

## A Motivated Exploration of Motivation Terminology

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The purpose of this review was twofold. First, we wanted to identify fundamental terms within the motivation literature associated with the study of academic achievement or academic development. Having identified these terms with the help of experts in the field of motivation, we wanted to document how motivation researchers defined and used these terms within their programs of research. To accomplish these purposes, over 120 achievement motivation articles were reviewed, and 68 met the criteria for inclusion. Various aspects of these studies, including definitions of terminology, framing variables (e.g., age/grade or domain/task), as well as patterns in language use were charted and analyzed. Based on these analyses, we derived several interpretations, extracted conceptual definitions, and overviewed specific conceptual issues relevant to emerging trends in motivation terminology. Finally, implications for future research and practice are forwarded. © 2000 Academic Press

It has become accepted to characterize certain educational groups as communities. Thus, within the educational literature, we find frequent reference to classroom communities, communities of learners, or communities of scholars (e.g., Brown & Campione, 1990; Butler, 1994; Murphy & Woods, 1996). As in society at large, what distinguishes particular educational groups as communities are not only their shared purposes or codes of conduct, but also their specialized lexicon. This lexicon develops as community members create personalized labels for the distinctive and valued constructs that become central to their identities (Murphy & Woods, 1996). For educa-

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tional researchers and practitioners, one clear advantage of such idiosyncratic terminology is that its use marks one as an affiliate of a community or, at least, as someone conversant with the language of its members. Further, the existence of a shared research vernacular can seemingly ease the burden of communication among its users, since these terms become efficient substitutes for complex concepts, extended explanations, or detailed definitions. In effect, one well-chosen word or phrase to the initiated, such as "attribution" or "intrinsic motivation," can evoke rich meanings or entire programs of inquiry. This lexicon, in short, becomes the community's intellectual shorthand.

Yet, for those attempting to participate in the activities of another community of scholars or incorporate some of their practices in their own, the existence of such rooted vernacular can sometimes pose problems. This is the situation that confronted us as we became increasingly drawn to the constructs and principals that are central to the literature in motivation, particularly achievement motivation. As our research program moved beyond strictly cognitive variables or explanations and into the realm of human interests, motives, goals, and will (e.g., Alexander and Murphy, 1998a; Alexander, Murphy, Woods, Duhon, & Parker, 1997), we needed to appropriate the understandings that have long been central to motivation researchers. Although our excursions into this territory have generally been welcomed, we have encountered difficulties in understanding the nuances in the specialized phraseology of this community (Alexander, 1996). Apparently, we are not alone in this plight. Even one highly respected member of the motivation community has made note of the "fuzzy but powerful constructs" that populate the literature on motivation (Pintrich, 1994, p. 139) and has called for greater conceptual clarity within that domain. While it is likely that Pintrich was reacting to motivation terminology at a level beyond our base of knowledge, his thoughts are still worthy of note.

Clearly, the motivation literature is not unique in the burgeoning of fuzzy but powerful constructs. Wittgenstein (1953/1968) even claimed that psychology itself was a discipline marked by "conceptual confusion" (p. 232). While much of our difficulty in motivation terminology is likely attributable to our naiveté in this field, it may also be the case that the field of motivation and its terms are also growing. In a way, it appears that such conceptual vagueness is a necessary and important step in the development of research communities (Alexander, 1996; Alexander, Schallert, & Hare, 1991). That is to say, as the research in a given domain evolves and flourishes so, too, does the number of specialized words and phrases that are required to communicate the resulting work to others. Also, during this developmental period, research communities may be so deeply absorbed in the generation of new ideas that there is often little time to reflect on the lexicon that is unfolding. When such reflection finally occurs, community members may find

that they need to consider the precision of and the overlap in their defining constructs.

Bruner made a similar observation in the preface to his book, *Acts of Meaning* (1990), when he wrote about the tendency of subfields of psychology to “seal themselves within their own rhetoric and within their own parish of authorities” (p. ix). While we do not mean to imply that this is the case with the field of motivation, such an event did occur within the knowledge community. For example, in their examination of knowledge terminology within the literacy community, Alexander et al. (1991) concluded that:

[T]he construct of knowledge has experienced an ever-increasing proliferation of labels that are sometimes offered as synonyms, sometimes presented as specific aspects of the subsuming construct, or, more often, simply loosely used to refer to the related constructs without self-conscious attempts at a more precise or consensual usage. (p. 315)

As with the literacy community, researchers in motivation may determine that similar terminology is being used to mark varied constructs or that the same construct is being referenced by different language.

Moreover, as a program of research gains in popularity, it becomes more likely that new members will seek to join the community, making the borders between research fields increasingly more permeable. Likewise, individuals from other research traditions or backgrounds will find aspects of the community’s research appealing, as we have with motivation, and will want to incorporate its findings into their own writings and practices. However, it is far less certain that either those new community members or admirers will be steeped in the tradition from which many of the terms arose. Consequently, these individuals may not be adequately versed in the underlying theory and literature so as to grasp the subtleties among such critical concepts.

The conceptual concerns, as we have outlined, may not appear formidable. Yet, efforts to construct understandings from the research literature can be augmented or thwarted without attention to conceptual clarity (Alexander, 1996; Murphy & Woods, 1996; Pintrich, 1994). Conceptual clarity is especially important to individuals who are endeavoring to overlay diverse traditions, each with its own phraseology and its own cadre of troublesome, but potent, constructs. Because our research intentionally blurs the boundaries between cognition and motivation in an effort to chart the course of academic development (e.g., Alexander, 1997; Alexander, Murphy et al., 1997), we have found ourselves struggling to speak the language of motivation with accuracy. These struggles, in effect, instigated—motivated, if you will—our exploration of motivation terminology within the research literature. Through this review, therefore, we hope to share with members of various research communities what we have gleaned from our analysis. Our specific purposes in this review were to:

- identify fundamental terms within the motivation literature that are associated with the study of academic achievement or academic development
- document trends within the framing variables (e.g., age/grade or domain/task)
- articulate patterns in language use that arise within this body of research
- provide conceptual definitions for the selected motivation terms that may guide the writings and practice of others
- overview conceptual issues relevant to the emerging trends in terminology
- draw implications for future research and practice, especially those efforts that seek to link cognitive and motivational dimensions of academic learning and development.

## SEARCH PARAMETERS

### *Identifying the Corpus of Motivational Terms*

Our first step in this exploration of motivation terminology was to determine what corpus of words from the extensive lexicon found within the motivation literature would guide our efforts. Unlike other researchers who have attempted to be more exhaustive in their analyses of language use within domains of inquiry (e.g., Alexander et al., 1991; Greene & Ackerman, 1995), we viewed this concentration to be advisable for several reasons. First, our reason for initially embarking on this review was to bring clarity to our programs of research that do not fall squarely within the realm of motivation. Indeed, we have not grown up within the motivation tradition. By centering our review of literature on those terms that more directly relate to our own empirical and theoretical efforts (e.g., domain learning), we have perhaps a more legitimate basis from which to categorize and interpret the language of motivation research.

Second, theoretically speaking, the writings within the motivation literature arise from varied traditions (Eccles, Wigfield, & Schiefele, 1998; Pintrich & Schunk, 1996). By our decision to narrow our attention to particular terms that are studied in relation to the construct of academic achievement or academic development, we hoped to offer a more theoretically coherent picture of the motivation lexicon. Further, pragmatically, the number of key terms, and their iterations, that populate the motivation literature are extensive. The task of analyzing and conceptualizing such an expansive inventory would be daunting, if not unwise. Our choice of terms for this review thus considered the breadth and overlap of particular constructs with an eye toward manageability. For instance, certain constructs relevant to research in domain learning, such as those contained in expectancy–value theory, are broad conceptualizations with antecedent constructs that cross multiple theoretical realms and research programs (Wigfield, 1993). This long history and broad orientation gives such concepts a bridging character in that they link to other key motivation constructs (e.g., *self-efficacy*, *interest*, or *intrinsic motivation*).

