

Examining the Relationships Among Classroom Goal Structure, Achievement Goal Orientation, Motivation and Self-regulated Learning for Ethnically Diverse Learners

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Abstract

The purpose of this study was to explore the learning strategies used by ethnically diverse learners and to investigate the relationships among the constructs of classroom goal structure, achievement goal orientation, motivation and self-regulated learning in an ethnically diverse population of fourth and fifth grade learners (n=396). Goal setting, environmental restructuring, and seeking assistance from adults were described most frequently by this sample of African American and Hispanic elementary students. Correlational analyses revealed moderate positive relationships among the constructs of classroom goal structure, achievement goal orientation, motivation, and self-regulated learning. Further analyses by means of structural equation modeling supported a model depicting positive relationships between classroom goal structure and achievement goal orientation, achievement goal orientation and motivation, and achievement goal orientation and self-regulated learning. Finally, Hispanic students reported higher levels of task structure and task orientation, compared to African American students.

Introduction

Educational reform has mandated that every child be granted the educational opportunities that s/he needs to succeed academically. An unprecedented amount of funding has been allocated through the American Recovery and Reinvestment Act of 2009 (see <http://www2.ed.gov/policy/gen/leg/recovery/index.html>). This funding sought to encourage competition among states, and to forge partnerships with the private sector to improve the quality of education across our nation. The challenges that today's schools face are immense, and these challenges are especially evident in urban schools. Urban schools serve different demographic student populations than other schools. These ethnically diverse schools include over one-fourth

of all minority students and the largest percentages of non-English speaking students from low-income families. (Council for the Great City Schools, 2010).

While the percentage of students in urban schools who score at or above state proficiency levels has increased in both Reading and Math from 2006 to 2009, this percentage still lags behind state and national averages (Council of the Great City Schools, 2010). Furthermore, the achievement gap between racial and economic groups remains a serious concern in urban schools. The Council of Great City Schools, a coalition of 66 of the nation's largest urban school systems, has demonstrated some success in closing these achievement gaps. Since 2006, the majority of these urban schools (67% in grade 4 and 62% in grade 8) have narrowed the gap between African-American and White students in Math; while 49% and 53% of the urban schools studied narrowed this gap in Reading in grades 4 and 8, respectively (Council of the Great City Schools, 2010). During the same time period, the majority of these urban schools (66% in grades 4 and 69% in grades 8) have also narrowed the gap between Hispanic and White students in Math while 57% and 53% of the urban schools studied narrowed this gap in Reading (Council of the Great City Schools, 2010).

While preliminary research has suggested that there has been some decrease in the achievement gaps among racial and ethnic groups, further inquiry into the factors that contribute to improved performance, particularly among ethnically diverse learners in urban schools is critical to our success as a nation. Prior research into academic learning and achievement suggests that the individual learner variables of achievement goal orientation, personal motivational variables and self-regulated learning can significantly impact academic achievement (Ames & Archer, 1988; Greene & Miller, 1996; Pintrich & De Groot, 1990; Zimmerman & Martinez-Pons, 1990). On a broader level, it has also been demonstrated that the

classroom goal structure may serve to influence individual achievement goal orientation (Greene & Miller, 1996; Author b, 1999; Maehr & Midgley, 1996).

Despite the importance of these findings, much of this research has been conducted with college, high school, or middle school-aged learners and predominantly with subject populations of limited ethnic diversity. Significantly less is known regarding the relationship of these variables to the academic achievement of elementary school learners from ethnically diverse backgrounds in urban educational settings. Thus, the present study sought to provide a model of the complex relations among the factors of classroom goal structure, achievement goal orientation, motivation and self-regulated learning among an ethnically diverse sample of fourth and fifth grade learners. Furthermore, this study explored the strategies used by diverse learners as they approach different learning tasks.

Theoretical Framework

Self-Regulated Learning

The social cognitive theoretical perspectives of self-regulated learning and the achievement goal orientation theories of motivation guided this exploration. Self-regulated learning has been defined and modeled from a variety of theoretical perspectives and frameworks (e.g., Carver & Scheier, 1981; Pintrich, 2000a; Zimmerman, 1989). One of the most commonly used definitions of self-regulated learning identifies the self-regulated learner as one who is behaviorally, metacognitively, and motivationally active in his or her own learning (Zimmerman, 1986; Zimmerman & Martinez-Pons, 1988). Pintrich (2000a) offers a fairly comprehensive definition of self-regulated learning which states that, "self-regulated learning is an active, constructive process by which learners set goals, monitor their learning, control their

cognition, motivation, and behavior, while taking into consideration the relevant features of their learning context and/or environment."

Over the course of the last 15 years, numerous studies have demonstrated the benefits of self-regulated learning to academic performance. Self-regulated learning has been found to be a significant predictor of achievement track [high or low] (Zimmerman and Martinez-Pons, 1986), gifted education (Zimmerman and Martinez-Pons, 1990), college students' assignment to developmental/remedial or regular college admission (Ley & Young, 1998), GPA (Van Zile-Tamsen & Livingston, 1999), academic achievement (Zimmerman and Martinez-Pons, 1988), and academic success (Zimmerman, Bandura, & Martinez-Pons, 1992).

