CHAPTER - II

REVIEW OF THE RELATED LITERATURE
Review of literature not only helps in the discovery of important variables locating the comparative data and discussion of results, but provides insight regarding strong points and limitations of the previous studies. Thus, it helps in improvement of the present investigation. In the present chapter the findings are analyzed to bring about a more rational plan for drawing out generalizations.

A body of research suggested that parental inducement of academic self-regulation would affect academic achievement through mediation of student self-regulation. Three major components of self-regulation are cognitive strategies, metacognitive strategies, and motivation, and the personal characteristics that could act, as mediators of a learner’s self-regulation are type of superordinate goal pursued by individuals in academic situations. Two different kinds of goal orientation are learning goal orientation and performance goal orientation. The present chapter embodies a brief review of the researches (only recent ones) done in the area related to this investigation. These studies have been classified under the following heads:

1. Goal orientation
2. Self-regulation and metacognition
3. Academic achievement

**STUDIES RELATED TO GOAL ORIENTATION**

Ertmer (1995) examined how students responded to and learned from case-based instruction by exploring similarities and differences among nine student’s experiences. Students’ responses were defined in terms of their perceived interest, relevance and confidence. For learning from this method, students’ approaches to learning were defined by the goals. Self-regulation strategies, and evaluation criteria they used to focus and facilitate their learning. After classifying 58 first-year veterinary students according to their pre-course performance on two self-regulated learning inventories. One assumed a phenomenological perspective to gather interview data from 9 students who represented both high and low self-regulation. These students were enrolled in a biochemistry laboratory
course, which utilized case-based instruction as the primary instructional method. Students who reported feeling challenged by the case method were those who assigned high value to the case method of teaching, who set goals and evaluation criteria which focused on the learning process and who utilized reflective self-regulatory strategies to monitor their learning progress. Students who reported feeling frustrated by the case approach tended to be those who assigned little, or fluctuating, value to case-based instruction, who focused on learning products, and/or who utilized habitual and less thoughtful strategies, when confronted by difficult case studies.

Bouffard, et al. (1995) explained a relationship that exists between types of goal orientation, self-regulatory processes and school performance and examined how students' self-regulation and academic performance differ according to their profiles resulting from combining learning and performance goals orientation. A total of 702 college students (463 females and 239 males) were administered a questionnaire assessing their orientation toward learning and performance goals, and reported their self-regulatory strategies for studying. Results showed that both for males and females there exists systematic relations between learning goal and self-regulation and academic achievement. Relations were also found for performance goal, but for boys only. Results also showed that, among the four profiles of goal orientation, more self-regulatory strategies were reported and higher academic performance was achieved by students having high concern with both learning and performance goals than by the others. More girls were classified in this profile, but in each profile girls were found to report more self-regulatory strategies and to achieve higher academic performance than did boys. Overall, these findings are consistent with those of previous studies conducted with younger students. Although adhesion to learning goal has a positive impact on self-regulation both for girls and boys, for the latter adhesion to performance goal can also be helpful. In view of the role of goal orientation on self-regulation in academic activities, research is needed to identify and understand the
nature of the determinants of both the adhesions to these profiles and the gender differences.

The characteristics of ego- and task oriented students were studied by Seifert (1995). A motivation questionnaire was completed by 79 grade five students. Responses were subjected to a factor analysis which was followed by series of Pearson correlations between the resultant factor scores and measures of ability perceptions, self-worth, self-efficacy, success and failure attributions, positive and negative emotions and preference for challenge. Responses were also subjected to a cluster analysis followed by a series of between group contrasts with each of the aforementioned motivational constructs as the dependent variable and cluster membership as the independent variable. The conclusion was that cluster analysis is a useful way to refine goal theory.

Karabenick and Collins-Eaglin (1996) examined the class emphasis on learning goals and incentive structures and their relationship to students’ use of learning strategies. Students in 54 college classes \( N=1,037 \) rated the perceived importance of mastery and performance goals, and of competitive, individualistic, and cooperative incentive structures. In general, the classes stressed learning course content, individual performance outcomes, and collaboration more than inter student ability comparisons. The students in classes with greater emphasis on collaboration and less emphasis on grades were more likely to use higher order learning strategies of elaboration and critical thinking. The findings suggest that goals and incentives affect strategy use, although the relationships could have resulted from the instructors’ relative emphasis on goals and incentives and their facilitation of the students’ use of learning strategies.

Study examining the effects of goal setting instructional intervention on self-efficacy for self-regulated learning; goal setting habits, classroom achievement and goal analysis skill was conducted by Schwartz (1996). It was expected that students who received goal setting instruction would earn higher scores on an achievement test, increase in self-efficacy
for self-regulated learning, perceive goal setting habits differently and analyze goal statements more accurately than students who did not receive instructions. Seventy-five undergraduates were randomly assigned to a goal-setting instruction or control condition. A pre/post test control group design was used to measure self-efficacy for self-regulated learning (SESRL) and goal-setting habits. Goal analysis skill and achievement were measured after the intervention. A series of four goal-setting lessons was administered to the students in the experimental condition. The control condition received health science case studies to review and evaluate. Four hypotheses were tested in the study. A 't' test was used to compare the mean group scores on the goal analysis skill measure and the achievement test. A significant 't' value for goal analysis skill supported the expectation that students who received the instructional intervention analyzed goal statements more accurately than students who did not receive the instruction. The achievement test groups mean scores were not significantly different. However, the instruction did significantly impact goal analysis skill and self-efficacy for self-regulated learning.

