INFORMED COMMENTARY

USING ACHIEVEMENT GOAL THEORY TO TRANSLATE PSYCHOLOGICAL PRINCIPLES INTO PRACTICE IN THE SECONDARY CLASSROOM

AUTHOR

SANDRA A. DEEMER is Assistant Professor, Educational Foundations, at Millersville University in Millersville, Pennsylvania.

ABSTRACT

As teachers begin to respond to educational reform efforts that stipulate the use of research-based practices in the classroom and translate them into feasible everyday approaches in the secondary classroom, many have turned to the field of educational psychology for guidance. This article uses educational psychology research on achievement goal theory and the TARGET conceptual framework, originally proposed by Ames (1992) and Epstein (1988), to model how research in these areas can help teachers create classroom environments that are focused on meaningful learning. By briefly considering the relevant research and the examples that illustrate the application of the research, teachers should be able to create learning environments that focus on mastery goals.

ACHIEVEMENT GOAL THEORY

According to achievement goal theory, two very different messages can be conveyed in the classroom depending on whether the environment is characterized by mastery or performance goals (Ames, 1992; Dweck, 1996; Pintrich, 2000). Mastery goals are goals that are focused on engaging in achievement behavior with the purpose of developing one's competence, while performance goals are ones where the purpose of engaging in achievement behavior is to demonstrate one's competence or

avoid the demonstration of a lack of competence (Kaplan, Middleton, Urdan, & Midgley, 2002).

Within environments that emphasize mastery goals, teachers convey the belief that greater effort will lead to better outcomes. Mastery-oriented environments encourage students to set standards for their own performance, to view the development of new skills as a necessary outcome of learning tasks, and to accept, and persist in, challenging learning situations. By contrast, in environments highlighting performance goals, students often perceive trying hard as indicative of a lack of ability. Performance-oriented environments define success relative to others' performance and often discourage students from taking on challenging achievement experiences (See Pintrich and Schunk, 2002, for a review of relevant studies). Because students are so concerned with "looking smart," in such environments, they often avoid seeking help and may even avoid academic tasks that are too challenging. These behaviors can result in academic struggles and may eventually lead students to drop out of secondary classrooms (Kumar, Gheen, & Kaplan, 2002).

In a recent investigation of high school students' perceptions about achievement goals, students reported that teachers used practices that conveyed performance goals more frequently than practices highlighting mastery goals (Deemer, in press-a; Marachi, Gheen, & Midgley, 2001). Other work (see Midgley, 2002, for a review) has consistently shown a decrease in the promotion of mastery goals over the school years. In trying to explain this finding, Gallagher (1989) suggested that the hectic schedule of secondary teachers may restrict the promotion of mastery goals because the time needed to plan for meaningful, challenging instruction is limited. He suggest that, because most high school teachers instruct five classes per day to approximately 150 students, little time is available for supporting students' effort in learning. Gallagher also found secondary science teachers' main goal was covering the textbook, not focusing on student effort and learning. In addition, because teachers in the high school setting may feel responsible for preparing students for admission to college, professional training schools, and the workplace, they may feel it is necessary to encourage performance goals so students can succeed in these environments (Grossman & Stodolsky, 1994).

It is likely that teachers need to emphasize performance goals in some contexts, mastery goals in other contexts, and that they need to possess the capability to know which one to emphasize when. Exactly what balance of mastery and performance goals should exist in the classroom is unclear although optimal levels of cognitive engagement and

performance have been observed when teachers and students strive for mastery goals rather than solely encouraging performance goals (Anderman & Maehr, 1994; Pintrich & Garcia, 1991; Wentzel, 1989). Because research has discovered the pervasiveness of performance goals in secondary classrooms, it does not appear that teachers need guidelines in how to promote them; however, considering the lower levels of mastery goals perceived in these environments, information about how to promote mastery goals in secondary classrooms is needed.