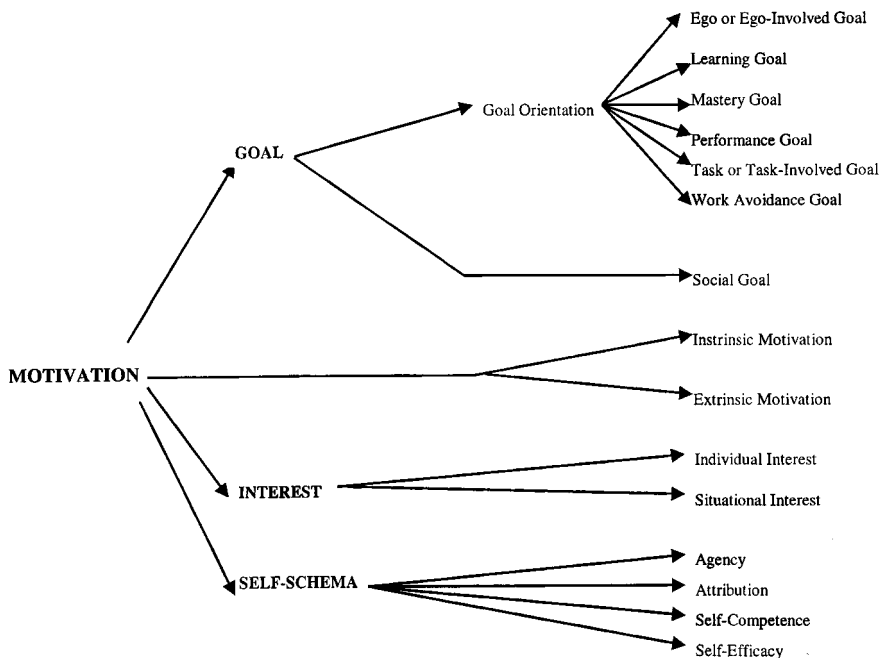
As stated, therefore, we elected to constrain our search of the motivation phraseology to key terms that are used in conjunction with the study of aca-

ademic achievement or development. Conceptually, we understood academic achievement and development to refer to learning and development taking place in schools (e.g., elementary or college). Therefore, our search for terms, and later, articles was limited to studies that included some measures of academic learning. For example, Nichols and Miller (1994) investigated high school students' achievement in Algebra II in relation to their goals. This study included motivation terms like *learning goal*, *performance goal*, and *motivation*. Within the motivation literature, such terms would most often be associated with the study of achievement motivation. Therefore, based on a preparatory examination of the motivation literature (Murphy & Anderson, 1996) and on the constructs that have appeared within our own programs of research on academic learning (e.g., Alexander, Murphy, & Kulikowich, 1998), we generated an initial listing of nine terms (i.e., *achievement*, *affect*, *attribution*, *self-competence*, *self-efficacy*, *goals*, *engagement*, *motivation*, and *self-regulation*).

This preliminary list was then forwarded to eight recognized scholars in the area of motivation, who were informed of our intention to analyze the motivation terminology from the perspective of academic learning and development. We asked three questions of these experts: (a) What terms would you add or delete? (b) What classic pieces or key researchers in the area of achievement motivation should be included in our exploration? and (c) What journals should we physically search for relevant literature? Five of the eight experts responded to our request and their input was used to refine our original slate of terms. For example, several of the experts recommended that we drop *self-regulation* from the list, since this term crosses both the cognitive and motivation literature. Based on these recommendations, we removed *self-regulation* from the corpus. Another motivation expert suggested that we add the term *interest*, which was a prevalent construct in our own research program and aligned with achievement motivation. Several experts nominated expectancy-value theory for inclusion in this review. However, for the reasons noted, and given that several excellent reviews of this theory have been recently conducted (e.g., Eccles et al., 1998; Wigfield & Eccles, 1992), we chose to exclude expectancy-value theory from our final list. The resulting corpus of motivation terms relevant to academic achievement and motivation consisted of 20 associated constructs. This corpus of terms is graphically displayed in Fig. 1. This graphic summary is not meant to be hierarchical. Rather, it is meant to depict some overarching relationships among these terms.

### *Searching the Literature*

Our next step was to conduct a broad search of the literature in order to establish a beginning pool of writings from which the final body of relevant works would be chosen. We conducted both on-line and physical searches



**FIG. 1.** The resulting corpus of 20 motivation terms relevant to academic achievement and motivation.

of the literature. Using the chosen constructs as our key words, we examined research cataloged in several on-line retrieval systems, including Educational Resources Information Center (ERIC), PsycLit, and Sociofile. In addition, we physically checked the volumes for the 17 journals suggested by our experts that had been published in the past 5 years. (See Table 1 for the titles of those journals.) At this stage in our deliberations, we included any work in the pool that incorporated one of our motivational terms in title or in abstract as well as any article written by one of the key motivational researchers named by our expert panel (e.g., Ames, Bandura, or Dweck). Also, we initially incorporated any of the specific writings nominated by our experts ( $n = 5$ ). All totaled, this pool consisted of over 120 published articles, books, and book chapters.

#### *Establishing the Criteria for Inclusion*

As we have done in previous reviews (Alexander et al., 1991; Alexander, Kulikowich, & Jetton, 1994), we formulated criteria that would guide us in our selection of writings for final analysis. After due consideration, we agreed on three criteria to delimit this review. First, we focused on motiva-

TABLE 1  
Nominated Journals Physically Searched for Relevant Articles

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<i>American Educational Research Journal</i>
<i>American Psychologist</i>
<i>British Journal of Experimental Educational Psychology</i>
<i>Child Development</i>
<i>Cognition and Instruction</i>
<i>Cognitive Development</i>
<i>Contemporary Educational Psychology</i>
<i>Developmental Psychology</i>
<i>Educational Psychologist</i>
<i>International Journal of Experimental Educational Psychology</i>
<i>Journal of Educational Psychology</i>
<i>Journal of Experimental Psychology: Learning, Memory, and Cognition</i>
<i>Journal of Literacy</i>
<i>Journal of Personality and Social Psychology</i>
<i>Motivation and Emotion</i>
<i>Reading Research Quarterly</i>
<i>Review of Educational Research</i>

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tion terminology used in empirical studies. Given that many of the works in our literature pool were reviews or summary chapters that considered issues and trends across a body of research, this decision eliminated a number of works from further analysis (e.g., Ames, 1992; Pintrich & Schunk, 1996; Weiner, 1985). It is important to note, however, that we found these nonempirical pieces invaluable in locating additional sources and in amplifying or clarifying the results of this review. Certainly, insightful reviews like those of Wentzel (1991b, 1991c), which pose a case for social goals and also present thorough discussions of terminology and conceptual definitions, would have altered and, perhaps, lessened our current task. However, we felt strongly that this analysis of terminology would be best served by a firsthand interpretation of foundational terms as applied in research.

Second, our overarching goal in this review was to consider motivation in relation to academic achievement or academic development. Consequently, if the outcome measures in the studies did not include both achievement measures and motivation measures, they were excluded from subsequent review. For example, this criterion made it necessary to exclude works like that of Graham and Long (1986) because they investigated variables, such as values and cultures, as they related to motivation rather than focused directly on the area of achievement motivation.

Finally, as indicative of their expanding presence within archival journals, studies that link academic achievement and development with motivational variables are on the rise. Because many of these writings have appeared within the past decade, we chose to restrict our on-line and physical searches

to works published within the past 5 years, with the exception of those classic pieces nominated by our expert panel that met the prior two criteria. After we applied these three criteria to our initial literature pool, there were 68 studies that formed the basis for this review. These works are summarized alphabetically by year in Table 2.