In a study Lee (1996) studied, (a) patterns of individual differences in the consistency of students' goal orientation, (b) classroom differences in the consistency of goal orientation and (c) interactions between individual differences and classroom variables on the consistency of goal orientations over time. The sample consisted of 275 fifth and sixth-grade students selected from 10 science classrooms taught by 5 teachers. Students' self-regulated motivational profiles were assessed on perceived cognitive competence, intrinsic motivation, and science attitudes. Students' perceptions of the classroom environment were assessed on the order and involvement dimensions. Results indicated that students with a high motivational profile had higher scores on the mastery scale and lower scores on the performance scale than did low motivation students. Also, students who perceived their classes as orderly and involving had higher scores on the mastery scale than did students who did not perceive their classes in this way. Results also showed that there was a significant
between subject interaction effect for self-related motivational profiles and classroom environment had a differential effect on the consistency pattern of students with low and high motivational profiles. Results indicated that there were individual and situational differences not only in strength of students' achievement goals but also the magnitude of change in achievement goal over time. Students high motivational profiles showed a higher degree of consistency in their goal orientation than low motivation students.

Yung (1996) examined the cultural and contextual influences on goal orientations and the relationships among goal orientation, learning strategies and achievement. In the general educational psychology literature, learning strategies have been linked to motivational variable, notably students' goal orientation in achievement situations. By goal orientation it is meant the attitudinal complex from which students state their reasons for engaging in an academic task. A total of 1265 students in high school Science and English classes in Taegu, Korea, participated in the study. The Achievement Motivation Questionnaire, the Motivated Strategies Learning Questionnaire, the Strategy Inventory for Language Learning, and a background questionnaire were translated into Korean and administered to the students. Although there were many findings, the most noteworthy are as follows: (1) Korean students displayed all four types of goal orientations previously identified in the literature, Mastery Goal, Performance Goal Alpha (Ego-Social), Performance Goal Beta (Utilitarian) and Work-Avoidance goal orientation, suggesting that notwithstanding cultural differences, general types of goal orientations may be identified among people in various cultures; (2) regardless of the competitiveness of the classroom atmosphere, the humanities students were more highly mastery goal oriented than the vocational students (3) results of this study provide clear evidence that goal orientations are important in explaining students' use of language learning strategies and academic achievement.
Phillips and Gully's (1997) study integrates ability, goal setting, self-efficacy and multiple personality traits into a common framework that explains and predicts individual performance. A mediational model was tested using LISREL8. Ability, learning goal orientation, and locus of control were positively related to self-efficacy, whereas performance goal orientation was negatively related to self-efficacy on an academic task. Self-efficacy and need for achievement were positively related to goal level, which was positively related to performance in combination with ability and self-efficacy. In addition to showing that personality traits can influence the motivational process at various stages the results highlight the unique contributions of self-efficacy and goal level to the motivational process after the effect of ability and other individual differences have been identified.

A longitudinal field study (N=44) and a scenario study (N=239) were conducted by VandeWalle and Cummings (1997) to investigate the influence of the individual difference of goal orientation (an orientation toward developing or demonstrating one's ability) on feedback-seeking behavior by the inquiry method. The results of the 2 studies were consistent with the hypotheses of a positive relationship between a learning goal orientation and feedback seeking and of a negative relationship between a performance goal orientation and feedback seeking. Also as hypothesized, the perceived cost and perceived value of feedback seeking mediated these relationships.

A correlational study examining the relationships among motivational beliefs, goal setting, effort, persistence and academic performance was conducted using 262 students drawn from six intact classes in two selected colleges in Taiwan. Two self-report questionnaires measuring students' task value, goal orientation, self-efficacy, control beliefs, goal level, and expended time and effort was administered in one semester; and course grades were collected. Results showed that extrinsic goal orientations had a direct, positive effect on academic performance.
Self-efficacy had an indirect positive effect on academic performance through goal commitment (Lee, 1997).

Price (1997) designed an investigation to test the theoretical constructs of goal orientation theory in practice and competitive settings, by examining changes in goal orientation, intrinsic motivation, self-efficacy and attributions. 68 male participants were assigned to one of six treatment groups based on responses to demographic questions and their scores on the perception of sports questionnaire (POSQ). Findings of the investigation suggest that goal orientation for task and ego characteristics remain stable over time during practice, but participants’ task orientation shifts during competition. Also, it appears that there is a positive interaction between group receiving success feedback and other self-perceptions (self-efficacy and intrinsic motivation).

Givvin (1997) conducted a study over ninety adolescent swimmers (aged 12 to 15). The subjects were asked to complete three versions of the task and ego orientation in sport questionnaire (TEOSQ). For the first administration, swimmers were asked to complete the TEOSQ as themselves. Adolescents then completed the TEOSQ two additional times: Once as they thought, their coach would answer and again as they thought their most influential parent would answer, the coach of each adolescent and the adolescents most influential parent then completed a TEOSQ form in their own perspectives. Results indicated that adolescents believed their goals were affected by their coaches and parents. However, bivariate correlations showed that except for coaches’ ego orientation, adolescents perceptions of their significant adults’ goal orientation were not associated with their significant adult self-reports.

