: The need for specificity of assessment. *Journal of Counseling Psychology*, 42: 190-198
- Rebeck M, Enochs L 1991. A Path Analytic Model of Variables that Influence Science and Chemistry Teaching Self-efficacy and Outcome Expectancy in Middle Science Teachers. *Paper Presented at the Annual Meeting of the National Association of Research in Science Teaching*, Lake Geneva, WI. 28 January 1991.
- Sirohi V 2004. A study of underachievement in relation to study habits and attitudes. *Journal of Indian Education*, 19(1): 14-19.
- Smith SL 1948. *An Outline of Best Methods of Study*. New York: Barnes and Noble Inc.
- Smith SS 1997. *Early Childhood Mathematics*. Boston: Allyn and Bacon.
- Soodak A, Podell D 1993. Teacher efficacy and student problem as factors in special education referral. *Journal of Special Education*, 27: 86-95