Zimmerman & Martinez-Pons (1990) found that the use of self-regulated learning strategies distinguished highly academically successful (gifted) learners from regular (non-gifted) learners in the fifth, eighth and eleventh grades. In a prior study, Zimmerman and Martinez-Pons (1986) developed a structured interview to assess tenth grade students' use of self-regulated learning strategies. This research demonstrated that tenth grade students from a high achievement track and students from a low achievement track could be distinguished on the basis of their self-regulated learning strategies. More specifically, high achieving students indicated a significantly greater use of 13 out of 14 categories of self-regulated learning strategies. Thus, achievement track could be predicted with a 93% level of accuracy based on the use of self-regulated learning strategies. Somewhat similarly, Pintrich and De Groot (1990) demonstrated that seventh-grade students who were achieving high grades were more likely to report using self-regulated learning strategies than were low achieving students. Thus, the importance of self-regulated learning strategies to academic achievement has been fairly well

established, and has been modeled by a variety of theorists (e.g., Schunk, 1989; Zimmerman, 1989; Zimmerman, 1998).

Achievement Goal Orientation Theories of Motivation

While the use of self-regulated learning strategies is an important variable for academic success, research has further emphasized the importance of motivation to self-regulated learning. For example, in the Zimmerman and Martinez-Pons (1990) study, students' self-efficacy perceptions were related to their use of self-regulated learning strategies. Pintrich and De Groot (1990) demonstrated that students who were high in self-efficacy and intrinsic value were more likely to report the use of cognitive and self-regulatory strategies. In addition to their relationship to strategy use, motivational variables such as intrinsic motivation, self-efficacy, task value, and expectancy for success have also been shown to be positively related to academic achievement. These results provide evidence for the importance of considering both motivational and self-regulated learning variables in models of classroom academic performance (Pintrich and De Groot, 1990).

One group of motivational theories in particular that has been demonstrated to affect students' motivation, cognitive strategy use and self-regulated learning is the achievement goal theories of motivation. Achievement goal orientation theories offer an explanation of the reasons why students engage in academic tasks (see Pintrich, 2000a). The type of goal orientation that the learner has is likely to affect the students' motivation and self-regulated learning strategies. A student's achievement goal orientation may be the result of prior learning experiences, the teacher's goal structure in the classroom, or a combination of these two factors (e.g., Pintrich, 2000a).

While different theorists tend to refer to goal orientations using somewhat different nomenclature, traditionally, most research into achievement goal orientation has suggested two major types: learning or mastery goal orientation, and a performance goal orientation. Students who have a learning, task, or mastery achievement goal orientation are motivated to learn the material because they genuinely want to develop an understanding of the material. These students desire to obtain competence and mastery of the information. In contrast, students who have a performance goal orientation are motivated to perform better than others and to demonstrate their ability to others. Perhaps not surprisingly, research into the effects of these achievement goal orientations has demonstrated many relationships between these goal orientations and affective, motivational, cognitive, and self-regulatory behaviors. Generally, a learning goal orientation has been shown to be positively related to the use of deep-level cognitive strategies, and self-regulated learning, which in turn, may be related to achievement (Greene & Miller, 1996). In contrast, a performance goal orientation may be related to shallow-level cognitive processing, which is negatively related to academic achievement (Greene & Miller, 1996).

The effects of achievement goal orientation on motivation.

Previous research into the effects of achievement goal orientation on motivation and self-regulated learning suggests that adopting mastery or learning goal orientation has positive implications for motivation and self-regulated learning. A number of studies have demonstrated positive relationships between a task goal orientation and such motivational variables as self-efficacy (Anderman & Young, 1994), effort attributions and intrinsic value (Ames, 1992), efficacy and persistence in the face of difficulty (Dweck & Leggett, 1988), and task value (Wolters, Yu, & Pintrich, 1996; as cited in Pintrich, 2000a). Pintrich (2000a) suggests however,

that more research is needed into the causal ordering of these variables, as it is presently unclear whether personal motivational variables lead to achievement goal orientation, or whether achievement goal orientation leads to personal motivation.

The effects of achievement goal orientation on self-regulated learning.

In addition to the relationships between achievement goal orientation and motivation, numerous studies have also demonstrated relationships between achievement goal orientation and cognitive and self-regulated learning strategy use. Meece, Blumenfeld, and Hoyle (1988) found that a task goal orientation was strongly correlated with fifth and sixth grade students' active cognitive engagement. Anderman and Young (1994) demonstrated that task goals were highly correlated with eighth grade students' use of deep level cognitive strategies. Middleton and Midgley (1997) found that sixth grade students' self-reported self-regulated learning was positively correlated with a task goal orientation. Ablard and Lipshultz (1998) administered the Self-regulated Learning Interview Schedule (SRLIS; Zimmerman and Martinez-Pons, 1986) along with the Patterns of Adaptive Learning Survey (PALS; Midgley, Maehr, Hicks, Roeser, Urdan, Anderman, Kaplan, Arunkumar, & Middleton, 1997) to a group of seventh grade high-achieving students. Their results indicated that mastery goal orientation accounted for most of the variance in self-regulated learning.