Dharmadasa (1998) studied the elements of self-regulation in high school students’ scripts and their relation to goal orientation in particular learning situations. The purpose of this study was to investigate self-regulation elements incorporated into high school students’ scripts in particular learning situations associated with students’ learning and performance goal orientations. Specifically, the quantitative and qualitative
differences in script elements, self-regulation elements and students’ higher level thinking in writing a term paper, getting ready for a final examination and preparing an oral presentation were examined. Written response related to the three learning situations were obtained from 185 grade 11 students in three high schools in a southeastern state. Data were analyzed quantitatively using mixed modes ANOVA designs and qualitatively in terms of themes, patterns and trends evident in students’ written responses. Goal orientation conditions, high learning or high performance had no main effects or interaction effects on any of the variables, self-regulation element.

VandeWalle et al. (1999) investigated the influence of goal orientation and self-regulation tactics on sales performance: a longitudinal field study with sales people. As hypothesized, a learning goal orientation had a positive relationship with sales performance. This relationship was fully mediated by three self-regulation tactics: goal setting, effort, and planning. In contrast, a performance goal orientation was unrelated to sales performance. These results suggest that a focus on skill development, even for a veteran workforce, is likely to be associated with higher performance. Management should seek evidence of a learning goal orientation when selecting new employees, while avoiding an excessive focus on performance goal orientation without a comparable skill-development focus.

Shimoda (1999) studied the student goal orientation in learning inquiry skills with modifiables software advisors. In two studies of sixth graders science students took a pre-test of an open-ended inquiry question and a questionnaire that measured their goal orientations. The students worked in pair on an inquiry project about memory using one of two versions of SCI-WISE (A computer support environment for learning and doing inquiry was designed), one modifiable and one not modifiable. After finishing the project, the students took a post-test similar to the pre-test, and evaluate the system. The results supported many of the hypotheses generated from the theoretical framework. Knowledge-
oriented students tended to rate SCI-WISE higher, use more general purpose and system development advisors, and select more general advice and hints than task oriented students. On the post-test inquiry test, students with higher goal orientations scored higher on average, particularly when paired with another knowledge oriented students.

Pajares, Britner and Valiante (2000) studied the relation between achievement goals and self-beliefs of middle school students in writing and Science. Two studies were conducted (with 6th - 8th grade students) to investigate the relationship between achievement goals (task, performance-approach, performance-avoid), motivation constructs, and gender in the areas of middle school writing (N=497) and Science (N=281). In both studies, task goals were associated positively with self-efficacy, self-concept, and self-efficacy for self-regulation and negatively with apprehension; performance-approach goals were associated positively with self-concept; and performance-avoid goals were associated negatively with self-concept and self-efficacy for self-regulation; and positively with apprehension. In writing, performance-approach goals related positively with self-efficacy, whereas performance-avoid goals related negatively and girls had stronger task goals. Findings related to performance-approach goals suggest that a development component may be at work in determining whether these goals serve a facilitative function in fostering motivation. Task goals and performance-approach goals were related, suggesting that they are each grounded in self-regulatory practices that lead to positive outcomes.

Sinha and Kumari (2000) examined the relationship between children's perception of parental inducement of academic self-regulation, learning/performance goal orientation and strategy use among 80 eighth grade children. Significant positive correlation coefficients were found between parental inducement of self-regulation scores and learning goal orientation scores and negative correlation coefficients were found between parental inducement of self-regulation scores and performance goal orientation scores. Significant positive correlation coefficients were
found between parental inducement of self-regulation and deep processing strategy use scores and negative correlation coefficients were found between parental inducement of self-regulation scores and shallow processing strategy use scores.

Sharma and Aradhana (2001) investigated the effects of similarity/dissimilarity and ego/task involvement on help seeking behavior. Findings indicated that help seeking behavior would be less on ego involvement than on task involvement and more help was sought when the partner was dissimilar than similar.

Elliot and McGregor (2001) studied a 2 x 2-achievement goal framework. A 2 x 2 achievement goal framework comprising mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance goals was proposed and tested in 3 studies. Factor analytic results supported the independence of the 4 achievement goal constructs. The goals were examined with respect to several important antecedents (e.g., motive dispositions, implicit theories, socialization histories) and consequences (e.g., anticipatory test anxiety, exam performance, health center visits), with particular attention allocated to the new mastery-avoidance goal construct. The results revealed distinct empirical profiles for each of the achievement goals; the pattern for mastery-avoidance goals was, as anticipated, more negative than that for mastery-approach goals and more positive than that for performance avoidance goals.

STUDIES RELATED TO SELF-REGULATION AND METACOGNITION

Stuss (1991) has argued that the prefrontal cortex is responsible for phenomena captured by the term self-awareness. Stuss holds that the frontal cortex has three levels of function. The first involves the ability to organize and maintain information in meaningful sequences. The second is an executive function involved in moving toward goals in novel or non-routine situations. This control function is divisible into processes such as goal selection, means end analysis, reflective evaluation of behavioral outcomes, and performance maintenance in light of those
evaluations. The third level of frontal function is consciousness itself, the ability to be aware of oneself and one's relationship to the environment.