### *Coding Scheme*

As a mechanism for unearthing the trends and patterns in these selected writings, we read and coded each in several ways. Along with the basic entries of author(s), year of publication, domain or task under study, number of participants, and their grade/age, we documented the appearance and judged the definitional clarity of the targeted terms. With regard to the category of definitional clarity, we first determined whether the term was explicitly (E) or implicitly (I) defined in text or not defined at all (X). In the case of explicit definitions, we recorded the author's exact wording in italics in Table 2. For example, as seen in Table 2, Bandura and Schunk (1981) explicitly defined *self-efficacy* as:

concerned with judgments about how well one can organize and execute courses of action required to deal with perspective situations concerning many ambiguous, unpredictable, and often stressful elements. (p. 587)

Further, implicit definitions of terms could take various forms. For instance, the authors, at times, were not direct in their explanation of the motivational terms they used. Instead, they made some allusion to the meaning of a term at some other point in the text or they simply supplied a key reference as a marker of the intended meaning. We classified the former implicit definition as conceptual (C) and the latter as referential (R), allowing an implicit definition to be both conceptual and referential in form. We drew upon paraphrases of text segments to represent the conceptual definitions in our summary table. For example, Nolen and Nicholls (1993) conceptually defined *intrinsic motivation* as the internal drive to engage or perform. By contrast, Miserandino (1996) referenced the familiar Weiner (1985) article as a way of indicating the intended meaning or understanding of the term *attribution*. Still, other authors provided both implicit conceptual definitions as well as key references. As a case in point, we gleaned from Archer (1994) that she was using *work-avoidant goal*, as had been done by Meece, Blumenfeld, and Hoyle (1988), to refer to a goal in which the purpose is to exert as little effort as possible because the interest and self-esteem of individuals who possess this type of goal lie outside of the classroom. In this review, we do not mean to imply that we are adverse to the use of an implicit definition by reference. As others have noted (e.g., Alexander et al., 1991), it seems acceptable to define a term by citation if the reader will know the definition solely based on the citation (e.g., *self-efficacy*, Bandura, 1986) or if the piece



cited actually contains an explicit definition of the term (e.g., *work-avoidant*, Meece, Blumenfeld, & Hoyle, 1988). Although it did not seem to be a problem in the works included in this review, implicit definitions by reference could become problematic if the author were to cite multiple works that seem to define the same term differently. For instance, it might be difficult for the novice reader to comprehend the implied definition of *self-efficacy* if the author cited both Bandura (1986) and Weiner (1985).

Still, there were certain terms used by authors that were implicitly defined solely by the various measures that were constructed or chosen to evaluate or analyze them. We denoted such implicit definitions as operational (O) in the categorization scheme. For instance, *competence* was operationalized by Butler and Neuman (1995) using students' self-reports of task difficulty. Similarly, Goudas, Biddle, and Underwood (1995) operationalized the term *motivation* through their use of an Academic Motivation Scale. There were quite a few instances, however, when authors offered no direct or even implicit explanation of the motivational terms that anchored or elaborated their research. We return to this issue of undefined terms when we describe the trends emerging from this review.

Based on the explicit and implicit definitions provided, we compiled a glossary for the 17 charted motivation terms. This glossary of terms is presented in Table 3. Whenever possible, we have used direct citations in this compilation, especially in those cases where the explicit definition offered in one study was generally consistent with the explicit or implicit descriptions found in other reviewed works. It is important to note that none of the articles we reviewed used the term *self-schema* and only one article used the term *agency* (Bandura & Schunk, 1981). Therefore, definitions for these terms were taken from other sources.

## THE FRAMING VARIABLES

As an aid in understanding how researchers addressing motivational constructs give definition or voice to their ideas, we first examined what we have labeled as *framing variables* within these studies. Specifically, framing variables denote conditions or contextual factors pertaining to when, with whom, and in what academic arenas these explorations took place. One thing we hoped to learn from the examination of these variables was whether there has been an increase in the number of studies addressing the selected constructs. Also, we were interested in whether these achievement motivation studies took place more often in particular domains (e.g., science or mathematics) with participants of certain ages.

### *Publication Trends*

As for the question of when these studies were reported, the data in Table 2 indicated there was a noticeable rise in published works addressing our

TABLE 2  
Motivation Terms and Corresponding Definitions

Author/year	Domain/task	N	Grade	Term	Definitional clarity E/I (C, O, R)	Definition
Bandura & Schunk (1981)	Math	40	7.3-10.1 years of age	Motivation	I(O)	Drives
				Agency	X	
				Intrinsic motivation	X	
				Goal	I(C)	Standards that activate the evaluative process or course of one's behavior
				Self-efficacy	E	<i>Concerned with judgments about how well one can organize and execute courses of action required to deal with perspective situations containing many ambiguous, unpredictable, and often stressful elements</i>
Meece, Blumenfeld, & Hoyle (1988)	Science	275	5th, 6th	Interest (individual, intrinsic)	I(C)	Refers to activities that people enjoy doing for their own sake
				Competence (perceived)	I(C)	Ability
				Goal orientation	E	<i>Set of behavioral intentions that determine how students approach and engage in learning activities</i>
				Perceived competence	I(O)	<i>Self-perceptions of academic ability</i>
				Attributions	X	
				Motivation	I(C)	Goals
				Task-mastery goal	E	<i>Students sought to independently master and to understand their work</i>
				Mastery goal	I(R)	Ames & Ames (1984)
				Learning goal	I(R)	Dweck & Elliott (1983)
				Performance goal	I(R)	Dweck & Elliott (1983)
Task-involved goal	I(R)	Nicholls, Patashnick, & Nolen (1985)				
Extrinsic motivation	I(C)	Preference for social approval and reinforcement; usually developed by children with low perceived ability				
Ego-involved goal	I(R)	Nicholls, Patashnick, & Nolen (1985)				
Ego or social goal	E	<i>Students sought to demonstrate high ability or please the teacher</i>				



TABLE 2—Continued

Author/year	Domain/task	N	Grade	Term	Definitional clarity E/I (C, O, R)	Definition
Kroll & Ford (1992)	Intro. psych.	230	Ugrad.	Ego orientation (goal)	E	Goal of demonstrating high ability to self or others, preferably by mastery without expending much effort
				Motivation (goal) orientation	I(C)	Two forms—ego and task
				Task goal	E	Focus on the task rather than on the self. . . increase understanding for its own sake irrespective of one's own ability or effort relative to others
Mone & Baker (1992)	Intro. business	380	Ugrad.	Self-efficacy	E	" . . . peoples' judgments of their capabilities to organize and execute courses of action required to attain designated types or performances . . ." (Bandura, 1986, p. 391)
				Goal (personal)	E	Internal standards or referents toward which efforts will be aimed
				Attribution	E	Causes for performance
				Perceived (task) competence	I(C)	Equated to self-efficacy
				Motivation	X	
Peterson (1992)	Meas. & eval.	96	Ugrad.	Attribution	E	Students search for understanding of their academic performances making causal attributions to explain why they achieved a specific outcome . . . where the dimensions are locus, stability, and controllability
Stader & Licht (1992)	Achiev.	194	5th	Motivation Attribution	X	Achievement-related belief in which children blame their success or failure either on effort or ability
Bergin, Ford, & Hess (1993)	Computer task	94	kindergarten	Motivation	E	The psychological processes involved in the direction, vigor, and persistence of behavior
Butler (1993)	Computer task	188	Ugrad.	Motivation Performance goal Ego-involvement (goal) Learning goal	X I(R) E I(R)	Dweck (1986) Where the main goal of achievement behavior is to demonstrate superior ability Dweck (1986)

				Task-involved goal	E	<i>Where the main goal is to demonstrate or develop individual proficiency and understanding through effortful learning</i>
Ehrlich, Kurtz- Costes, & Lori- dant (1993) Meece & Holt (1993)	Reading	220	7th	Goal orientation	X	Ames & Archer (1988)
				Mastery goal	I(R)	Beliefs about the causes of success and failure
	Science	257	5th, 6th	Attribution	I(C)	
				Motivation	X	
				Perceived competence	X	
				Task goal	I(R)	Maehr & Nicholls (1980); Nicholls (1984)
				Ego goal	I(R)	Maehr & Nicholls (1980); Nicholls (1984)
				Learning goal	I(R)	Dweck & Elliott (1983)
	Statistics	117	Ugrad.	Mastery goal	I(R)	Ames & Archer (1987, 1988)
				Performance goal	I(R)	Dweck & Elliott (1983); Ames & Archer (1987, 1988)
Task-mastery goal				E	<i>A desire to learn something new, to master a task, or to improve one's competence</i>	
Ego-social goal				E	<i>A desire to demonstrate high ability or to please the teacher</i>	
Miller, Behrens, Greene, & DeNewman (1993)			Work-avoidance goal	E	<i>Students who adopt this goal seek to complete their work with a minimum of effort</i>	
			Goal (orientation)	X		
	Goals			Competence	X	
				Motivation	I(O)	
				Performance goal	E	<i>Primarily interested in obtaining positive self evaluations of their ability and trying to avoid negative ones. Such individuals would rather receive a positive evaluation on an easy task than run the risk of receiving a negative evaluation on a more challenging or meaningful task.</i>
				Goal orientation	I(C, R)	Type of goal one chooses; Dweck (1986); Dweck & Leggett (1988)
	Self-efficacy Motivation			Learning goal	E	<i>Primarily concerned with acquiring new skills or improving their knowledge, even if it means making some errors along the way</i>
				Perceived ability	E	<i>Perceived ability</i>
				Motivation	I(O)	Comprised of goal orientation, perceived ability, and perceived value
	Goal				Goal	X