Wolters et. al., (1996) investigated the achievement goal orientations of seventh and eighth grade students. These students completed an adapted version of the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1991), which incorporated the subscales of task value, self-efficacy, test anxiety, cognitive strategy use, and self-regulated strategy use. Results of their study showed that a learning goal orientation was positively related to adaptive motivational beliefs and self-regulated learning. In contrast, an

extrinsic goal orientation was negatively related to self-efficacy, task value, self-regulated learning and performance. Achievement goal orientation was the strongest predictor of students' cognitive and self-regulated learning strategies.

Pintrich (2000b) investigated the effects of achievement goal orientation on the motivational, affective, cognitive and performance outcomes of eighth and ninth grade students. To measure these performance outcomes, Pintrich used the Mastery and Performance subscales of the Patterns of Adaptive Learning Survey (PALS; Midgley, Maehr, Hicks, Roeser, Urdan, Anderman, Kaplan, Arunkumar, & Middleton, 1997), along with the following subscales from an adapted version of the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1991): self-efficacy, task value, test anxiety, cognitive strategies.

Results of his study indicated that the group with the highest self-efficacy was the high mastery/high performance group. This was somewhat contrary to what might be predicted by the normative goal theory, which would have predicted that the high mastery/low performance group would have the highest self-efficacy. As predicted by normative goal theory, students high in mastery goal orientation reported more use of cognitive strategies in all three waves. Students who were high in mastery goal orientation also reported more self-regulation of their cognition in comparison to students who were low in mastery goal orientation. The findings of this study lend support to both normative goal theory as well as a revised perspective on goal orientation, as there was not a significant difference between the high mastery/low performance group and the high mastery/high performance group on the outcome variables of self-efficacy, cognitive strategy use, and metacognitive strategy use.

The effects of perceived classroom goal structure on students' achievement goal orientation.

An individual learner's achievement goal orientation may be further influenced by the goal orientation of the classroom context (e.g., Ames & Archer, 1988; Maehr & Midgley, 1996; Midgley & Urdan, 2001). Teachers who emphasize a learning or mastery goal orientation in their classroom tend to use such practices as collaborative or other forms of group learning, more learner-centered approaches to instruction, an emphasis on effort and improvement, and more authentic, individualized assignments and assessments, such as the use of portfolios. In contrast, teachers who emphasize a performance goal orientation tend to emphasize competition, grades, comparison and performance (see Anderman & Maehr, 1994).

Anderman and Young (1994) found that the use of performance-oriented instructional strategies was related to lower levels of mastery goal orientation in science classrooms. Anderman and Anderman (1999) administered the Patterns of Adaptive Learning Survey (PALS; Midgley, Maehr, Hicks, Roeser, Urdan, Anderman, Kaplan, Arunkumar, & Middleton, 1997) including the perceptions of classroom goal structure subscale. This study supported the findings of the Anderman and Young (1994) study, and demonstrated that students' perceptions of the goal structure in the classroom predicted their personal goal orientations. Roeser, Midgley, and Urdan (1996) showed that eighth grade students' perceptions of a task goal structure in the classroom was positively related to self-efficacy which was mediated through personal task goals. In contrast, perceiving a relative-ability classroom goal structure was negatively related to self-efficacy as mediated through personal task goals. Salisbury-Glennon and Gorrell (1999) found that sixth and seventh grade students in a classroom context that was observed to have a mastery oriented task goal structure demonstrated a significantly greater use of the self-regulated learning strategies of goal-setting and planning, self-evaluation, and seeking social assistance

from adults than sixth and seventh grade students at the same school, but who were in a classroom that was observed to have a performance oriented task goal structure.

The Need to Examine Cultural Differences

The research reviewed thus far has demonstrated that motivation and self-regulated learning strategies are essential for academic success. In addition, achievement goal orientation is related to motivation and the use of self-regulated learning strategies. Further, the perceived classroom goal structure has been shown to be related to the individual learners' achievement goal orientation. The majority of the research into motivation, self-regulated learning and achievement goal orientation has been conducted using predominantly White subject populations. There remains a paucity of research into motivational variables, self-regulated learning and achievement goal orientation among ethnically diverse subject populations, particularly at the elementary level. Thus, the purpose of the present study was to explore the relationships among the constructs of classroom goal structure, achievement goal orientation, motivation, and self-regulated learning among an ethnically diverse sample of fourth and fifth grade learners.