The study was conducted with six middle school students with learning disabilities (Montague, 1992). One of the purposes of that study was to investigate the differential effects of the cognitive and metacognitive components of instruction. The result indicated that the combination of cognitive and metacognitive strategies was more effective than either cognitive or metacognitive strategies taught in isolation.

The study was conducted with 72 junior high school students with learning disabilities (Montague, Marguard, & LeBlanc, 1993). Instruction was provided to groups ranging from 8 to 12 students in separate classrooms during their regularly scheduled 50 minute mathematics classes. This study also attempted to investigate the effects of cognitive strategies versus metacognitive strategies versus a combination of strategies on students' performance on one-, two-, and three-step word problems. Statistically, the conditions did not differ significantly on the various trials of word-problem solving, however, there were subtle indications that the combination of cognitive and metacognitive strategies was the optimal learning package. First, a trend toward more rapid progress was evident for the group that received the combination of cognitive and metacognitive strategies as their instructional package, and second, this group seemed more likely to maintain improved performance.

Grolnick and Slowiacez (1994) examined the parents' involvement in children's schooling. A multidimensional conceptualization and motivational model. This study had 2 goals. The first was to examine a multidimensional conceptualization of parent involvement in children's schooling, defined as the allocation of resources to the child's school endeavors. A second goal was to evaluate a model in which children's motivational resources (i.e. perceived competence, control understanding and self-regulation) are mediators between parent involvement and children's school performance. 300, 11-14 year-old children and their teachers participated. Factor analyses of a set of parent
involvement measures supported the hypothesized three dimensions of parent involvement: behavior, intellectual/cognitive, and personal. Path analysis revealed indirect effects of mother behavior and intellectual/cognitive involvement on school performance through perceived competence and control understanding, and indirect effects of father behavior on school performance through perceived competence. The results argue against a unidimensional understanding of parent involvement and support the view of the child as an active constructor of his or her school experience.

Lan (1994) investigated the effects of self-monitoring on students’ course performance, use of learning strategies, attitude, self-judgment ability, and knowledge representation. Self-monitoring, defined as deliberate attention to some aspect of one’s behavior, is considered to be an important self-regulatory process in learning. In the experiment, 72 graduate students in a statistics class were assigned to a self-monitoring group, an instructor-monitoring group, or a control group to investigate the effects of self monitoring on students’ learning strategies, motivation, knowledge representation, self-judgment ability, and course performance. During the course, the self-monitoring group recorded the frequency and intensity of their various learning activities, the instructor-monitoring group evaluated the instructor’s teaching, and the control group took the course without any treatment. The self-monitoring group performed better than the other two groups on course tests, used more self-regulated learning strategies, and developed better knowledge representation of the course content. Psychological processes are suggested through which self-monitoring increases students’ learning and provides a prototype of a self-monitoring protocol that has potential for improving students’ course performance.

Mitchell et al. (1994) studied the predicting self-efficacy and performance during skill acquisition. Subjects completed 7 trials of a complex computer task that simulated the job of an air traffic controller. Performance was calculated by combining points for the number of planes
landed minus penalty points. Throughout the trials, subjects completed questionnaires assessing their self-efficacy, goals, expected performance and the degree to which certain judgments required more or less cognitive processing. The results showed that during skill acquisition people report reductions in their cognitive processing for working on the task and for making self-efficacy judgments. Also, on early trials, self-efficacy is a better predictor of performance than are expected score or goals, whereas the reverse is true for later trials. The discussion focuses on understanding motivational processes during skill acquisition.

Reddy (1994) validated the development of male and female preschoolers' help seeking, goal setting, planning and self-evaluation using latent trait models. The present study investigated the early development of three self-regulated learning strategies help seeking, goal setting and planning and self-evaluation for male and female preschoolers. This study included data from 10,291 preschoolers, age 2 to 6 years from Head Start and Public preschool programs across the country. The sample included approximately 5,000 males and 5,000 females from culturally diverse backgrounds. Children were assessed by their preschool teachers over two months with a standardized observational assessment instrument. A variety of latent trait models were used to test the developmental skill sequences of these learning strategies in relation to gender. Results revealed that variations in adult assistance and task complexity were related to the relative difficulty in performing these learning strategies. These findings support the notion that adult assistance can enhance the development of preschooler's self-regulated learning strategies. In particular, adult assistance promotes preschoolers' skill to perform simple functions independently and complex functions (e.g., advance planning or checking in parts with adult help. Gender differences were found in preschoolers' difficulties in self-evaluating and seeking help. No gender differences were found in goal setting and planning. The results from this study support the importance of social influences on preschoolers' development of self-regulated learning strategies.
The importance of self-efficacy as a mediating variable between learning environments and achievement was examined by Moriarty et al. (1995). The purpose of this research was to investigate the extent to which self-efficacy acts as a mediating variable between the learning environment and achievement. The students of V classes (N=179 students aged 9 to 10 years) were allocated randomly to cooperative, competitive or individualistic environments for twice-weekly social studies lessons, changing environments after five weeks. Data collected on self-efficacy and achievement in weeks 5 and 10 indicated that co-operative environments lead to higher self-efficacy and achievement as well as more appropriate behavior. The performance of particular tasks under competition appears to be enhanced when students have previously worked co-operatively but may be difficult to sustain as self-efficacy and behavior standard decline.