TABLE 2—Continued

Author/year	Domain/task	N	Grade	Term	Definitional clarity E/I (C, O, R)	Definition
Mitchell (1993)	Math	350	9th–12th	Personal (individual) interest	E	<i>Refers to an interest that people bring to some environment or context</i>
				Interest	E	“Genuine interest is the accompaniment of the identification, through action, of the self with some idea for the maintenance of a self-initiated activity.” (Dewey, 1913, p. 14)
				Intrinsic motivation	X	
				Situational interest	E	<i>Refers to an interest that people acquire by participating in an environment or context</i>
				Motivation	X	
				Attribution	I(C)	Encouragement or judgment of failure due to effort
Nolen & Nicholls (1993)	Math	576	2nd, 5th	Intrinsic motivation	I(C)	Internal drive to engage or perform
		35	Teach.	Extrinsic (task) motivation	E	<i>Rewards are given for appropriate behavior</i>
				Interest	X	
				Motivation	X	
				Self-efficacy	I(C)	Expectation concerning the ability to perform a given task
Randhawa, Beamer, & Lundberg (1993)	Math	223	12th	Attribution	X	
				Self-efficacy	E	<i>Beliefs about one's capability to perform actions at designated levels. . . hypothesized to affect choice of activities, effort, and persistence</i>
Schunk & Swartz (1993)	Writing	Expt. 1, 60	5th	Motivation	X	
		Expt. 2, 40	4th	Goal	X	
				Ego orientation (goal)	E	<i>Involves the goal of showing oneself to be superior to others and the closely associated beliefs that superior ability is necessary for academic success . . . traits that cut across domains</i>
Silva & Nicholls (1993)	Writing	653	Ugrad.	Task orientation (goal)	E	<i>Goal of gaining knowledge and the belief that success depends on collaboration with peers and attempts to understand rather than merely to memorize information . . . traits that cut across domains</i>
				Motivation (achievement)	X	
				Goal	I(C)	Personal criteria for success

Skinner & Belmont (1993)	Achiev.	144	3rd-5th	Motivation Intrinsic motivation Attribution Self-efficacy Perceived competence Interest Goal orientation	I(C) I(R) I(R) I(R) I(R) I(R) I(R)	Engagement Corno & Rohrkemper (1985); Deci & Ryan (1985) Weiner (1986) Schunk (1991) Chapman, Skinner, & Baltes (1990) Schiefele (1991) Ames & Ames (1984); Dweck & Elliott (1983); Nicholls (1984)
Wade, Schraw, Buxton, & Hayes (1993)	Text reading	Expt. 1, 43 Expt. 2, 30	Ugrad.	Interest (text-based)	I(C, R)	Operationalized in terms of Schanks (1979) topics that are inherently interesting (e.g., sex, romance, or dancer)
Ackerman & Woltz (1994)	Noun word pairs	Expt. 1, 96 Expt. 2, 90	Ugrad.	Motivation	E	<i>Conative processes that are induced by the presence of an external spur to action . . . Motivation is typically characterized either as a trait (e.g., achievement motivation) or as a state resulting from internal or external reinforcers (e.g., performance incentives).</i>
Alexander, Kulikowich, & Schulze (1994)	Physics	209	Ugrad.	Interest Situational interest  Individual interest	I(C, R) E  E	Situational or individual; Hidi (1990); Schiefele (1991) Understand as more transient interest that is associated with increased arousal or attention <i>Interest [that] reflects a long-term, deep-seated involvement in some activity or subject</i>
Archer (1994)	Psych.	853	Ugrad.	Motivation  Performance (ego incentive or ego involved) goal  Mastery (task involved or learning) goal  Attribution Work-avoidant goal	E  E  E  I(C) I(C, R)	<i>Focuses on the achievement goal or goals that a person holds</i> <i>Concerned primarily with demonstrating their ability (or concealing a perceived lack of ability) which is shown to best advantage by outperforming others, particularly if success is achieved with little effort</i> <i>Want to develop their competence on a task or increase their understanding of a subject and anticipate that this end will be achieved by hard work</i> Reasons for success and failure due to effort or ability Purpose is to exert as little effort as possible because their interests and source of self-esteem lie in areas other than the classroom; Meece, Blumenfeld, & Hoyle (1988)
	Goal			Goal	E	Defines an integrated pattern of beliefs, attributions, and affect that produces the intentions of behavior . . . represented by different ways of approaching, engaging in, and responding to achievement-type activities' (Ames, 1992, p. 261)

TABLE 2—Continued

Author/year	Domain/task	N	Grade	Term	Definitional clarity E/I (C, O, R)	Definition
Butler (1994)	Achiev.	60 178	Teach. 3rd, 6th	Attribution for failure	I(C)	Can be attributed to low ability, leading to low expectancy for future success and feelings of helplessness, or low effort, which is associated with the expectation that future outcomes can be improved if one tries harder
Grabe (1994)	Ed. psyc.	261	Ugrad.	Motivation Motivation Attribution	X X X	
Gottfried, Fleming, & Gottfried (1994)	Achiev.	107	9th, 10th	Intrinsic motivation	E	Concerns enjoyment of school learning and an orientation to master challenging tasks; positively related to children's achievement and effective school functioning from the elementary through the junior high school years
Klein, Erchul, & Pridemore (1994)	Videotaped lesson on assessment	126	Ugrad.	Motivation Extrinsic motivation Motivation (continuing) Goals Interest Attribution	X I(C) I(O) X X I(C)	Dealing with contingencies and rewards 7-item scale
Kurtz-Costes & Schneider (1994)	Achiev.	46	2nd–4th	Motivation (achievement) Learning goal Performance goal	I(C) E E	Refers to where, internal factors or external factors, students credit their success or failure Will to do something
Nichols & Miller (1994)	Algebra II	62	11th, 12th	Motivation Self-efficacy Goal (orientation)	I(O) E X	Refers to working toward improving knowledge and skills Trying to look good to others or avoid looking bad Self-reported attitudes toward Algebra II Students' self-perceptions of ability



Pajares & Miller (1994)	Math	350	Ugrad.	Self-efficacy	E	'' . . . people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances.'' (Bandura, 1986, p. 391) . . . context-specific assessment of competence to perform a specific task
Schraw & Dennison (1994)	Text passage	Expt. 1, 60 Expt. 2, 46 Expt. 3, 80	Ugrad	Interest Individual interest	X E	An enduring predisposition, of personal value, and topic-specific Information that is assumed to be transitory, environmentally activated, and context-specific A special form of situational interest
Vrugt (1994)	Psych.	206	Ugrad.	(Purpose-driven interest) Perceived self-efficacy	E	'' . . . people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances.'' (Bandura, 1989, p. 395)
Whang & Hancock (1994)	Math	353	4th, 5th, 6th	Attribution	I(C)	Perceptions of why an event has occurred which has an effect on subsequent action
				Intrinsic motivation	E	Meaning that a task is performed because it is rewarding within itself not because of a reward to be earned as a consequence
				Extrinsic motivation	E	Performing a task to get something outside of the activity itself
				Task-involvement (goal)	E	Similar to intrinsic motivation in that one is preoccupied with learning or understanding and learning is valued as an end in itself
				Ego-involved (goal)	E	Concerned with how others perceive their performance, as well as with their own self-perception . . . focus on self rather than the material to be learned
Alexander, Jetton, & Kulikowich (1995)	Human imm. & biology	Expt. 1, 47 Expt. 2, 78	Pre-med. Grad.	Interest Motivation Interest Motivation Individual interest	X X X X I(C, R)	A deep-seated interest characterized by the desire to develop competence and display a personal investment in the targeted field; Hidi (1990) Schiefele (1991) More transitory, short-lived . . . Hidi (1990) has labeled this less substantive or less durable for of interest as situational to signify its highly contextualized, and situation-specific nature
				Situational interest	E	

