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Achievement Goal Orientation for Athletic Training Education: Preparing for Lifelong Learning

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Objective: This review of literature presents the theoretical framework of goal orientation and student achievement from a pedagogical perspective while providing practical applications and implications for integrating goal orientation into athletic training education programs.

Data Sources: Selected literature derived from EBSCO, Education Abstracts, CINAHL, PsychInfo and ERIC databases from 1980 to 2005 was reviewed. Key words for the search included achievement goal orientation, achievement motivation, and student engagement.

Data Synthesis: Literature from educational psychology and pedagogy were reviewed to present key issues related to achievement goal orientation. The review addressed achievement goal theory relative to student engagement, task persistence, and adaptive behaviors. Additionally, implications for athletic training educators were generated for both didactic and clinical settings.

Conclusions/Recommendations: Achievement goal orientation has profound implications on student learning and student achievement. Athletic training educators must be careful to create educational environments which foster self-regulated learning. Activities that assist students with goal construction and that monitor student progress toward a designated goal in the classroom and clinical settings should be of primary importance to athletic training educators. In a profession that requires lifelong learning; fostering strong achievement goals through student-centered activities can enhance the professional development of the student throughout the curriculum and beyond.

Key Words: Mastery Goals, Performance Goals, Self-Regulated Learning, Motivation

Introduction

Achievement goals play a critical role in academic performance and have implications on activities in didactic and clinical education. A goal defines an integrated pattern of beliefs, attributions, and effects that produce the intentions of behavior.[1] Goals are represented by ways in which students approach, engage in, and respond to achievement-type activities. Goals are also reflected in the student activity choice, task persistence, and task satisfaction. More recently, goal orientation has been linked to behavioral reactions in classroom[2], employment, and training settings.[3,4] Goal orientations emerge from the interaction of environmental and personal factors, such as the physical environment, the self, family, culture, and other influences.[5,6] Faculty and clinical instructors must recognize the critical influences affecting the goal-orientations of students and structure activities to promote success.

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In the classroom and clinical athletic training settings, students rely on many sources –internal and external–to provide motivation and feedback on performance. Some students depend on instructor approval and comparison with others to work hard in the classroom. Others choose to actively engage in the learning process for the sole purpose of learning the course material and having it make sense to them. Student engagement in academic tasks is a function of many incentives, one of which is the pursuit of competence.[7] The role of the social environment and future-oriented goals has been postulated to play a significant role in determining engagement and achievement in academic work.

Awareness of the role that academic achievement goals have on performance will assist faculty and clinical instructors in motivating athletic training students. Through the recognition and validation of goal-orientations of all students, faculty and clinical instructors can promote student success through the use of sound teaching strategies and cooperative learning environments.

Achievement Goals Defined

Achievement goals were originally classified in a dichotomous

framework: performance goals and mastery goals. Often called ego-incentive and ego-involved goals, performance goals are associated with demonstrating competency which is reflected in performance comparisons of others.[5] Students with performance goals tend to:

1. avoid challenging tasks in order to conceal their perceived lack of ability,
2. experience more shame and embarrassment following poor task performance, and
3. be concerned about how others will judge them.

These characteristics significantly impact their task selection, persistence, and achievement.[8,9,10]

Mastery goals share several synonymous terms, including learning goals and task-oriented goals. Students who have mastery goals typically gain satisfaction from the skill development and self-improvement achieved as part of performing and completing the task. For students with mastery orientations, accomplishment is derived from the challenge or sheer interest in the task.[11] As a result, these students will display more positive attitudes toward the task and will use learning strategies which tend to result in conceptual understanding rather than rote memorization.

Although performance and mastery goals are widely accepted as the two achievement goal classifications, researchers have expanded the classifications to reflect a trichotomous[10,12-16] or hierarchical perspective.[18] These models focus on competence and valence of the goal and are typically divided into performance approach, performance avoidance, and mastery goals.[13,19] These more sophisticated achievement goal models have become the conceptual framework in a variety of settings including employment, academics, and sports. (Table 1)

Table 1. Common Terminology and Definitions in Achievement Goal Literature with Primary Classifications Detailed (*)

Type of Goal	Definition	Alternate Terminology	Expanded Model Terms
Performance Goals *	Demonstrating competency which is reflected in comparisons with others[5]	Ego Involved Ego Incentive	Performance Avoidance - Avoid failure and negative comments Performance Approach - Approach difficult situations because of alternative definitions of success
Mastery Goals*	Accomplishment is derived from the challenge or sheer interest in the task[8]	Learning Goals Task Oriented Goals Task Mastery[9]	Learning Goals Task Oriented Goals Task Mastery[9]
Ego Social Goals	Strive to please the teacher and to demonstrate high ability in the task[9]		
Work Avoidance Goals	Utilize the least amount of effort to perform classroom work[9]	Academic Alienation Goal[5]	Academic Alienation Goal[5]
Socially Directed Goals	Rooted in social responsibility to peers in similar learning environments		