Senecal, Koestner, and Vallerand (1995) explained the self-regulation and academic procrastination. The role of autonomous self-regulation as a predictor of academic procrastination was assessed. French Canadian students from a junior college (N=498) completed the Academic Motivation Scale as well as an academic procrastination scale and then measures (anxiety, self-esteem, and depression) that have been found to be correlated with dispositional variables reflecting fear of failure. Correlation results indicated that students with intrinsic reasons for pursuing academic tasks procrastinated less than those with less autonomous reasons (external regulation and amotivation). Regression results indicated that the measures of depression, self-esteem, and anxiety accounted for 14% of the variance in academic procrastination, whereas the self-regulation variables accounted for 25%.

Schraw (1997) studied the effect of generalized metacognitive knowledge on test performance and confidence judgments. The purpose of the study was to investigate the basis of students' confidence in their answers to test items. The domain-specific hypothesis predicted that confidence judgments would be related to performance on a particular test,
but not to confidence judgments or performance on unrelated tests. In contrast, the domain-general hypothesis predicted that confidence judgments would be related not only to performance on a particular test but also to confidence judgments and performance on unrelated tests. The results of the study support the domain-general hypothesis. The results of other data analyses suggested that the domain general nature of confidence judgments might be attributable to generalized metacognitive knowledge.

Gully (1997) highlighted the importance of regulatory processes for skill acquisition and adaptability for individuals. This study examined the effects of individual and team feedback, efficacy and goals as components of a self-regulatory system leading to the development of team skills and outcomes. A total of 267 participants in 89 teams performed a computer based decision making radar simulation in three person teams over two days. Results were obtained from correlational, regression, repeated measures regression, multivariate regression, hierarchical linear modeling, ANOVA repeated measure, ANOVA, and MANOVA analyses. Findings indicated the effect of the self-regulatory variables of efficacy, goals, and feedback or training outcomes and performance adaptability.

The study was done for the purpose of ascertaining how well the finding of self-regulated learning (SRL) generalize to the distance education context by Hsu (1997). The objective of this study was to attest the relationships among motivational beliefs, metacognitive regulated activities (e.g., planning, monitoring and regulating), resource management behaviors and academic achievement of Chinese distance learners in Taiwan. This study concluded that (1) value and expectancy are moderately and positively correlated with metacognition. (2) expectancy is moderately and positively correlated with academic achievement.

A qualitative study was conducted by Harper (1997) to determine how high school students managed their learning while working within the guidelines of a student centered approach to teaching and learning. Data collected included interviews, questionnaires,
participant observations, and Kolbe Conative Index scores supplied by the school. Seven teachers and forty students were interviewed. The open-ended questions dealt with strengths and weaknesses of the program and were analyzed for recurring themes. Patterns drawn from these categorized data sets were then triangulated with the Kolbe Conative Index for confirmation. It was concluded that the more productive students used four specific learning strategies: (1) organizing and transforming information (2) goal setting and planning (3) seeking help from peers, (4) seeking help from adults. Less productive students were weak in two or more of these learning strategies along with one of two action modes as identified on the Kolbe. Students weak in fact finding as identified by the Kolbe and that used all four learning strategies covered themselves with having the skills to learn.

Lopez et al. (1998) research on the self-regulatory implications of psychological control suggests that overestimations of one's capabilities may be associated with enhanced performance. They examined this hypothesis in a two year (three-occasion) longitudinal study of 381 German school children (8-11 years of age). Controlling for gender, grade in school, prior academic achievement, and level of intelligence, they used path analysis to examine the longitudinal relations between overestimations of one's personal agency and subsequent school performance. They expected overestimations of one's agency to facilitate subsequent school performance. The results suggest that overestimating personal agency is one possible mechanism through which one maintains and improves performance.

The effects of embedded metacognitive cues on learning during cooperative computer based instruction were examined by Williamson (1999). The primary purpose of this study was to investigate if the presence of embedded metacognitive cues promote achievement, facilitate learner interactions, and improve attitudes towards cooperative learning during a cooperative computer-based lesson. 120 sixth grade students were assigned by ability to one of three group compositions:
homogeneous high-ability, low-ability, or heterogeneous. Dyads worked at one of two versions of a cooperative computer based lesson: a cued treatment or a non-cued treatment. An achievement post-test and an attitude survey were administered following the two-day lesson. A multivariate analysis of variance (MANOVA) and univariate ANOVAs revealed that learners in the cued treatment had significantly different achievement post-test scores, exhibited more on-task behavior and socialized less than learners in the non-cued treatment. The results suggest that cueing to promote verbal interaction is a valuable component in the design of group courseware.