TABLE 2—Continued

Author/year	Domain/task	N	Grade	Term	Definitional clarity E/I (C, O, R)	Definition
Benton, Sharp, Corkill, Downey, & Khrantsova (1995)	Writing	203	Ugrad.	Interest	I(C)	What is valued or draws one's attention
		106	9th	Individual interest	E	<i>Emerges from one's history of interaction with an object or stimulus . . . trait</i>
Bouffard, Boisvert, Vezeau, & Larouche (1995)	Achiev.	702	Ugrad.	Situational interest	E	<i>Pertains to the specific characteristics of an event or object that captures one's interest . . . more state specific</i>
				Goal orientation	I(O)	Type of goal(s) chosen
				Mastery goal	E	<i>Person who wishes to obtain new knowledge and new skills . . . will acknowledge the positive role of effort expenditure</i>
Butler (1995)	Interest in peers work	Expt. 1, 198 Expt. 2, 133	4th, 5th 4th, 5th	Performance goal	I(C)	When an individual thinks performance is tied to capabilities and effort has a negative relationship with competence
				Motivation	X	
				Mastery goal	E	<i>Main aim is to develop competence and satisfaction depends on effortful learning</i>
				Performance goal	E	Where the main aim is to establish superior ability and satisfaction depends on outperforming others or succeeding with little effort
				Intrinsic motivation	X	
Butler & Neuman (1995)	Tangrams	159	2nd, 6th	Motivation (task)	I(O)	Questionnaire
				Interest	X	
				Goal (orientation)	I(O)	Questionnaire
				Motivation (achievement)	X	
				Competence (perceived)	I(O)	Questionnaire
				Motivation	X	
				Attribution	X	
				Intrinsic motivation	E	<i>Preferences for challenge and curiosity. . . strivings to develop competence and proficiency</i>

Extrinsic motivation	E	<i>Strivings . . . to get the task over with or to attain rewards contingent on task completion</i>
Ego-involved goal	E	<i>Refers to a motivational state in which the main goal of achievement behavior is to maintain positive self-esteem by demonstrating superior ability</i>
Task-involved goal	E	<i>Broadly analogous to what other authors (e.g., Bandura, 1977; Deci &amp; Ryan, 1989) term intrinsic motivation, where the main aim of achievement behavior is to promote understanding and proficiency</i>
Competence Motivation	I(O)	Self-reports of task difficulty
Mastery orientation (goal)	X	
Intrinsic motivation	E	<i>Characterized by a focus on learning and not upon outcome</i>
Perceived competence Motivation (orientation)	I(O)	<i>Refers to behaviours performed in the absence of external rewards</i>
Motivation	I(O)	5-item Likert scale re: gymnastics
Intrinsic motivation	X	Academic Motivation Scale
Extrinsic motivation	I(C)	Interesting
Attribution	I(C)	Reward for effort
Motivation (achievement)	I(R)	Bem (1965); Heider (1958); Jones & Davis (1965)
Interest	I(C, R)	Nicholls (1984); Stipek (1988)
Self-efficacy	X	Weiner (1984)
Competence (perceived)	X	Snow (1989)
Attribution	X	Beliefs about one's ability to perform; confidence in future success; Bandura (1986)
Task-mastery	I(C, R)	Students compared their performance to others and sought favorable judgments of their performance; Elliott & Dweck (1988)
Performance goal	I(C)	Learning as a pleasurable, satisfying, and collaborative process
Motivation	I(C)	

Galloway, Leo, Rogers, & Armstrong (1995)  
 437  
 11th, 12th  
 English, math

Goudas, Biddle, & Underwood (1995)  
 40  
 Ugrad.  
 Gymnast.

Higgins, Lee, Kwon, & Trop (1995)  
 Expt. 1, 119  
 Expt. 2, 85  
 Expt. 3, 131  
 2nd, 3rd  
 3rd  
 4th, 5th  
 Reading

Kreitler, Zigler, Kagen, Olsen, Weisler, & Kreitler (1995)  
 57  
 3rd, 4th  
 Reading

Moriarty, Douglas, Punch, & Hattie (1995)  
 179  
 5th  
 Social studies

TABLE 2—Continued

Author/year	Domain/task	N	Grade	Term	Definitional clarity E/I (C, O, R)	Definition
Schraw, Bruning, & Svoboda (1995)	Time mag. article	154	Ugrad.	Personal (individual) interest	E	<i>Unique to the individual, topic specific, long lasting, and exists prior to encountering a particular text</i>
				Situational interest	E	<i>Common across individuals, short-lived, and elicited within a particular context</i>
				Intrinsic motivation	X	
Seifert (1995)	Math	79	5th	Interest	X	
				Performance (ego or extrinsic) goal	E	<i>Learners seek to gain a favorable judgment of their competence</i>
				Motivation (achievement)	I(C)	Goal
				Learning goal	E	<i>Students. . . are interested in gaining competence</i>
				Task (mastery or intrinsic) goal	E	<i>Learners are interested in mastery or competence</i>
Shell, Colvin, & Bruning (1995)	Reading, writing	364	4th, 7th, 10th	Competence	X	
				Attribution	I(C)	Judgments of reasons for perceived success or failure
				Self-efficacy	X	
				Work-avoidance goal	E	<i>Trying not to work hard</i>
				Self-efficacy	E	<i>Defined as confidence in one's capability for organizing and implementing the cognitive, behavioral, or social skills necessary for successful performance of a task</i>
Tobias (1995)	Biology	33 51	nursing Ugrad.	Attribution	E	<i>Defined as one's judgments about the causality of success or failure in achievement situations</i>
				Situational interest	E	<i>Elicited by aspects of a situation, such as its novelty or intensity, and by the presence of human interest factors contributing to the attractiveness of different types of content</i>
				Motivation	X	
				Topic (individual) interest	E	<i>Refers to people's relatively enduring preferences for different topics, tasks, or contexts</i>
				Intrinsic motivation	I(R)	
				Interest	X	

Wentzel & Asher (1995)	Achiev.	423	6th	Motivation	E	<i>Conceptualized broadly, to include children's commitment to school work, interest in school, effort expended in the classroom, and concern with earning positive evaluations of work</i>
Albin, Benton, & Khramtsova (1996)	Writing task	224	Ugrad.	Goal	X	[interest] which emerges from one's history of interactions with an object or stimulus . . . relatively enduring preference for certain topics, activities, or events . . . an actualized trait
				Individual interest	E	
Garcia & Pintrich (1996)	MSLQ	365	Ugrad.	Situational interest	E	<i>Pertains to the specific characteristics of an event or object that captures ones interest . . . more of a temporary emotional state in response to stimulation</i>
				Interest	E	<i>Specific content . . . [that] directs attention and enhances learning</i>
				Self-efficacy	I(O)	<i>Evaluation of one's ability to master a task; MSLQ</i>
				Intrinsic (mastery) goal	I(O)	<i>Measure of the degree to which the individual perceives herself to be participating in a task for reasons such as challenge, curiosity, or mastery; MSLQ</i>
Greene & Miller (1996)	Ed. psy.	108	Ugrad.	Perceived competence	X	<i>Interest in learning for the sake of improving their knowledge or skills</i>
				Motivation	X	
Guthrie, VanMeter et al. (1996)	Science	140 4	3rd, 5th Teach.	Intrinsic motivation	X	<i>Interest in looking capable to themselves or others</i>
				Learning or task goal	X	
				Performance or ego goal	E	
				Goal orientation	E	
McAllister (1996)	Grade attrib. task	Expt. 1, 144 Expt. 2, 71	Ugrad. Ufac. Ugrad.	Self-efficacy	I(O)	<i>Students self-perceptions of ability . . . in a task</i>
				Motivation	I(O)	
				Intrinsic motivation	E	
				Extrinsic motivation	E	
				Interest	I(C)	
				Self-efficacy	X	
McAllister (1996)	Grade attrib. task	Expt. 1, 144 Expt. 2, 71	Ugrad. Ufac. Ugrad.	Attribution	X	<i>Refers to motivation that comes from outside the learner</i>
				Attribution	I(C)	
						Goals and commitments through learning
						Internal or external reasons for success or failure