In the expanded models, performance goals still address one's desire to surpass others and validate ability through seeking the approval of outsiders.[20-25] Performance goal distinction – either approach or avoidance – now becomes the issue. The performance avoidance classification focuses on avoidance of failure.[12,13,22,26] Students focus on avoiding negative comments which have been shown to result in negative outcomes because this orientation increases state anxiety, thereby undermining internal motivation and yielding a decrease in task absorption.[10] The performance approach classification focuses on alternative measures of success and has been shown to have a positive relationship to course outcomes. These students seek to obtain positive comments about their performance relative to others which serves as a checkpoint system to yield positive outcomes.[27] Students who pursue performance approach instead of mastery goals are more engaged in activities and enjoy them more.

The role of simultaneous or multiple achievement goals in academics has also been investigated. Archer[8] contends that there are certain times in the academic environment when mastery-orientation may take precedence over performance-orientation. An example reflects this dilemma: A student may choose to take an advanced course because the mastery-orientation drives the desire for increased knowledge on the subject despite the performance-orientation in which the student realizes that high scores may not be feasible. Student goal orientation is perceived as a multidimensional rather than a one-dimensional phenomenon.[6,28]

Theoretical Framework

Achievement goal theory has broad and diverse applications in education – specifically athletic training education. Dweck and Leggett[29] proposed that course achievement, along with student engagement and persistence, can be explained by academic goal orientations which are based upon the students' belief about their intellectual ability. This relationship can further be developed by classifying the theories into two categories: entity and incremental.[30] Entity theorists believe that ability is fixed and postulate that students will select performance goals to prove their competence in a task. Incremental theorists believe that ability is malleable and that students will select learning goals in order to improve their competence in a task. Students who maintain learning (mastery and performance approach) goals use adaptive behavioral strategies such as strategy shifting, increased effort, problem re-analysis, and persistence in the face of difficulty. These students are likely to focus on the task, are not concerned with comparing themselves to others, and therefore ask for assistance when needed. Performance-avoidance goals, on the other hand, tend to promote maladaptive responses such as decreased persistence, low task engagement, and adoption of helplessness behaviors.[19,31] These behaviors tend to yield a focus on comparison with others which yields failure to ask for assistance. This help-seeking behavior relative to achievement goal orientation is a critical component in educational environments.[12,26,32]

In a study of college students in a difficult introductory course, course grades and performance were linked to achievement goal orientation.[30] This study reflected that students with higher learning orientation perform better in the classroom because they possess more adaptive behaviors. These adaptive behaviors foster more frequent use and a greater variety of learning strategies which encourage higher order learning such as application, synthesis, and analysis. This study demonstrated that students with higher learning goals attained higher course grades as well.

Ames and Archer[1] contend that goal orientations differ as a function of the situational demands. Working in cooperative groups may direct students toward improving their knowledge or skills (learning goals) in their pursuit of the team goal.[33] This concept was further developed indicating that students will accept more challenging tasks and expend effort despite task difficulty if they have learning-goal orientations which can be facilitated through cooperative learning environments.[9]

The role of situational variables and goal orientations is evident in the literature.[11] Formal classroom environments (didactic formats) are typically designed with students competing with one another in a controlled environment. Even for students with high self-efficacy, mastery-orientation is difficult to maintain due to the structure of the classroom environment if competition with others rather than competition with oneself is the focus. Therefore, small-group settings are encouraged as they are less formal and allow students to focus on the task rather than on themselves and others, since the concerns regarding individual failure are less prevalent. Small group environments enhance subject matter interest, perception of competence, and problem-solving skills.

Intrinsic valuing of the subject matter is another educational component that has been positively correlated to learning-goal orientation.[1,11] When considered together, cooperative learning environments have been postulated to generate greater intrinsic values regarding the subject matter studied.[33] The *value* placed on a specific goal deals with the reason "why" the student is completing the particular task. Student belief about the importance and interest level of the task has profound effects on student engagement. Students with mastery goal or performance approach orientations, as well as a belief that the task is interesting and important, will use more metacognition, cognitive strategies (elaboration, monitoring, and organization), and effort.[31,34]

Socially directed goals also play an important role in athletic training education. Although different contextually than achievement goals, they are strongly related.[29,35] Students acquire a certain level of social responsibility – such as being dependable and timely completion of tasks – throughout the educational program. These goals are positively related to academic achievement. Peer interaction in the form of social status and social intimacy will influence help-seeking in the classroom. However, simple social goals such as having fun and making friends appear to be either unrelated or negatively related to achievement.[7,36] It is clear that the social influence on achievement goals can have an effect in the various classroom and clinical environments. Therefore, it is imperative that the instructor effectively manage tasks to encourage socially responsible goal orientations rather than simple social goal orientations.