HOW TO PROMOTE MASTERY GOALS IN THE SECONDARY CLASSROOM

According to Epstein (1988) and Ames (1992), there are structures within learning environments that can be manipulated to improve how subjects are taught and the way classrooms are organized. These structures, representing a constellation of policies and practices in the classroom, include six highly salient dimensions of the classroom learning environment that convey to students the purpose of achieving in school. The structures include task design (T), distribution of authority (A), recognition of students (R), grouping arrangements (G), evaluation practices (E) and time

TABLE 1. TARGET Framework and Strategies that Support Mastery Goals in the Classroom

	Description of Dimension	*How to Support Mastery Goals*
Task	Design of learning activities and assignments	Include variety, challenge, purpose
Authority	Opportunities to develop sense of personal control and independence	Foster active participation and sense of ownership
Recognition	Formal & informal use of incentives and praise	Focus on individual progress and improvement
Grouping	Arrangements utilized in classroom to allow students to master course content	Use individual and cooperative learning
Evaluation	Methods used to assess and monitor learning	Give opportunities to improve work, use diverse methods
Time	Includes workload, pace of instruction	Allow students to participate in scheduling

Adapted from Ames (1992) and Epstein (1988).

allocation (T). If used appropriately, the TARGET framework can serve as a foundation for highlighting and promoting mastery goals in any classroom (Blumenfeld, 1992; Raffini, 1993). The table provides a description of each dimension. Although each dimension is partitioned in the table and discussed separately in the next section, the dimensions of the TARGET framework are related to each other and, to some extent, overlap.

TASK DESIGN

In order to focus students on mastery goals, tasks should be purposeful, challenging, and varied. Observational studies have found that teachers often do not make purposes of tasks apparent to students (Midgley, 2002). Explicitly stating how skills and knowledge can be used outside of school can validate the worth of classroom tasks (Stipek, 2002). For example, an introductory statement such as, "Our unit on percentages will help you calculate discounts when you are shopping at the mall," will lead students to realize how math is used in their lives. Many teachers validate tasks by stating that they will be on upcoming tests or that there will be negative consequences for poor performance on classroom tasks; however, I agree with Daniels, Bizar and Zemelman (2001) who warn that although these two reasons often reflect reality, if they are given as the only reasons to engage in tasks, students will equate learning solely with performing, and may focus on the negative consequences associated with not learning rather than focusing on the positive reasons to learn.

Tasks also need to be clearly articulated and appropriately challenging if students are to focus on mastery goals. Tasks that are completed without much effort and that are confusing to students often lead students to quickly complete the work just to get it done or to resist or abandon the work altogether (Alderman, 1999). An example of a focused, meaningful task was discussed by Newmann (1992). It involved students in an economics class by first asking them to discuss the impact of worker layoffs in their community. From this question, the teacher interjected definitions of relevant terms (e.g., layoff, unemployment rate, local economy) and then presented information about the economy of their community and others that were similar in size. In small groups, students then used this information to consider the generalizations they could make about each of the local economies. After the small groups presented their conclusions, they debated whether a final generalization could be made regarding the effect of unemployment on the economy. From participating in this task, students were likely to gain an understanding about an

authentic, complex, ill-defined problem and to learn relevant terminology in a more meaningful, interesting way.

How teachers structure tasks, along with how they respond to students on classroom and homework assignments, are clearly interdependent elements that affect students' perceptions about the purposes of learning (Ames, 1992; Blumenfeld, 1992). Teachers who respond to students' struggles with appropriate scaffolding convey to students that learning does require effort expenditure, takes time and often requires some mistakes along the way. This response, rather than harsh criticism lodged at struggling students, has been found in environments where mastery goals are prevalent (Midgley, Middleton, Gheen, & Kumar, 2002).