TABLE 2—Continued

Author/year	Domain/task	N	Grade	Goal	Term	Definitional clarity E/I (C, O, R)	Definition
Miller, Greene, Montalvo, Ravindran, & Nichols (1996)	Math	Expt. 1, 297 Expt. 2, 199	10th–12th 10th–12th	Goal		E	<i>In one case goals represent the performance standards or targets toward which individuals strive. This is the sense of goals reflected in goal-setting theory (e.g., Locke &amp; Latham, 1990) and self-regulation (e.g., Bandura, 1986). In the other case goals represent the valued outcomes or purposes for engaging in achievement activities. This is the sense of goals reflected in goal-orientation theories (e.g., Dweck &amp; Leggett, 1988; Nicholls, 1989)</i>
				Motivation (achievement)		X	
				Goal orientation		X	
				Social goals		I(C)	Include such things as pleasing others (e.g., family or teacher) and trying to be socially responsible (e.g., doing what one is asked)—goals that encompass "social" aspects of the classroom
				Learning or task-oriented or mastery goal		E	<i>Students who approach instructional tasks with the goal of increasing their understanding or skill</i>
				Performance or ego goal		E	<i>Use relative standing among others as the evaluative criterion</i>
				Self-efficacy		E	<i>People's beliefs about their ability to successfully perform a task . . . [which] influence their willingness to attempt the task, the level of effort they will expend, and their persistence in the face of challenge</i>
Misrandino (1996)	Stanford Achiev. Test	77	3rd, 4th	Perceived competence		E	<i>Consists of the individual's beliefs about ability, effort, and external factors such as powerful other or luck and that cause success or failure in schools</i>
				Extrinsic motivation		E	<i>Behaving in order to attain a reward or avoid a punishment administered by others, such as parents or teachers</i>
				Intrinsic motivation		E	<i>Child is involved with an activity because of the inherent pleasure derived from the task itself</i>

Nichols (1996)	Geometry	80	10th–12th	Self-efficacy	I(R)	Bandura (1977)
				Attribution	I(R)	Weiner (1986)
				Learning or task-oriented goal	E	<i>Seek mastery and competency at the task they are engaged in</i>
				Performance or ego-oriented goal	E	<i>Seek to demonstrate their high ability or to gain favorable judgments of their ability via task performance</i>
				Interest	X	
				Goal orientation	X	
				Mastery goal	X	
				Motivation (achievement)	I(C)	What drives individuals to engage—autonomy, self-perceived competence, and goals
				Goal	X	
				Learning goal	E	<i>Seek reasonable challenges and persist under adversity . . . interested in increasing their competency on a task, and their primary goal is to obtain knowledge and improve their skills</i>
Pajares (1996)	Math	297	8th	Performance goal	E	<i>Avoid challenging tasks and display low persistence when difficulties arise</i>
				Self-efficacy	I(C)	Beliefs about one's capabilities to perform a task which influences effort and persistence
				Motivation	X	
				Intrinsic motivation	X	
				Goal orientation	I(C)	
				Goal	X	
				Self-efficacy	E	Learning goal or performance goal
				Interest	X	
				Competence	X	
				Goals	X	
Roeser, Midgley, & Urdan (1996)	School grades	296	6th–8th	Motivation	X	<i>Students' beliefs about their capabilities to successfully perform academic tasks</i>
				Agency	X	
				Task mastery goals	E	<i>Emphasize improvement, mastery, and intellectual development</i>
				Relative ability goal	E	<i>Social comparison, relative ability, and competition among students</i>
				Competence (personal)	X	
				Self-efficacy	I(O)	
				Motivation	X	
				Goals	X	Academic Self-Efficacy Scale

TABLE 2—Continued

Author/year	Domain/task	N	Grade	Term	Definitional clarity E/I (C, O, R)	Definition
Schiefele (1996)	Exp. text passages	107	12th	Motivation	X	<i>May refer not only to [a stable evaluative orientation] to topics, or domains of knowledge, but also to material objects and activities</i>
				Interest	X	
				Individual interest	E	
				Topic interest	E	
Schunk (1996)	Fractions	Expt. 1, 44 Expt. 2, 40	4th–8th 4th	Text-based (situational) interest	E	<i>A specific form of individual interest . . . a relatively stable evaluative orientation toward certain topics</i> <i>Is an emotional state aroused by specific text features</i>
				Intrinsic motivation	X	
				Extrinsic motivation	X	
				Self-efficacy	E	
				Goals	E	
				Learning goal	E	
				Performance goal	E	
				Motivation	X	
Task-mastery goal	E					
Stipek & Gralinski (1996)	Math, social studies	319	4th–6th	Ego goals	E	<i>Personal beliefs about one's capabilities to learn or perform skills</i> <i>Standards against which people compare their present performance</i> <i>What knowledge and skills students are to acquire</i> <i>What task students are to complete</i> <i>Analogous to learning goals . . . desire to independently master and understand academic work</i> <i>Desire to perform well to please the teacher and avoid trouble</i> <i>Desire to accomplish academic work with minimum effort</i>
				Work avoidant goal	E	
				Intrinsic motivation	X	
				Competence	X	
				Motivation (achievement)	X	
				Goal orientation	X	
				Interest	X	



Alexander, Murphy, Woods, Duhon, & Parker (1997)	Ed. psy.	329	Ugrad.	Performance or ego orientation (goal) Learning or mastery orientation (goal) Interest Motivation Individual interest	E E E I(C) E	<i>Failure-avoidance pattern of motivation characterized by an avoidance of challenging tasks</i> <i>Concern about developing skills and understanding or achieving a sense of mastery</i> <i>Signifies the processes by which the underlying needs or desires of learners are energized</i> Individual and situational interest <i>A more long-term investment or deep-seated involvement in a pursuit</i>
Harp & Mayer (1997)	Meteorology	Expt. 1, 74 Expt. 2, 85	Ugrad.	Competence Self-efficacy Interest Motivation	E I(C) X I(O) X	<i>Represents more temporary arousal or attention often triggered by conditions within the immediate context</i> A specific stage in academic development Interest survey
McInerney, Roche, McInerney, & Marsh (1977)	Inventory of School Motivat.	Expt. 1, 1,173 Anglo/ Austr. 496, Aborig- inal/ Austr. 487 Immig./ Austr. Expt. 2, 529, Navays 198, Betsi- ante	7-11	Goals Motivation (school) Mastery (task) goal Performance (extrinsic) goal Competence Ego goal	X I(O) E E X X	Inventory of School Motivation <i>Belief that effort leads to success and that the focus of attention is on the intrinsic value of learning</i> <i>Focus on one's ability and sense-of-self-worth. . . Ability is shown by doing better than others, by surpassing norms, or by achieving success with little effort.</i>

*Note.* Within the Definitional Clarity column, E, explicit; I, implicit; C, conceptual; R, reference; and O, operational.

TABLE 3  
Conceptual Definitions of Selected Achievement Motivation Terms

Motivation term	Conceptual definition
Goal	<i>What students generally want to achieve in their classes be it academic or social</i> (Wentzel, 1989)
Goal orientation	<i>A set of behavioral intentions that determine how students approach and engage in learning activities</i> (Meece, Blumenfeld, & Hoyle, 1988, p. 514)
Mastery goal	Represents a desire to develop competence and increase knowledge and understanding through effortful learning (e.g., Ames & Archer, 1988; Archer, 1994); <b>Synonym:</b> learning goal (Dweck, 1986; Dweck & Elliott, 1983), task or task-involved goal (Nicholls, 1984; Nicholls, Patashnick, & Nolen, 1985)
Performance goal	Represents a desire to gain favorable judgments and avoid negative judgments of one's competence, particularly if success is achieved through a minimum exertion of effort (e.g., Dweck, 1986; Dweck & Elliott, 1983); <b>Synonym:</b> ego or ego-involved goal (Nicholls, 1984, Nicholls, Patashnick, & Nolen, 1985)
Work-avoidant goal	<i>The main concern is to get work done with a minimum amount of effort</i> (Meece, Blumenfeld, & Hoyle, 1988, p. 515)
Social goal	Refers to goals whose content encompasses the social aspects of the classroom such as pleasing others (e.g., teacher or family) and trying to be socially responsible (e.g., doing what one is asked to do) (e.g., Miller, Greene, Montalvo, Ravindran, & Nichols, 1996; Wentzel, 1991b)
Interest	<i>Signifies the processes by which the underlying needs or desires of learners are energized</i> (Alexander, Murphy, Woods, Duhon, & Parker, 1997, p. 128)
Individual interest	A deep-seated interest which emerges from one's history of interactions with an object or stimulus that is characterized by the desire to develop competence and display a personal investment in the targeted field (e.g., Albin, Benton, & Khramtsova, 1996; Alexander et al., 1997; Hidi, 1990; Schiefele, 1991)
Situational interest	A transitory, short-lived interest that pertains to the specific characteristics of an event or object within an immediate situation or context (e.g., Albin, Benton, & Khramtsova, 1996; Alexander, Murphy, Woods, Duhon, & Parker, 1997; Hidi, 1990; Schiefele, 1991)
Motivation	<i>The physiological process involved in the direction, vigor, and persistence of behavior</i> (Bergin, Ford, & Hess, 1993, p. 437)
Intrinsic motivation	<i>A task is performed because it is rewarding within itself not because of a reward to be earned as a consequence</i> (Whang & Hancock, 1994, p. 306)
Extrinsic motivation	<i>Performing a task to get something outside of the activity itself</i> (Whang & Hancock, 1994, p. 306)