Randhawa and Gunn (1999) examined the development of teacher’s reflective practice in implementing learning strategies. Two male classroom teachers of Grade 6 and 8 and two auxiliary teachers participated in the study. It was observed that these teachers acquired knowledge developed critical insights into practice with integrated implementation of learning, and metacognitive skills in language, arts and mathematics with their students. Commitment to reflective practice was marked. Two case studies of teachers are presented. The teachers had similar yet individual epistemological beliefs about knowledge.

Verma (2000) studied the cognitive and regulation strategies of learning among distance learners. The investigation was undertaken to explore the differences in cognitive strategies and regulation strategies of learning of male and female distance learners with high and low level of academic contents. The sample comprised of 108 distance learners selected through random cluster technique. The results of the study indicated that male and female students differ significantly in regard to deep processing, male being more prone toward it, male and female distance learners did not exhibit any significant difference in their mean scores of ‘self-regulation’, ‘external regulation’ and ‘lack of regulation’ strategies.

Essay vs. multiple choice examinations: A comparison of metacognitive statement generated during exam preparation study was conducted by Meland (2000). This experiment investigated a “Test
expectancy effect" by comparing the metacognitive statements made by students during test preparation. Beginning Psychology students were asked to read a photocopy of a three page section from their textbook. One group was told they would be given a multiple-choice examination following their completion of the reading, whereas the second group was told they would be given a short essay examination. At the completion of the reading of the test, all of the subjects were given both a short essay and a multiple-choice exam. A "Test Expectancy Effect" was found using verbal protocol analysis; the students who expected an essay exam made significantly more metacognitive statements than did the students who expected a multiple-choice exam. It was also determined that students who expected an essay exam scored significantly better on the essay exam than did the students who expected a multiple-choice exam. Not supported was a hypothesis that the students who expected an essay exam would take more time to read and prepare for the exam.

The study of teaching metacognitive strategies to English language learners in the upper elementary grades was conducted by Dresser (2000). Latino students continue to lag behind other students in reading in the schools, presenting a challenge to educators and politicians. Therefore, the purpose of this study was to explore the strategies that highly qualified bilingual teachers employ in teaching metacognitive skills to English language learners, and to arrive at an understanding of how these skills enable students to achieve academic competence in learning complex subject matter. The data collection in this study were divided into two main categories; successful strategies that promote comprehension and learning, and an analysis of the participants' reflections on their own experiences as second language learners, accompanied by a discussion of how these experience have shaped their teaching practices. Nine different strategies, which stem from the participants' extensive experience as bilingual educators; were found to be successful in assisting English language learners in learning complex subject matter in English. They are the following: (a) planning for learning, (b) determining purpose for
reading, (c) working with others, (d) previewing the text book, (e) development of the stated objectives, (f) using problem solving strategies, (g) maintaining reading speed, (h) modeling and (i) planning remedial action when needed it. The main focus of this study was to explore how bilingual teachers employ metacognitive strategies in teaching high level of academic reasoning to English language learners. In sum, for a long time English–language learners have been caught in a political battle between opponents of, and promoters of, bilingual education. In the meanwhile students in the upper grades continue to struggle with complex subject matter. By providing the metacognitive strategies described the school will give the students equal access to the curriculum and to academic success.

Arya (2000) studied the effect and interaction of the instructional strategy and personality on achievement of students in Economics. The results indicated that a significant effect of instructional strategy on achievement of students. But, there was no significant effect of instruction between instructional strategy and personality on achievement of student.

Singh and Punia (2000) conducted research in Hisar city of Haryana state constituted the sample of one hundred fifty mothers having two children. The results of this study indicating that mothers were highly involved in the child care aspects related to health-care than habit formation disciplining the child. The statistical analysis revealed that in the antecedent variables educational status of the mother, family occupation, socio-economic status of the family were deciding factor for maternal involvement level.

Sinha and Sharma (2001) discussed theoretical bases of cognitive strategy instructions, suggested the components of strategy instruction program and the need of such programs for learning disabled children. Empirical studies have shown that the programs aimed at the development of both domain-specific strategies (e.g., visualization, verbal rehearsal, paraphrasing, summarizing and estimating) and metacognitive
strategies (e.g., self-instruction, self-monitoring and self-evaluation) emphasis on explicit strategy instruction. Such programs were found to help those who have a repertoire of problem solving strategies but use them ineffectively or inefficiently.

Sinha and Kumari (2001) studied the parental inducement of self-regulation, strategy use and attribution of success/failure among school children. Resulted shows that high positive correlation coefficients were found between parental inducement of self-regulation scores and use of deep processing strategy; parental inducement of self-regulation scores and success attribution to controllable factors. Negative correlation coefficients were found between parental inducement of self-regulation scores and shallow processing strategy use scores; between parental inducement of self-regulation scores and uncontrollable factors for failure attribution.

Clause et al. (2001) examined the relation among motivational factors, test preparation activities (metacognition and learning strategies), and employment test scores using data from 493 actual job applicants to a state low enforcement agency. Results showed that motivational factors are related to metacognition and the learning strategies in which applicant engage. Use of these activities was in turn associated with higher test performance.