The literature reflects that student goals provide direction and incentive for academic tasks. Self-perceptions of ability also influence involvement in academic activities.[7,15] Bandura's[37] self-efficacy work establishes that a person's beliefs about their ability to successfully perform a task has significant effects on their engagement. One's willingness to attempt a task, the effort expended during the task, and the persistence in completing the task has all been linked to ability perception.

The source of goal information is another critical factor in addressing achievement goals. Students do not necessarily adopt the academic aspirations imposed upon them from external sources such as parents and teachers.[38] It appears that goals of pleasing the instructor and consequences of one's actions have a positive relationship to cognitive engagement and achievement while goals of pleasing the family have a negative relationship.[33] More importantly, self-set goals are found to impact student achievement in the academic setting.[39] Therefore, goals set by the individual student, although potentially influenced by the faculty, are critically important in any academic program.

Goals and Motivation

Goal orientation is often linked to motivational theory. Dweck[40] discusses goals as motivational processes related to learning. Students with mastery-oriented goals tend to adopt adaptive motivational patterns which establish, maintain, and attain personally challenging and personally valued goals. However, performance-oriented goals tend to promote maladaptive behaviors

which are associated with failure to maintain and strive for goals that are potentially within one's reach.[41]

Although a review of motivational research is beyond the scope of this manuscript, researchers[26,42] state that achievement goal theory is one of the most prominent theories within motivational research today. This connection cannot be ignored as it drives one's approach and engagement. Achievement goal theory is linked to adaptive signs of achievement motivation, such as student choice of activities, efforts within the activity, and persistence.[8,13,24,25]

The social cognitive model of motivation reflects a dynamic, multifaceted approach. This model of motivation expresses the need to address motivation from a situated (immersed in the specific situation), contextual (framed within a specific context), and domain specific (related to a particular field of study) perspective.[42] Effective goals must contain several properties: proximity (long- or short-term goals), specificity (having sufficient detail), and difficulty (must be of appropriate difficulty to be achieved) to appropriately motivate the student.[29] Proximal and specific goals are more effective at promoting self-efficacy and sustaining motivation because progress is more easily judged. Research regarding the difficulty levels of goals concludes that although easier goals are preferred in the early stages of skill acquisition, more difficult goals are preferred later in the skill acquisition process because of the challenges provided and the information gained regarding one's capabilities. This knowledge is essential when designing curricular activities throughout the athletic training education program so as to facilitate learning over time. Appropriately designed activities foster success when connected directly with one's achievement goals for that particular course and/or clinical assignment.

Application

Athletic Training faculty member and clinical instructors must set high standards to prepare students for the demands of an entry-level career in athletic training. However, efforts to foster academic achievement need to do more than simply set demanding standards. A conscious effort must be made to structure academic experiences in a way that enhances the academic efficacy of the student by providing an optimal balance of challenge and support.[38] Additionally, activities that encourage small group tasks and discussion will facilitate the adoption of performance-approach and/or mastery goals.[42,43]

Strategies that promote student involvement and engagement are critical in all academic and clinical settings. Traditional classrooms involving "chalk talk" followed by "practice" may have limited use in athletic training education programs. The use of diverse teaching strategies is encouraged to foster understanding and engage a higher number of students. Reciprocal teaching, or peer teaching, is an excellent technique that can be used clinically and didactically. Brown[44] contends that reciprocal teaching fosters learning goals because the student wants to learn the material to teach it to others. This is essential prerequisite for new learning. Through reciprocal teaching, each student must explain the information to others which forces the students to better understand the material either through further questioning or in-depth investigation. Additionally, the pride exhibited when the knowledge is shared with others is stimulating to an instructor. If structured appropriately, each student can demonstrate competence and mastery in this environment. The use of peer instruction can easily be applied in both didactic and clinical settings in athletic training programs. A critical component, however, is the value, usefulness, and genuine interest one places on the task.[2,34,25,45] This is a tremendous but critically important challenge for clinical education.