Perry and Weinstein (1998) cite research evidencing a mismatch between the culture of the family and the school at the elementary level. They suggest that this mismatch may explain school and adjustment problems among some children especially racial and ethnic minority students and those who speak limited English (see Skinner, Bryant, Coffman, & Campbell, 1998; as cited in Perry & Weinstein, 1998). For example, the Latino culture has been shown to promote a cooperative learning style that can be discrepant from the often individualistic and competitive nature of many classrooms, particularly those espousing a performance goal orientation. Covington (1992; as cited in Midgley & Urdan, 1995) cites Suarez-Orozco (1989) and Fordham

and Ogbu (1986) who suggest that African American and Hispanic children do not share the same achievement goals as those demonstrated by White middle class children. With regards to self-efficacy, Graham (1994) as well as others has noted that while self-efficacy is critical to academic achievement, it has been inadequately studied among minority students. In her review of the literature on the motivational differences between African American and European American students on such motivational constructs as need for achievement, locus of control, and ability beliefs, she concluded that overall, the differences are not very large. Thus, with regards to motivation there remains a need for further research into the motivation of ethnically diverse populations.

With regards to self-regulated learning, the research into gender and ethnicity differences has also been limited (Pintrich & Zusho, 2002). Pintrich et. al., assert that they "don't know of any study that has methodically investigated differences in ethnic minority student self-regulatory processes." Finally, there is a scarcity of research into the achievement goal orientations of ethnically diverse subject populations. Pintrich and Schunk (2002) assert that "given the importance of goal orientation to a variety of other motivational and cognitive outcomes, we need research that examines goal orientation beliefs and their relations to these outcomes for diverse populations." They further assert that future research using diverse cultures will contribute greatly to the motivation literature as it will help us to develop a broader understanding regarding motivation across cultures and contexts. Thus, the purpose of the present study was to explore strategies used by ethnically diverse students and the relationships among the constructs of classroom goal structure, achievement goal orientation, motivation and self-regulated learning among an ethnically diverse sample of fourth and fifth grade learners.

Methods

Setting. This study was conducted as part of the South Florida Annenberg Challenge, funded as part of the National Annenberg Challenge (Annenberg Challenge, 2006). This Challenge focused on school reform in our nation's schools, predominantly within nine large urban school systems or partnerships. The South Florida Annenberg Challenge included schools from Miami-Dade, Broward, and Palm Beach counties and was funded for \$100 million.

Participants. The subjects in this study consisted of 396 fourth and fifth graders from Miami-Dade County. Of these students, 54.7% were female. Forty-one (41.4) percent of these subjects identified themselves as Hispanic American and an additional 28.6% of these subjects identified themselves as African-American. In addition, 9.7% described themselves as White-Non-Hispanic and 9.7% indicated that they were Biracial/Multiethnic. The majority of the participants (64.3%) received a free or reduced lunch. Fifteen percent (15.7%) were born outside of the United States and 64.1% had at least one parent born outside the United States. In over one-third (35.6%) of their homes, English was NOT the primary spoken language.

Procedures. One fourth or fifth grade classroom was randomly selected from each of the 24 participating elementary schools in Miami-Dade County. Surveys were completed during a class period. Six-hundred surveys were distributed to these participating elementary schools and 396 were returned, resulting in a response rate of 66%.

Each elementary student completed a survey instrument that included sections pertaining to their academic and social experiences in school, school climate, family background, and information regarding his/her language arts or math class. The majority of the survey instrument was constructed to gather information about students and their experiences in schools in South Florida so that it could be compared with information gathered at other sites (e.g., Bay Area, Chicago, New York, Los Angeles) participating in the National Annenberg Challenge. Students

were asked to describe their academic experiences in reference to a target class (i.e., language arts or math). This target class was determined randomly so that children with birthdays between January and June were asked to respond in reference to their reading or language arts class while those born between July and December responded in reference to their math class.

Instrumentation. The majority of the survey instrument was constructed to gather information about students and their experiences in schools in South Florida. In addition, the Patterns of Adaptive Learning Survey (PALS; Midgley, Maehr, Hicks, Roeser, Urdan, Anderman, Kaplan, Arunkumar, & Middleton, 1997), and a version of the Motivated Strategies for Learning Questionnaire (MSLQ) used previously with seventh graders (see Pintrich & De Groot, 1990) was included in the section pertaining to students' academic experiences. The final section of the survey instrument was an adaptation of the Self-regulated Learning Interview Schedule (SRLIS; Zimmerman, & Martinez-Pons, 1986).

Four constructs were derived from variables or items on the survey and explored in this study. These constructs included: 1) classroom goal structure, 2) achievement goal orientation, 3) motivation, and 4) self-regulated learning. Goal structure was defined using two subscales, task goal structure (TGS) and performance goal structure (PGS) from the Patterns of Adaptive Learning Survey (PALS). Achievement goal orientation was also defined using subscales from the PALS. These subscales included task goal orientation (TGO), performance-approach goal orientation (PAppGO), and performance-avoid goal orientation (PAvdGO). The construct of Motivation was derived from the subscales of intrinsic motivation (IntMot) and self-efficacy (SelfEff) from the version of the Motivated Strategies for Learning Questionnaire (MSLQ) while the construct of self-regulated learning was drawn from the subscales of cognitive strategies (CogStag) and self-regulation (SelfReg) also from the MSLQ. Additional items were included on

the survey instrument as indicators of students' academic standing and aspirations. Specifically, students were asked whether they had previously received a failing grade in the class, what grade they expected in the current marking period, and what level of education they planned to pursue.