STUDIES RELATED WITH ACADEMIC ACHIEVEMENT

A study was conducted for the purpose of investigating the relationship between cooperative learning and academic achievement. Lynch (1996) had undertaken this study in order to enhance the empirical basis for cooperative learning and to investigate whether cooperative learning outcomes are related to other variables which have been associated with academic achievement. It was hypothesized that cooperative learning outcomes, specifically negative processing and supportive interpersonal relationships, would affect academic achievement through the academic self-concept and intrinsic motivation. The sample was a group (N=63) of 17 to 23 years old inner-city alternative high school
students in New York city. Data were obtained through students’ responses on self-report questionnaires. Two types of sequential equation modeling, path analysis was used to test the hypotheses. The results of both analysis confirmed the predicted relationships between cooperative learning and academic achievement. Cooperative learning outcomes were related to academic self-concept and academic achievement was mediated by intrinsic motivation.

Van Zile-Tamsen (1996) examined the metacognitive self-regulation and the daily academic activities of college students. Qualitative interviews with fourteen college students were conducted. The transcripts of interviews were broken down into themes which were used to answer the research questions. The participants were also divided into three groups based on grade point average (GPA), and comparisons were made among the groups. From participants’ comments about the completion of academic activities, (studying for exams, writing papers, and taking notes), twelve different metacognitive self-regulation themes emerged: awareness of self, task, and memory/memory strategies; planning/organizing of time, tasks, and materials; monitoring/evaluation when studying for exams, writing papers, and taking lecture notes; and self-regulation of attention, comprehension/understanding, and learning/memory. Participants indicated that they are more likely to engage in self-regulation when they are interested or enjoy the class, when the professor is well organized and/or enthusiastic, and when time permits. Almost all of the participants showed some degree of metacognitive awareness, regardless of GPA. Participants indicate that metacognitive self-regulation is influenced by educational experiences which involve interactions with others (parents, teachers and peers) or specific learning skills classes. Several students mentioned that self-regulation skills developed as a result of maturity or taking college more seriously than high school. They said they had the requisite skills, but their interest in college and the increased importance of grades motivated them to use these skills.
The study was conducted to examine (a) sex and age variations for scores on self concept of academic ability and academic achievement among 244 African adolescents attending a co-educational high school and (b) correlations between scores on self-concept of academic ability and academic achievement by sex and age. No significant sex differences were found, but there were significant age differences on the self-concept scores and measures of English, Science and History but not Mathematics. A significant positive correlation was found between self-concept scores and academic achievement for boys and girls and in all age groups, but the magnitude of the correlations with achievement in mathematics was stronger among boys than girls (Mboya, 1998).

Yamanchi and Jinnai (1998) examined the relationships between causal dimensions and affects in academic achievement. 87 college students were asked to complete a questionnaire, designed to assess their reactions to the outcome of midterm examination. The questionnaire consisted of two kinds of measures, causal dimensions and affects. Multiple regression analysis showed the relations of attributional dimensions and the midterm examination outcome to the affective reactions.

Kim (1999) examined the social cognitive factors influencing success on college entrance exams in South Korea. This study investigated the influence of social cognitive factors on students' performance on the college entrance exams in South Korea. Two hundred and ninety one college freshmen completed a questionnaire measuring perceived parental control, fear of failure, anxiety, self-efficacy, use of self-regulated learning strategies, and time management skills. All of the students were majoring in computer science and were enrolled in both prestigious and less prestigious colleges. The data indicated that students in the prestigious college tended to be from families with a higher SES level than students attending the less prestigious college. In addition, students attending the prestigious college used better time management skills than students attending the less prestigious college. Parental psychological control had
debilitating effects and self-efficacy had facilitating effects on performance on the college entrance exam for all students. However, fear of failure positively influenced students' performance in the less prestigious college but not in the more prestigious college.

Larocque (1999) examined the preadolescents' self-concept and self-concept/academic achievement relations. They investigated multidimensional and hierarchical structures within and across gender. Using a confirmatory factor analytic approach, the aim of the study was to examine the construct validity of an academic expansion of the Marsh/Shavelson model of self-concept (SC) and its relations with academic achievement (AA) within and across gender. Participants were grade 5 and 6 girls (N=220) and boys (N=205) drawn primarily from middle class suburban communities in and around Ottawa, Canada. Four non-academic SCs (i.e., physical appearance, physical ability, parents and peers), one general academic SC, and 11 subject-specific academic SCs were measured with the Self-Description Questionnaires and the Self-Perception Profile for children. Specific academic SCs were measured for four languages Arts (i.e., Listening, reading, writing and speaking), two Mathematics (i.e., Arithmetic and Measurement), two Sciences (i.e., Science and Social studies), and three non-core subjects (i.e. Religion, Art, and Physical Education/Gym). Grades and self reported grades in eight of these subjects served as measures of AA. The hypothesized multidimensional SC measurement and structure was supported for both girls and boys. Tests of competing hierarchical SC structures provided support for five higher order SCs. Gym SC was better represented hierarchically under nonacademic, rather than under Non-core Academic SC. Gender differences in the baseline hierarchical SC models related only to parent SC, which was defined by only Non-core Academic SC for girls, but Verbal-Academic SC for boys. A multidimensional pattern of SC/AA relations was not consistently found for the language Arts constructs for both girls and boys, and was not found for Art AA for girls. Tests for the gender invariance of SC measurement and structure, and of SC/AA
relations were generally tenable. Gender differences were of the largest magnitude indicated that, in comparison to girls, Art AA was more highly related to Art SC, but less correlated with both speaking in language Arts and verbal academic SCs for boys.