TABLE 3—Continued

Motivation term	Conceptual definition
Self-schema	Refers to personal knowledge about oneself that represents consistent individual differences in way one perceives and responds to events (Pintrich & Schunk, 1996); <i>similar to self-concepts but represent a much more dynamic and situational view of the self</i> (Pintrich, 1994, p. 140)
Agency	Refers to the conception that individuals remain active agents in their learning and in the construction of their own self-schemata (e.g., Deci & Ryan, 1991; Ryan, 1993)
Attribution	<i>Students' search for understanding of their academic performances, making causal attributions to explain why they achieved a certain outcome</i> (Peterson, 1992, p. 114)
Self-competence	<i>Students' self-evaluative judgments about their ability to accomplish certain tasks</i> (Pintrich & Schunk, 82)
Self-efficacy	<i>Peoples' judgments of their capabilities to organize and execute courses of action required to attain designated types of performances</i> (Bandura, 1986, p. 391)

target terms between 1992 ( $n = 6$ ) and 1993 ( $n = 12$ ). Following that period, however, the frequency of identified studies has remained rather consistent at 13, 14, and 11 for the years 1994 through 1996. Given the increasing attention to motivational constructs in other research domains, such as in the reading literature (e.g., Guthrie & Wigfield, 1997; Higgins, Lee, Kwon, & Trope, 1995), we see no reason to assume any waning in the relevant literature at this time. Rather, should the espoused interest in multidimensional programs of inquiry be maintained (Alexander, Murphy et al., 1997; Guthrie et al., 1996; Mitchell, 1993; Schraw, Bruning, & Svoboda, 1995), there is every reason to believe that the number of published works incorporating achievement motivation constructs will potentially increase.

#### *Academic Domains and Tasks*

When it comes to the academic domains or tasks that have been studied within this literature, there was a marked preference for the content or the tasks pertinent to the domains of mathematics (27.8%) and science (14.0%), as seen in Table 2. Some regard was also evident for student motivation in the fields of reading (8.3%), writing (6.9%), social studies (4.2%), psychology (4.2%), educational psychology (4.2%), English (2.8%), and computer technology (2.8%). In addition, we identified one study that centered either on the domains of business or gymnastics (1.4% each).

Interestingly, 22% of the studies included in this review did not specify any particular academic domain or topic, but focused instead on general academic and motivational indicators. For example, Wentzel (1989) investigated the effects of students' performance standards and classroom goals on

their grade-point average and performance on the Scholastic Aptitude Test. Similarly, Roeser, Midgley, and Urdan (1996) evaluated students' academic goals and self-efficacy in relation to their school grades. This seems to run contrary to recent attention to situational and contextual factors in the broader psychological literature (e.g., Alexander & Murphy, 1998b). Several motivation researchers have also referenced a trend within the motivation literature toward more domain specificity (Eccles et al., 1998; Pintrich, 1994). Still, there are apparently many who remain broad in their outlook on academic learning and development (e.g., Skinner & Belmont, 1993; Wentzel & Asher, 1995).

The distinction between a domain-general or domain-specific stance in this literature may well be associated with the construct under investigation. That is to say, several researchers, investigating intrinsic/extrinsic distinctions, student attributions, or social goals (e.g., Gottfried, Fleming, & Gottfried, 1994; Stader & Licht, 1992; Wentzel & Asher, 1995), elected to take a general, cross-domain look at these constructs. Other constructs, however, such as interest and self-efficacy, appear to require a more domain-specific or task-specific research design. For example, many researchers who have centered on the construct of interest have been specifically concerned with text-based interest (e.g., Benton, Sharp, Corkill, Downey, & Khramtsova, 1995; Schiefele, 1996; Schraw et al., 1995; Wade, Schraw, Buxton, & Hayes, 1993). The domains of choice for these researchers, therefore, are reading and writing, or the application of these processes to domain-specific texts (e.g., meteorology, Harp & Mayer, 1997; mathematics, Mitchell, 1993; biology, Tobias, 1995).

As noted, mathematics (e.g., Abrami, Chambers, D' Apollonia, Ferrell, & De Simone, 1992; Randhawa, Beamer, & Lundberg, 1993) and science (e.g., Meece et al., 1988; Meece & Holt, 1993) were the most evident domains in this review and were the preferred domains for researchers investigating several motivation constructs, including self-efficacy, self-competence, and goal orientation. This concern for student motivation in mathematics and science is perhaps understandable for several reasons. First, in a number of these studies, the attention falls on students' perceptions of their ability to perform a given task successfully (i.e., self-efficacy beliefs) or their self-competence (e.g., Pajares & Miller, 1994; Schunk, 1996). The domains of mathematics and science have been characterized as rather well structured and distinguished by problems that are often solved through more formulaic procedures (e.g., Alexander, 1992; Spiro, Feltovich, Jacobson, & Coulson, 1992; Spiro & Jehng, 1990). By presenting students with potentially challenging or demanding problems from these domains (e.g., Nichols, 1996; Pajares, 1996), the researchers are perhaps more likely to bring judgments of capability or competence to the foreground.

Moreover, American students' performance in mathematics and science

has long been regarded as problematic and in need of diagnosis and remediation (Rock, Owings, & Lee, 1994; U.S. Department of Education, 1991). Analysis of the cognitive sources of these performance patterns alone has not lessened the apparent problems (Alexander, Kulikowich, & Schulze, 1994; Pintrich, Marx, & Boyle, 1993). Efforts to understand the motivational dimensions of student learning and development in mathematics and science, therefore, may well shed light on students' learning and development in these troublesome domains.

### *Participants*

The tendency of researchers to target areas of greatest need, as in the case of mathematics and science, may help to explain the trend we observed in the ages and grades of participants in the reviewed studies. To make this determination, we sorted the participants in these studies into five academic units, allowing for multiple classifications within a single investigation. Those five units were primary (Pre-K–grade 3), elementary/middle (grades 4–8), high school (grades 9–12), undergraduate, and graduate. Two academic units dominated the studies we reviewed, accounting for more than 70% of the classifications made. Specifically, we found that the majority of researchers concentrated their efforts either on the motivations of children in the elementary and middle grades (35.7%) or undergraduate students (35.7%). Relatively fewer studies considered very young children (13.1%) or high school students (14.3%), and only one investigation targeted graduate students (1.2%).

The decision to focus on elementary and middle-school students may be a reflection of the reported decline or, in some cases, qualitative changes in their interest in school and their motivation for learning that occurs after the primary grades (Harter, 1996). In fact, when describing the ever-changing adolescent, the Carnegie Council on Adolescent Development (1996) stated:

Adolescence is one of the most fascinating and complex transitions in the life span: a time of accelerated growth and change second only to infancy. . . . Its beginning is associated with profound biological, physical, behavioral, and social transformations that roughly correspond with the move to middle school or junior high. (p. 7)

Thus, concern over vexing trends in academic growth and development may be one catalyst for the density of research studies at the elementary/middle-school levels. For instance, Harter (1981, 1996) found grade-related shifts from a predominantly intrinsic orientation in the 3rd grade to a more extrinsic orientation by the 9th grade. In addition, many motivation researchers have determined that a significant shift from an intrinsic orientation toward school to an extrinsic orientation occurred between the 6th and 7th grades (e.g., Eccles & Midgley, 1988, 1990; Gottfried, 1981; Harter, 1981). Certainly, it

would seem that many researchers are invested in understanding the motivational conditions that underlie this transitional period.