Analysis of Data. The analysis consisted of three primary components. First, responses to each of the eight learning contexts were coded using the self-regulated learning category structure established by Zimmerman, & Martinez-Pons (1986). These responses were coded using 15 different self-regulated learning strategies. For each learning context, the frequency of the use of each strategy use was computed for African American, Hispanic, and White elementary students. Second, Pearson Product Moment Correlations were used to describe the bivariate relationships among the variables used to support the constructs of classroom goal structure, achievement goal orientation, motivation, and self-regulated learning.

Third, the multivariate procedures of structural equation modeling (SEM) and multivariate analysis of variance (MANOVA) were used. SEM was used to examine the relationships among the constructs of goal structure, goal orientation, motivation, and self-regulated learning based on the theories and findings from other research conducted primarily with older and less ethnically diverse subject populations. This model, which included positive relationships between classroom goal structure and achievement goal orientation as well as positive relationships between achievement goal orientation and the constructs of motivation and self-regulated learning, was applied to two groups of elementary students (African American students, and Hispanic students) to determine the comparability of fit across the two groups. The data were examined using AMOS version (4.0) maximum likelihood factor analysis (Arbuckle, 1999). The results were evaluated using several criteria. First, departure of the data from the specified model was tested for significance by using a chi-square test (Joreskog and Sorbom,

1989). Second, goodness-of-fit between the data and the specified model was estimated by employing the Comparative Fit Index (CFI) (Bentler, 1990; Byrne, 1999), the Tucker-Lewis Index (TLI) (Bentler & Bonett, 1980), and the Root Mean Square Error of Approximation (RMSEA) (Browne & Cudeck, 1993). A second multivariate procedure, MANOVA, was used to examine differences among Hispanic, black, and white elementary students on these constructs.

Results

Use of self-regulated strategies

Table 1 summarizes the use of strategies in different learning contexts. Those strategies employed most frequently across the different learning contexts were goal setting and planning, environmental structuring, seeking social assistance from adults, and other strategies (e.g., learning behavior that is initiated by others such as teachers or parents, and any unclear responses). The strategies used least frequently included self-evaluation, seeking information, self-consequences, seeking social assistance from teachers, and reviewing notes and old tests.

Further comparisons between African American and Hispanic students were conducted using the categorical responses outlined by Zimmerman and Martinez-Pons (1986). These comparisons included strategy use (SU), strategy frequency (SF), and strategy consistency (SC). The most basic of these, strategy use (SU), is simply a dichotomous variable of whether each strategy was used (or not used) during any of the learning contexts. The second comparison, strategy frequency (SF), indicates the number of times each strategy was used. Finally, strategy consistency (SC) is a weighted strategy use procedure. Specifically, each student was asked to indicate how consistently he/she used each strategy using a four-point scales (1=hardly ever, 2=sometimes, 3 = lots of times, 4 = most times). Because of the limited response regarding

consistency of strategy use, further analyses were conducted using SU and SF. Table 2 summarizes strategy use and strategy frequency for each strategy for African American and Hispanic students.

The strategy used most frequently by both groups of students was goal setting and planning, used by 76% of the African American sample and 67% of Hispanic students. The second and third most frequently used strategies were environmental structuring (48% of each group) and seeking assistance from adults (36% for African Americans and 48% for Hispanics). After these three strategies, some differences between the groups emerged. Specifically, African American students were more likely to report the use of self-consequences and seeking information while Hispanic students more frequently reported the use of rehearsing and memorizing, reviewing tests, reviewing text, and organizing and transforming. Both groups reported little use of self-evaluation, reviewing notes, and seeking assistance from the teacher.

Relationships Between Goal Structure, Goal Orientation, Motivation, and Self-Regulated Learning

Table 3 summarizes the reliability estimates for each of the measured constructs in this study as well as the relationships among these constructs. The reliability estimates, reported in the diagonal of the correlational matrix, are supportive ranging from .544 to .883, with a median of .810. More specifically, the reliability estimates for the five PALS scales ranged from .544 for the Performance Goal Structure scale to .867 for the Task Goal Structure scale with a median of .805 for the five PALS scales used in this study. Furthermore, estimates for the four MSLQ scales used in this study ranged from .770 (Self-Regulation) to .883 (Cognitive Strategies) with a

median of .869. These reliabilities are consistent with those cited by the original developers of these instruments (Midgley et al., 1997; Pintrich & De Groot, 1990).

Overall, there were moderate positive relationships among the measures of classroom goal structure, achievement goal orientation, motivation, and self-regulated learning.

Specifically, those students perceiving a task goal structure in their classroom were more likely to report a higher individual task goal orientation. On the other hand, those students perceiving a higher performance goal structure were more likely to report a performance avoidance goal orientation. Furthermore, students indicating higher perceived task goal structures and task goal orientation scores also reported higher levels of intrinsic motivation, self-efficacy, cognitive strategies, and self-regulatory behavior.