Arshavsky (1999) examined the goals and beliefs about school achievement among adolescents of the three ethnic groups and their relation to these students' academic grades. The study examined a comprehensive achievement goal orientation model. The model extended Dweck's goal orientation theory in four major ways. First, the model incorporated multiple goals measured by independent scales. Second, it incorporated ethnicity and gender as additional predictor variables. Third, the model was tested against the effects of control variables. And finally, the model included gender and ethnicity, in addition to self-confidence in ability, as moderators of the relations between goals and academic grades. The model was examined with a sample of 144 ninth graders of the three ethnic backgrounds: European Americans, Asian American and Russian American. All students in the Russian American and Asian American groups belonged to the first or second generation of immigrants. The results of the study show that: (1) ethnicity, gender, self-confidence in ability, theory of intelligence, and achievement goals, each predict a significant portion of adolescents' achievement beyond control variables (parental education, school etc.), 2. interactions of ethnicity, gender, and self-confidence in ability with other predictors account for a large portion of variance in grades (15%). The overall model accounted the 50% of the variance in grades in the sample.

DiPerna (1999) tested a model of academic achievement. The purpose of the study was to test a model featuring student variables as predictors of academic achievement. Several leading educational researchers have proposed theoretical models to explain direct and indirect influences on students' educational outcomes. The models proposed by these researchers have focused primarily on the impact of home and classroom variables on academic achievement. As a result, they focused on
models of academic achievement including student variables only, i.e. prior achievement, motivation, interpersonal skills, study skills, participation and problem behaviors. Students, teachers, and parents completed measures as part of the project, and data were collected for a total of 102 children across grades 3 through 5. Structural equation modeling (SEM) was used to test the fit of the hypothesized students model with the data. In addition, exploratory SEM analysis were used to assess the fit of the student model across known groups of students. Exploratory SEM analysis also were used to test the fit of a model of achievement including a home variable, parent involvement in schooling in addition to student variables. Results indicated that the hypothesized student model did not fit the data particularly well, however, the best fitting model was developed with the revision of a few pathways in the hypothesized model. Within this best fitting model, only motivation and prior achievement demonstrated large total effects with current academic achievement. Finally, the model of academic achievement including home and student variables demonstrated acceptable fit with the data.

Mitchell (2000) examined the relationship between the academic performance and parent configuration of African American 11th grade students in an urban school system. The study participants were a randomly assigned group of 138 African American, male and females, 11th grade students attending school in a small urban school system. The independent variables of the student's parent configuration, standardized test scores, and self-concept were considered, individually and in combination, for their relative significance and influence in predicting the students' academic performance (GPA). A correlation matrix revealed that a significant correlation existed among three independent variables and the dependent variable. Results of the regression analysis revealed that among the three predictors, the students' standardized test scores were the most significant accounting for about 20% of the variance in GPA. Self-concept was the last predictor of GPA accounting for 4% of its variance. The chi-square analysis of parent configuration on attendance revealed a
relationship between these two variables and suggested a strong association between parent configuration and academic performance. The indication that parent configuration and attendance are related made clear the implications of parent configuration's influence on academic achievement in this study.

Sinha and Kumari (2001) examined the effect of goal orientation and perception of parental inducement of academic self-regulation on academic achievement. A 2 (Parental inducement of academic self-regulation: High vs. Low) x 2 (Learning goal orientation: High vs. Low) x 2 (Performance goal orientation: High vs. Low) factorial design was used. The results show the significant effect of type of goal orientation and parental inducement of self-regulation on the academic achievement. Learning goal orientation in interaction with parental inducement of academic self-regulation showed better academic achievement.

Dash and Khan (2001) studied the impact of guided learning on the cognitive performance of low and high achievers. Following Vygotskian view this study empirically explores the role of guided learning in determining performance of low and high achievers. Using Standard Progressive Matrices, Design construction and Arithmetic test as performance measure, a group of seventh grade children were given the experience of guided learning. It was observed that guided learning was almost equally effective for all the students. The results imply that school instruction should capitalize on the potential development level of the students using dynamic assessment methods.

Pajares (2001), the purpose of this study was to integrate constructs from positive psychology with constructs from motivation theories that have received most of the attention in studies of academic motivation. Achievement goals, expectancy beliefs, and value were predictive of the positive psychology variables. Task goals were associated positively with optimism and with invitations, whereas performance-avoid goals were associated negatively with optimism and perceived
authenticity. Positive psychology variables were stronger in high-achieving students than in low-achieving students. Findings indicate that constructs drawn from positive psychology can help explain academic motivation and achievement.

A brief account of preceding studies leads to the conclusion that research in the field of academic achievement in general and in its relation to other variables in particular, seem to be developing fast, touching many new areas. Some such areas include variables, viz., self-regulation, goal orientation, metacognition which have not been able to draw adequate attention of educational researchers, specially in India. Thus the investigator planned to conduct the present study in the area which is still least explored.