Another interesting application of this approach is that students with mastery-orientations appear to have greater creativity.[46] Within a field of study that requires individualization with many tasks (injury treatment, injury prevention, and rehabilitation), creativity is considered a major asset. Structuring classroom activities in which the student is provided a choice regarding task selection will facilitate creativity. Additionally, structuring tasks so that there are multiple correct answers depending on the individual scenario will facilitate elaboration and analysis of information on a deeper level. The use of oral practicum examinations, portfolio assessment, course projects, problem-based learning, and video-analysis tasks are examples of activities that stimulate creativity.

Life-long Learning

Athletic training is a profession that requires lifelong learning. With knowledge about caring for the physically active population expanding at a rapid pace, lifelong learning is essential. The role of mastery-oriented goals in the development of self-regulated learners has been addressed extensively in the literature.[11,34] The self-regulated learner typically has an intrinsic motivation and values the learning experience for the process and knowledge acquisition obtained. Therefore, it is essential for faculty and clinical instructors to foster students' intrinsic value for academic work because it may lead to more cognitive engagement in day-to-day tasks. Although higher academic scores are also derived from intrinsic valuing, this should not be the primary focus in goal setting.[31] Engagement in the classroom should be the focus of the course, not simply scores on written examinations. Establishing a student-centered syllabus may promote student engagement and assist in shaping intrinsic valuing of course content and activities.[47] (Table 2) Application of a student-centered syllabus encourages active engagement of all students in a variety of educational modalities to encourage success and interest of all students. Establishing self-regulated learners who can assess their own competence is essential to professional success.[18]

Table 2. Components of a Learning-Centered Syllabus[17]

Student's role and responsibility
Instructor's role and responsibilities
Student learning outcomes of course
Evaluation standards and procedures

Implications

The implications for achievement goal-orientations in athletic training education programs are noteworthy. Nolen[34 (p. 285)] states that "if our goal as educators is to encourage the acquisition of meaning rather than rote memorization...fostering ego involvement through competition for grades or teacher recognition might not be the best approach." Students should be encouraged to value learning for learning's sake by creating an educational environment conducive to performance-approach and/or mastery goal orientations.[2,29,48] However, in an academic environment which constantly emphasizes accountability through traditional assessment, application of this theory may be difficult. However, it is critically important to consider student achievement goal orientations at the center of curricular implementation to promote student success.[35] Problem-based learning, portfolios, case scenario presentations, and clinical debates can be designed to facilitate student motivation in the classroom and clinical environments.

Understandably, application of achievement goal theory is time-intensive. It requires goal formulation and assessment at the beginning of each didactic and clinical course. It requires constant monitoring of student activity and engagement. Lastly, it requires a commitment from the faculty and clinical instructors to shape activities that foster learning goal orientations. Teachers can help students identify positive beliefs about academic achievement and encourage them to think about how these beliefs affect performance. It is important to explore alternative problem solving strategies when encountering setbacks and find ways to identify errors without focusing on failure.[42,48,49] Providing appropriately designed, challenging and meaningful tasks combined with positive feedback will facilitate internal motivation.[50]

With increasingly higher demands on time this may appear as a daunting task. However, implementing achievement goal theory into athletic training education is important in order to encourage student success throughout the curriculum. The use of goal assessment inventories[30], course portfolios, formal and informal student assessments, clinical performance evaluations, and journaling promote student achievement. More and more continuing education programs regarding athletic training education are being offered to assist faculty and clinical instructors in the application of educational learning theory–including achievement goal orientation. These programs will help provide a framework for applying theory to practice.

Additionally, faculty must become proficient in implementing non-traditional methods into the classroom. Many universities offer programs to facilitate student centered learning into the didactic and clinical education. Although student centered learning maybe uncomfortable for faculty, incorporating student centered learning into the curriculum yields tremendous results. By modifying activities in the classroom, the instructor may provide a viable way of redirecting students' achievement goal orientation[1].

Conclusions

Athletic training education continues to change as educators embrace the various components of educational learning theory. All students come to these programs with some level of goals already established. However, it is the role of the faculty and clinical instructors to help shape and/or reshape these achievement goals so that all students have the opportunity to succeed. Both formative and summative assessments of student achievement goals in the classroom and clinical settings can direct the student toward shaping and/or reshaping achievement goal orientation. Selective admission programs tend to create an air of competition, but this is most likely not the goal of the academic program once students are admitted. Fostering student success through activities that encourage performance-approach and/or mastery orientation is vital to the professional development of students in an academic program. Through careful guidance and frequent feedback, athletic training educators can shape students outlook on learning and success far beyond graduation.

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