Relationships among these constructs and previous academic failure, expected grade, and plans to attend college were also found. Specifically, measures of self-regulation and motivation correlated negatively with previous academic failure and positively with expected grade. In addition, those students having a greater tendency to have a task goal orientation are less likely to have failed and expected a higher grade in their current language arts or math class. The restricted nature of relationships with academic failure may, at least in part, be influenced by the limited variability of failure in this sample as only 102 students (25.8%) reported failing at least one subject or course during the year in which the study was conducted.

Overall, expected current performance was very positive as nearly half (49.7%) of the sample expected an A while an additional 34% expected a B. Finally, slightly over half of the subjects (56.4%) indicated that they planned to attend college. Only one statistically significant correlation was found with plans to attend college; those students with higher levels of self-efficacy were more likely to indicate plans to attend college.

Structural Model

To further investigate the relationships among the constructs of classroom goal structure, achievement goal orientation, motivation, and self-regulated learning, a structural equation modeling approach was used (see Figure 1). Specifically, a series of two-group confirmatory factor analyses (CFA's) was performed to examine the similarity of the factor structure across the two ethnic groups. An initial model was tested allowing all paths to vary while a second model constrained each path to be equal for the two groups (i.e., black and Hispanic elementary students). When the path coefficients were constrained to be equal, a CFI of .979, TLI of .969, RMSEA of .097 resulted. The constrained model did not statistically differ from the initial unconstrained model ($\chi^2_{\text{difference}} = 14.72$ $p = .07$, indicating that the measured variables correlated with their respective constructs and the correlation among the constructs were consistent for the two groups of students

All path coefficients were statistically significant ($p < .05$). Furthermore, all indicator path coefficients were statistically significant ($p < .01$). These results support several theorized relationships. Specifically, strong significant positive relationships between perceived classroom goal structure and achievement goal orientation, achievement goal orientation and motivation, and achievement goal orientation and self-regulated learning were found. Correlations among these constructs were strong for each group of elementary students with all standardized path coefficients exceeding .75 and in excess of 50% of each construct explained through these multiple correlations.

Multivariate Differences Among Ethnically Diverse Elementary Students

The results from multivariate comparisons are summarized in Table 4. The overall multivariate test of significance resulted in a Wilks' Lambda of .766, $p < .001$. Follow-up

univariate F tests identified group differences on four of the twelve examined scales. Three of these scales were from the PALS (task goal structure, performance goal structure, task goal orientation) while one was drawn from the MSLQ (test anxiety). Post-hoc comparisons among the three groups of students revealed that Hispanic students responded with higher levels of task goal structure and task goal orientation than African American students. Hispanic students also responded with higher levels of performance goal structure than White students. Finally, Hispanic students exhibited a greater degree of test anxiety than White students.

Discussion

While recent educational reform has been enacted to help every child to succeed, many elementary children are simply not succeeding. Further, research has suggested that there may be an achievement gap between White elementary students and their African American and Hispanic counterparts. This gap may be further compounded by the fact that many teachers do not feel adequately prepared to work with ethnically diverse learners.

The present study sought to investigate the relationships among factors that relate to the perceived academic achievement of an ethnically diverse population of fourth and fifth grade learners. The results of our exploratory analyses supported our hypothesized relationships among the constructs of classroom goal structure, achievement goal orientation, motivation and self-regulated learning. Specifically, structural equation modeling supported our theoretical predictions asserting a positive relationship between classroom goal structure and the learners' achievement goal orientation. This result suggests that elementary students who perceived their classroom to have a task goal structure were more likely to adopt an individual task goal orientation. In contrast, fourth and fifth grade students who perceived their classroom to have a performance goal structure were more likely to adopt a performance goal orientation.

The structural model also supported our theoretical prediction asserting a positive relationship between the individual learners' achievement goal orientation and motivation and self-regulated learning strategies. Ethnically diverse fourth and fifth grade learners who perceived their classrooms to have a task goal structure were more likely to adopt a task goal orientation. Further, these students reported higher levels of intrinsic motivation and self-efficacy as well as a greater use of cognitive and self-regulated learning strategies. The results of the present study corroborate the findings of previous research conducted with primarily White middle school learners (e.g., Ablard & Lipschultz, 1999; Anderman & Young, 1994; Wolters et al., 1996), and fifth and sixth grade learners (e.g., Turner, Thorpe, & Meyer, 1998) and extend these findings to an ethnically diverse sample of fourth and fifth grade learners. In the present study, students were primarily Hispanic American, African American or Biracial/Multiethnic.

Practical Implications

The results of the present study suggest implications for teachers to help ethnically diverse elementary school-aged learners to succeed academically. A perceived task goal structure was positively associated with a personal task goal orientation and a personal task goal orientation was further positively related to motivation and self-regulated learning strategies. These results suggest that elementary teachers should strive to foster a task or mastery classroom goal structure in their classrooms. Since less than 20% of teachers feel prepared to meet the needs of today's ethnically diverse learners (United States Department of Education, as cited in <http://www.whitehouse.gov/infocus/education>; 2006), fostering a task or mastery classroom goal structure may serve as one vehicle to helping these students to achieve academically.