DISTRIBUTION OF AUTHORITY

In order to develop a sense of personal control and responsibility, a key to promoting mastery goals, students should be involved in decision-making and assume leadership roles during learning. One way to involve students in decision-making is to give them choice, at times, about what partners to work with during collaborative tasks, about what materials to use, and about how to complete tasks (Kaplan et al., 2002). Stipek (2002) suggests several ways to distribute authority in an English classroom; however, these suggestions can be generalized and adapted to most classroom environments (Deemer, in press-b). These include giving students a choice about what books to read from a teacher-generated list, having students generate a list of vocabulary words from course readings, or having them each become an expert on a particular word and then asking students to share this knowledge with classmates. Teachers can also involve students in their learning by requiring students to reflect on class readings through either composing a summary of the reading, a sequel to the reading, or a unique story about a similar event.

When monitoring students' work on classroom assignments, teachers should facilitate learning by asking students questions related to their understanding of the work instead of simply admonishing them and directing them back to work. Often, students are off-task because they are confused about what they need to do and may be feeling that they are not capable of completing the work successfully. By offering them help that makes them aware of their capabilities and accountable for their learning, teachers can prevent these feelings. I agree with many researchers (Pintrich & Schunk, 2002; Woolfolk, 2004) who suggest that choice, without accountability, promotes neither motivation nor learning, and that students must perceive that they are responsible for their learning within

the parameters set by them and the teacher. The examples described above aid students in setting proximal, realistic goals related to course content that will help them develop ownership and responsibility for their learning.

RECOGNITION OF STUDENTS

Mastery goals can be fostered when individual effort, progress, and improvement is recognized within a classroom that limits social comparison. Rather than celebrate only students' grades and competitive successes, I suggest that teachers strive to create classrooms where recognition is available for all students. Social comparison is limited when relative ability information is not shared through public means such as posting ranked scores on a test or offering rewards only to students who receive the top scores on tests.

According to both Midgley (2002) and Stipek (2002), principles of recognition should include: (a) giving recognition privately when possible, (b) avoiding recognizing the absence of mistakes (i.e., rewarding only students with fewer than five words wrong on a spelling test), (c) recognizing students for stretching their own capabilities and for coming up with novel ways to solve a problem, and (d) acknowledging the quality of students' work rather than the quantity of work completed (e.g., offering praise for solving one challenging chemistry problem rather than completing five easy ones). In addition, students should be involved in the recognition process by asking them what work is valuable to them, how much effort they devoted to tasks, where they need improvement, and how they feel they are doing in reaching their academic goals.

Turnstall and Gipps (1996) suggest that the judicious use of both evaluative and descriptive feedback by teachers creates the most powerful support for learning. Evaluative feedback identifies specific ways in which aspects of success have been obtained, emphasizing how students have improved on particular tasks. Descriptive feedback extensively articulates the nature of students' competence by highlighting what they have accomplished. A statement such as, "There's Luke's eloquent essay about the farmer's market. Great, he has used vivid adjectives to describe what he saw at the market. Very good, well done," provides both evaluative and descriptive feedback by praising the writer for current work and giving information about how to write essays in the future because it gives specific information about why the essay was good.

When offering feedback to students who have not done so well, teachers should make sure to give feedback that insufficient effort or inap-

propriate strategies led to the failure (Alderman, 1999; Stipek, 2002). Specific, individual comments (e.g., "It appears you had difficulty with the math problem because you were not familiar with the Pythagorean theorem,") rather than global, public comments (e.g., "The whole class did not do well on the math test. The other section of this class did better,") are more likely to lead students to attribute their failure to lack of effort or strategies. Providing written, substantive comments on papers and tests is another way to share this information.

GROUPING ARRANGEMENTS

A variety of arrangements should be used to promote mastery goals; therefore, during class, students should work individually, in dyads, and in small groups. According to Willert and Willert (2000), these arrangements are all beneficial, and using cooperative learning in the classroom can help promote social and character goals that are pivotal to developing tolerance for others and appropriate communication and problem solving skills.

In order for these goals to be realized, the composition of the small groups should vary depending on the nature of the activity. Although ability grouping is commonly used in classrooms, research suggests that this type of organization is not conducive for promoting a focus on mastery goals in the classroom (Kaplan et al., 2002). Instead, students should be grouped by topic or interest areas, or work within diverse groups that include both genders, students with and without disabilities, and students from different ethnicities (Johnson & Johnson, 1994). For example, in an English class, students can work in instructionally focused topic groups where students struggling with quotation marks work together in one group to master this material while students struggling with using parentheses work together in another group. When using cooperative learning in this way, teachers should reform groups frequently as students master particular material and all students in the groups assume meaningful roles.

Vermette and Foote (2001) suggest that the Jigsaw model, designed by Aronson, Balney, Stephen, Sikes, and Snapp (1978), allows movement between groups and recognizes the unique contribution of each group member. In a high school psychology class, I have used this method to discuss theories of development where each student in a group is responsible for using resources to become knowledgeable on various theorists' views on human development. Once students have gathered their information, they report back to their group about the theorists' ideas.

Another way cooperative learning can be used in the classroom to promote mastery goals is through the use of cooperative base groups (Johnson & Johnson, 1994). One way this approach can be applied in secondary classrooms is to establish groups of four to five people who work on various tasks together throughout their time in the classroom. Because these groups will have a longstanding relationship, it is necessary to begin the group's initial meeting with an icebreaker activity that will help members get to know each other. This activity could include students responding to questions about their favorite foods, trips, and favorite academic subject on a grid that represents the group's interests upon completion. In addition, a group folder where students keep work and communicate with the teacher can be designed during this first meeting time to further build solidarity. According to Johnson and Johnson (1994), establishing more permanent groupings for students allows them to develop comfort with each other, building trust, confidence, and rapport throughout the time of the learning experience.

EVALUATION PRACTICES

Mastery goals are most likely to occur when assessment and evaluation is focused on individual progress, improvement and understanding. In my judgment, this is best accomplished by using both summative and formative practices. Summative evaluation should not only include traditional tests that involve a myriad of question types, but should also include portfolios, presentations, completion and understanding of homework, and quality of writing and ideas on course papers. When providing grades to students on summative forms of assessment, Stipek (2002) suggests that grades be based on effort, improvement and achieving a standard rather than on performance that is relative to others' performances. In order to maintain a focus on mastery, grading on a curve should be avoided because it often does not represent students' true understanding of material, but instead reflects only how students compare to each other in their knowledge about a topic (Woolfolk, 2004). In addition, students should not be threatened with bad grades but instead should be made aware of the missed opportunity to learn.

When responding to students' low grades, teachers should present students with information that shows that they need to put forth more effort and/or get assistance rather than as a punishment for a lack of ability. If poor grades are treated as mistakes that can be remedied, students are more likely to be motivated to put forth effort and seek

strategy instruction (Midgley, 2002). In my view, reviewing errors with students, having them correct their mistakes, rewording questions or prompting students in a different way will allow them to feel positive about their capabilities and maintain an emphasis on mastery goals.

As I see it, in order for students to maintain confidence toward learning and grasp the learning opportunities present in classrooms, they need to understand what information is contained in the grades they receive. Teachers need to emphasize the high level of competence that an "A" signifies rather than just praising students for getting the "A." Students are more likely to understand when grading criteria in the form of rubrics are provided and discussed with students prior to beginning a task (Woolfolk, 2004). Rubrics can be designed easily using the templates provided for commonly used assignments in secondary classrooms on the Rubistar website (University of Kansas, 2003).

Formative means of assessment where students are not graded should be used readily so that both teachers and students gain constant feedback about the teaching and learning processes (Daniels et al., 2001). Responses to questions, one-minute papers and group summaries can convey whether students are grasping key ideas and if teaching approaches are effective in promoting student learning. If teachers encourage students to pay attention to how they develop answers and give them time to develop responses rather than always focusing on only students who have the correct answers immediately, there is a greater opportunity for students with a variety of valid methods and approaches to become engaged in the learning experience (Midgley, 2002).