Researchers have articulated a model of teacher practices that can help to promote a task goal structure in their classrooms. This model has been commonly referred to as the TARGET

model (see Ames, 1992; Ames & Archer, 1988; Maehr & Anderman, 1993; Maehr & Midgley, 1991; Midgley & Urdan, 1992). This model suggests seven dimensions of the classroom context that instructors can develop to foster a task goal structure in their classrooms. These dimensions include: tasks, autonomy, recognition, grouping, evaluation, and time (Ames, 1992; Ames & Archer, 1988; Maehr & Midgley, 1996; Midgley & Urdan, 1992). Based on the TARGET model and the results of the aforementioned research, it is suggested here that elementary school teachers can foster a task goal structure in their classrooms by: providing a variety of challenging, meaningful, and intrinsically motivating tasks; by providing opportunities for students to develop autonomy and responsibility by choosing and planning their own work; by providing opportunities for grouping and collaboration; by using forms of evaluation which focus on individual effort and improvement such as portfolio assessment; and by providing some flexibility with regards to time constraints.

Limitations of the Study

First, many prior studies have used student learning outcomes or student achievement as the dependent variable. Since we were unable to obtain student achievement information from student records, we were unable to link motivation and self-regulated learning to actual school achievement. In the present study, perceived academic performance was assessed through three survey questions which asked students to indicate: a) whether they had failed a course in the past year, b) what grade they expected to earn in their present class, and c) whether they planned to attend college. It is possible that all fourth and fifth grade learners do not have the metacognitive ability to accurately predict the grade they expected to earn in their present class. Therefore, these predictions regarding future plans should be cautiously reviewed. To further explore and validate the relationship between self-regulated learning and academic performance, additional

research is needed using actual academic performance indicators such as standardized test scores and classroom performance. However, due to the restricted access to such academic performance data, researchers also need to continue to explore and refine the measurement of this construct through proxy variables such as, but not limited to, those used in this study.

Second, our subject population was an ethnically diverse sample of fourth and fifth grade students from a large urban school system. Previous research examining the relationships among the constructs of goal structure, goal orientation, motivation, and self-regulation has been largely restricted to older, less diverse populations. Therefore, the results of the present study may not be generalizable to those populations typically examined in the field. However, this also demonstrates the need to broaden the population base in future research efforts to reflect the increasing diversity of the student populations in our schools.

Finally, this study explored relationships among the constructs of goal structure, goal orientation, motivation, and self-regulated learning using student-reported data regarding these constructs. There remains a need for additional experimental, mixed methodological studies to further investigate the relationships among these constructs. Such efforts should incorporate data from not just students, but from teachers and observers of diverse classrooms in an effort to more thoroughly examine the relationships among classroom goal structure, achievement goal orientation, motivation and self-regulated learning and their impact on academic achievement.

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Strategy Used	Learning Contexts							
	A1 (n=102)	A2 (n=76)	A3 (n=73)	A4 (n=72)	B1 (n=152)	B2 (n=128)	B3 (n=116)	B4 (n=90)
Self-evaluation	5	3	3	0	3	1	0	1
Organizing and transforming	4	0	0	2	4	5	9	26
Goal-setting and planning	13	20	12	2	14	4	61	26
Seeking information	9	0	2	2	8	3	1	8
Keeping records and monitoring	3	1	1	31	1	0	2	5
Environmental structuring	6	5	23	2	71	0	3	1
Self-consequences	0	0	4	1	0	0	1	1
Rehearsing and memorizing	20	12	2	12	0	3	1	1
Seeking assistance – peers	2	0	6	2	4	18	2	0
Seeking assistance – teachers	0	0	0	1	0	11	1	1
Seeking assistance – adults	3	1	5	0	8	50	4	1
Reviewing records – tests	4	7	0	0	1	1	0	0
Reviewing records – notes	9	4	0	3	1	0	0	1
Reviewing records – textbooks	9	7	0	2	5	1	1	0
Other	15	16	15	12	32	31	30	18

<p>Learning Contexts:</p> <ul style="list-style-type: none">A1 – Preparing for a testA2 – Taking a testA3 – Motivating yourself to study at homeA4 – Remember information from classB1 – Completing homework assignmentsB2 – Need help on an assignmentB3 – Deciding what homework to do firstB4 – Planning and writing a 3-5 page paper								