Self-evaluation should be used when utilizing both summative and formative means of assessment so that students develop ownership and responsibility for their learning. One of the best ways to involve students in evaluating their work is to use portfolios as a record of learning (Daniels et al., 2001). With this approach, students collect samples of their learning in working folders that can include rough and final drafts of papers, videotapes of individual and group presentations, narratives of research and inquiry projects, photographs of visuals, and graded and edited examinations. From this large collection of artifacts, students can then select the pieces that are most valuable to them to include in a final portfolio.

Teachers should encourage students to choose work that serves as evidence not only of their mastery, but also, work that demonstrates their growth and diversity in knowledge. Students can develop further pride in their learning by exhibiting their work in a formal or informal sharing with

classmates, teachers, and parents. According to Daniels and his colleagues (2001), authentic means of assessment and evaluation, such as portfolios, are a way to enhance instruction beyond the simple memorization of facts that is often tapped on standardized tests, and keep both teachers and students focused on mastery goals.

TIME ALLOCATION

Mastery goals will most likely prevail when students perceive variety within the learning environment and feel some ownership in determining the pace and scheduling of learning activities and assignments. For this reason, Ames (1992) suggests that teachers should avoid "the daily grind" of predictable routines in lessons and assignments by using varied formats of instruction (e.g., cooperative, individual, and whole-class discussion). If students are struggling during a lesson or assignment, additional time should be given to master the material and students should be able to work on tasks at different paces. When teachers are working with struggling groups, students who have mastered material can work on enrichment activities or move onto another lesson in instructionally focused groups. Along with teacher enthusiasm, managing time in the classroom so that activities are focused on learning, transitions are planned and run smoothly, and consequences for inappropriate behavior are clear provide the foundation for utilizing time productively in the classroom (Woolfolk, 2004).

CONCLUSION

Through the use of a conceptual framework based on achievement goal theory, the predominant theory of motivation in the educational psychology literature, educators can put evidence-based psychological principles into practice in secondary classrooms in roder to emphasize mastery goals to their students. In the ideal learning environment, mastery goals are evident in all aspects of the classroom setting, including the design of tasks, the structure of authority, how students are recognized, grouped, and evaluated, and the ways in which time is used. Organizing these elements of the classroom to emphasize mastery goals will encourage students to set self-standards for performance, to view the development of new skills as a necessary outcome of the learning task and to accept, and persist in, challenging learning situations.

REFERENCES

Alderman, M.K. (1999). *Motivation for achievement: Possibilities for teaching and learning.* Mahwah, NJ: Erlbaum.

Ames, C.A. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*, 261-271.

Anderman, E., & Maehr, M.L. (1994). Motivation and schooling in the middle grades. *Review of Educational Research, 64*, 287-309.

Aronson, E., Blaney, N., Stephen, C., Sikes, J., & Snapp, M. (1978). *The Jigsaw classroom*. Beverly Hills, CA: Sage.

Blumenfeld, P. (1992). Classroom learning and motivation: Clarifying and expanding goal theory. *Journal of Educational Psychology, 84*, 272-281.

Daniels, H., Bizar, M., & Zemelman, S. (2001). *Rethinking high school: Best practice in teaching, learning, and leadership*. Portsmouth, NH: Heinemann.

Deemer. S.A. (in press-a). *Classroom goal orientation in high school classrooms: Revealing links between teacher beliefs and classroom environments*. Educational Research.

Deemer, S.A. (in press-b). Finding the TARGET: Using achievement goal theory to create motivating learning environments. *Journal on Excellence in College Teaching*.

Dweck, C. (1996). Capturing the dynamic nature of personality. *Journal of Research in Personality, 30*, 348-362.

Epstein, J. (1988). Effective schools or effective students: Dealing with diversity. In R. Haskins & D. MacRae (Eds.), *Policies for America's public schools: Teachers, equity, indicators* (pp. 89-126). Norwood, NJ: Ablex.

Gallagher, J. J. (1989). *Research on secondary school science teachers' practices, knowledge, and beliefs: A basis for restructuring*. In M.L. Matyas, K. Tobin, & B.J. Fraser (Eds.), Looking into windows: Qualitative research in science education (pp. 43-57). American Association for the Advancement of Science: Washington, DC.

Grossman, P.L., & Stodolsky, S.S. (1994). Considerations of content and the circumstances of secondary school teaching. *Review of Research in Education, 20*, 179-221.

Johnson, D., & Johnson, R. (1994). *Learning together and alone: Cooperation, competition, and individualization (4th ed.)*. Needham Heights, MA: Allyn & Bacon.

Kaplan, A., Middleton, M.J., Urdan, T., & Midgley, C. (2002). Achievement goals and goal structures. In C. Midgley (Ed.), *Goals, goals structures, and patterns of adaptive learning* (pp. 21-54). Mahwah, NJ: Erlbaum.

Kumar, R., Gheen, M.H., & Kaplan, A. (2002). Goal structures in the learning environment and students' disaffection from learning and schooling. In C. Midgley (Ed.), *Goals, goals structures, and patterns of adaptive learning* (pp. 143-174). Mahwah, NJ: Erlbaum.

Marachi, R., Gheen, M., & Midgley, C. (2001). *An examination of elementary, middle, and high school teachers' beliefs and behaviors using a goal theory framework*. Unpublished manuscript.

Midgley, C. (2002). *Goals, goal structures, and patterns of adaptive learning*. Mahwah, NJ: Erlbaum.

Midgley, C. Middleton, M.J., Gheen, M.H. & Kumar, R. (2002). Stage-environment fit revisited: A goal theory approach to examining school transitions. In C. Midgley (Ed.), *Goals, goals structures, and patterns of adaptive learning* (pp. 109-142). Mahwah, NJ: Erlbaum.

Newmann, F.M. (1992). *Student engagement and achievement in American secondary schools*. New York: Teachers College Press.

Pintrich, P.R. (2000). An achievement goal theory perspective on issues in motivation terminology, theory, and research. *Contemporary Educational Psychology, 25*, 92-104.

Pintrich, P.R., & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. In M. Maehr & P.R. Pintrich (Eds.), *Advances in motivation and achievement: Vol. 7*. Goals and self-regulatory processes (pp. 371-402). Greenwich, CT: JAI Press.

Pintrich, P.R., & Schunk, D.H. (2002). *Motivation in education: Theory, research, and applications (2nd ed.)*. Englewood Cliffs, NJ: Prentice-Hall.

Raffini, J.P. (1993). *Winners without losers: Structures and strategies for increasing student motivation to learn*. Boston: Allyn & Bacon.

Stipek, D. (2002). *Motivation to learn: Integrating theory and practice*. Boston: Allyn & Bacon/Longman.

Turnstall, P. & Gipps, C. (1996). Teacher feedback to young children in formative assessment: A typology. *British Educational Research Journal, 22*, 389-395.

University of Kansas (2003). Rubistar. Retrieved November 7, 2003, from http://rubistar.4teachers.org/.

Vermette, P., & Foote, C. (2001). Constructivist philosophy and cooperative learning practice: Toward integration and reconciliation in secondary classrooms. *American Secondary Education, 30*, 26-37.

Wentzel, K.R. (1989). Adolescent classroom goals, standards for performance, and academic achievement: An interactionist perspective. *Journal of Educational Psychology, 81*, 131-142.

Willert, J., & Willert, R. (2000). An ignored antidote to school violence: Classrooms that reinforce positive social habits. *American Secondary Education, 29*, 27-33.

Woolfolk, A. (2004). *Educational Psychology (9th ed.)*. Boston: Allyn & Bacon.