Table 2
Summary of Strategy Use, Strategy Frequency, and Strategy Consistency

Strategy	African Americans (n=25)		Hispanic (n=64)	
	SU	SF	SU	SF
1. Self-evaluation	.04	.04	.08	.09
2. Organizing and transforming	.16	.20	.28	.28
3. Goal-seeking and planning	.76	1.08	.67	.91
4. Seeking information	.28	.44	.14	.16
5. Keeping records and monitoring	.24	.24	.23	.27
6. Environmental structuring	.48	.48	.48	.48
7. Self-consequences*	.12	.12	.02	.02
8. Rehearsing and memorizing**	.04	.04	.19	.20
9. Seeking assistance – peers	.16	.16	.13	.13
10. Seeking assistance – teacher	.08	.08	.03	.05
11. Seeking assistance – adults	.36	.40	.48	.50
12. Reviewing tests**	.00	.00	.09	.11
13. Reviewing notes	.08	.12	.08	.08
14. Reviewing text	.04	.04	.13	.14
<i>Total</i>	<i>2.9</i>	<i>3.64</i>	<i>3.03</i>	<i>3.42</i>
15. Other	.36	.56	.36	.67

* indicates a significantly higher use by African American students

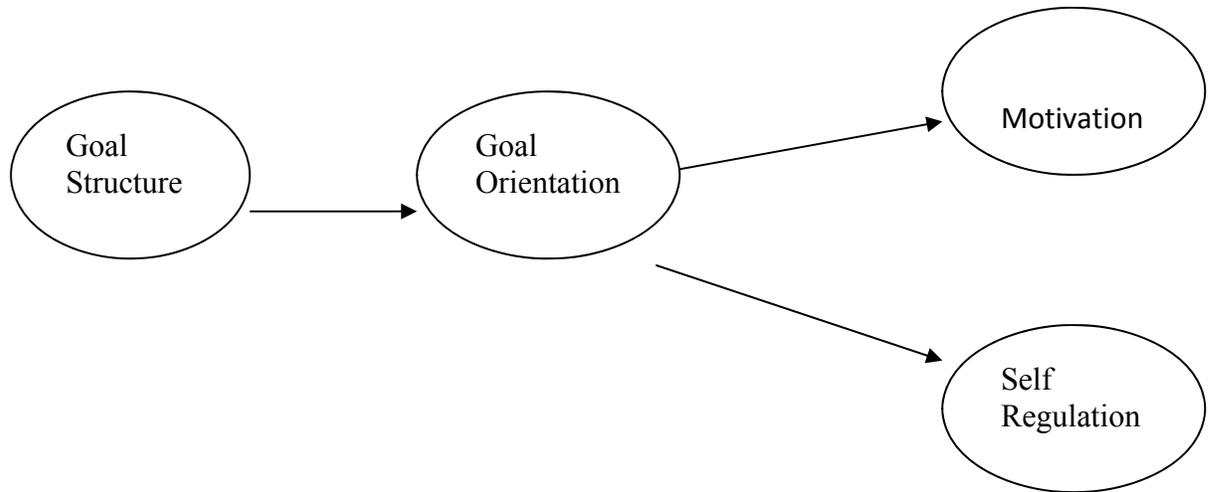
** indicates a significantly higher use by Hispanic students

Table 4

Summary of Multivariate Comparisons Among Black, Hispanic, and White Elementary Students

	Black	Hispanic	White	F
	Mean (SD)	Mean (SD)	Mean (SD)	
Post-hoc results				
<u>PALS Scales</u>				
Task Goal Structure	3.29 (1.12)	4.01 (.95)	3.96 (.90)	
11.66*** Hispanic and White > Black				
Performance Goal Structure	2.99 (.99)	3.02 (1.26)	2.37 (.92)	3.35*
Hispanic > White				
Task Goal Orientation	3.40 (1.05)	3.78 (1.01)	3.78 (1.05)	3.15*
Hispanic > Black				
Performance Approach Goal Orientation	3.49 (1.02)	3.51 (1.06)	3.49 (1.07)	.01
Performance Avoid Goal Orientation	3.16 (1.08)	3.08 (1.14)	2.59 (.89)	2.40
Academic Efficacy	3.61 (.90)	3.89 (.84)	3.86 (.59)	2.59
Cultural Dissonance	2.69 (1.13)	2.39 (.98)	2.39 (1.07)	1.93
<u>MSLQ Scales</u>				
Self-Efficacy	3.75 (1.10)	3.95 (.83)	3.94 (.64)	1.21
Intrinsic Motivation	3.81 (1.05)	4.09 (.80)	3.95 (.72)	2.31
Test Anxiety	2.29 (.89)	2.53 (.99)	1.93 (.84)	4.30*
Hispanic > White				
Cognitive Strategies	3.19 (.87)	3.43 (.78)	3.33 (.72)	1.98
Self-Regulation	3.23 (.62)	3.41 (.66)	3.44 (.66)	1.87

NOTE: Wilks' Lambda of .766, $p < .001$.



Comparison of Models			
	Default Model	Constrained Model	
Chi-Square (df)	169.42 (48)	184.14	(56)
CFI	.980	.979	
RMSEA	.107	.097	

Path coefficients reported below are from constrained model

	Black	Hispanic
Goal Structure → Goal Orientation	.79***	.75***
Goal Orientation → Self-Regulation	.86***	.79***
Goal Orientation → Motivation	.88***	.86***

* $n < .05$ ** $n < .01$ *** $n < .001$

Figure 1 – Structural Model of relationships among goal structure, goal orientation, motivation and self-regulation

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