The large frequency of motivation studies that explored achievement motivation among undergraduates seemed to be linked to the specialized domains of learning that the researchers chose. For instance, undergraduate students were the participants in studies that involved psychology (e.g., Kroll & Ford, 1992; Vrugt, 1994), educational psychology (e.g., Grabe, 1994; Greene & Miller, 1996), physics (e.g., Alexander, Kulikowich, & Schulze, 1994), statistics (e.g., Miller, Behrens, Greene, & Newman, 1993; Peterson, 1992), and business (e.g., Mone & Baker, 1992)—content areas that do not generally occur at the elementary or secondary levels. Similarly, the one investigation that centered on graduate students was in the domain of human biology/human immunology (Alexander, Jetton, & Kulikowich, 1995).

Since many of the motivation instruments used in these reviewed studies were self-report measures (e.g., Galloway, Leo, Rogers, & Armstrong, 1995; Klein, Erchul, & Pridemore, 1994; McAllister, 1996), respondents must not only be able to reflect on the issues raised, but must also have the linguistic ability to put those thoughts into words. Consequently, the proportionally fewer studies at the primary grades may relate to the difficulty of measuring such constructs among the very young, who have few relevant experiences to draw upon and limited language facilities (Garner, 1988). Perhaps this explains why individuals invested in the study of achievement motivation within the primary grades seem mainly interested in general motivations, attributions, or goal orientations (e.g., Butler & Newman, 1995; Ehrlich, Kurtz-Costes, & Loridant, 1993; Harter & Jackson, 1992; Kurtz-Costes & Schneider, 1994).

## DEFINITIONAL PATTERNS OF SELECTED TERMS

### *Explicitness of the Charted Definitions*

The first question we considered was the degree to which the researchers in these reviewed studies offered explicit definitions of the targeted motivation terminology. It is our position that explicit definitions of these constructs are preferable to implicit ones that must be deduced from information within the text. Although clues as to the intended meaning of these constructs might be found in certain words or phrases within the text (i.e., conceptual), in the citations used to mark the particular terms (i.e., referential), or in the measures used to assess them (i.e., operational), the onus for defining these terms falls heavily to the reader. If the reader is not firmly grounded in the relevant motivation literature, he or she may be unable to construct a definition compatible with that intended by the researchers. Least desirable in this categorization scheme are undefined terms for which even conceptual, referential, or operational clues concerning their meaning are regrettably absent.

Specifically, in coding the identified literature, we found that 38% of the 20 targeted terms were explicitly defined by the researchers (e.g., Stipek & Gralinski, 1996). This compares to 31% of terms that were implicitly defined and another 31% that were basically undefined. Of those terms that were implicitly defined, 39% were conceptual in form, in contrast to 31% that were referential, and 22.5% that fit the operational category. Approximately 7.5% of the terms in the implicit category were both conceptually and referentially indicated. For instance, to define *mastery goal*, Butler (1993) referred to the work of Ames and Archer (1988). By comparison, Meece and Holt (1993) operationalized the term *motivation* through measurement of student's goals. Overall, it would appear that researchers focusing on these selected achievement motivation constructs were almost as likely to leave key terms undefined as they were to define them explicitly or implicitly.

Interestingly, we were surprised to find that several of the relevant terms in our own writings were only implicitly defined or were not defined at all (Alexander, Jetton, & Kulikowich, 1995; Alexander, Kulikowich, & Schulze, 1994; Alexander, Murphy, et al., 1997; Garner, Alexander, Gillingham, Kulikowich, & Brown, 1991). What makes this particularly noteworthy is that we have written elsewhere of the importance of conceptual clarity in research writings (Alexander et al., 1991; Murphy & Woods, 1996) and had, in effect, assumed that we followed the advice we directed toward others.

### *Exemplars of the Definitional Patterns*

Beyond these general definitional patterns, we wanted to ascertain whether particular terms from our selected listing were more likely to be explicitly defined or left undefined (see Table 2). What we found was that the global motivation terms (e.g., motivation, interest, or attribution) were more likely to go undefined than specific constructs (e.g., performance goal). For instance, 51 of the charted studies in this review used the word *motivation*. Yet, only in 4 (8%) of those occasions was this term explicitly defined (e.g., Ackerman & Woltz, 1994). An implicit definition was provided in 17 (33%) of the studies, whereas no definition was evident in 30 (59%) of the documented cases. Perhaps Pajares and Miller (1994) were correct when they claimed that “[p]eople seldom think about what they mean when they use the term motivation” (p. 156). On the other hand, it could be that researchers are operating under the assumption that readers of this literature will have an adequate understanding of such common terms, making explicit definitions unnecessary.

However, when researchers were dealing with rather specific categories or subcategories of these general terms (e.g., individual and situational interest or mastery and performance goals), they were far more likely to be explicit in their language usage. The term *mastery goal* serves as a case in point. Thirteen of the charted studies made reference to mastery goals (e.g.,

Butler, 1995; McInerney, Roche, McInerney, & Marsh, 1997). Of these, 62% of the researchers included an explicit definition of this construct, while one study (8%) failed to define the term either implicitly or explicitly (i.e., Miserandino, 1996). One catalyst for the greater explication of these specific categories or subcategories of motivation terms seemed to be the researchers' tendency to set one construct against another in discussion and analysis (e.g., intrinsic versus extrinsic motivation). This contrasting or dichotomization may have stimulated the need to be explicit in the way the terms were defined.

Not only was there greater explication of terminology subcategories, but this tendency to unpack broader constructs also resulted in a marked proliferation of motivation terms in the past decade. The one area with the greatest proliferation of such subcategories was that of goal orientations. As we discuss later, it was also in this area that the overlapping and similarity in terminology was most apparent. Although the researchers frequently explicated these terms, their interrelatedness was only occasionally noted. For example, Archer (1994) stated that two types of goals had been identified in the literature. In one type of goal, students are concerned with developing competence and understanding regarding a task or subject, whereas those with the second type of goal are concerned with demonstrating their abilities to others. Archer noted that the former classification of goals has been referred to as *mastery*, *task incentive*, *task-involved*, or *learning goals*; whereas the latter has been referred to as *performance*, *ego incentive*, or *ego-involved goals*. This proliferation of related goal terms was referenced in Urdan and Maehr's (1995) support for the inclusion of social goals in theories of motivation and achievement. Specifically, the authors found it necessary to incorporate the following footnote to their discussion of current goal research:

Task goals have been referred to as "mastery" goals (e.g., Ames, 1984) and "learning goals" (e.g., Dweck & Leggett, 1988). Ability goals have been referred to as "performance" goals (e.g., Ames, 1984; Elliott & Dweck, 1988), "ego" goals (e.g., Nicholls, 1984), and "ego/social" goals (e.g., Meece et al., 1988; Nicholls et al., 1985). (p. 236)

It is important to note that this web of goal terms seems to reflect the programs of research under which they arose. Thus, those electing to speak of "mastery" goals, instead of "task" goals, make an intentional or unintentional linkage to a particular theoretical orientation in motivation in the same way that the choice of "soda," "pop," or "cola," might be a clue to one's regional or sociocultural background. Also, goal research has enjoyed a long history in the motivation literature, which may also account for its conceptual and linguistic diversification. As Eccles et al. (1998) explained, the consideration of goals can at least be traced back to one of the early "grand" theories of motivation, Lewin's field theory (1938). That is, Lewin posited that moti-



vation is the result of tensions or energy created in response to particular goals or needs.

Since his historic work, however, motivation-related goals have been studied in at least two different ways. Specifically, some researchers have chosen to focus on the content of goals (e.g., Ford, 1996; Wentzel, 1991a), while other researchers have investigated individuals' orientations toward goals and the many reasons for pursuing them (e.g., Ames, 1992; Dweck & Leggett, 1988). For instance, Miller, Greene, Montalvo, Ravindran, and Nichols (1996) pointed out that this type of goal has looked at standards for performance. This focus is well illustrated by work in self-efficacy (e.g., Bandura & Schunk, 1981) as well as the emerging work in social goals (e.g., Ford, 1982, 1996; Wentzel, 1991c). Further, these researchers often study the content of goals across different subject matters and sometimes include a multiple-goals perspective. In contrast to this aforementioned case, where a goal refers to some performance standard or objective toward which individuals are aiming their attention and energy, in the mid- to late 1980s, goal-orientation theorists (e.g., Ames & Archer, 1988; Dweck & Leggett, 1988) conceptualized a goal as a reason or purpose for engaging in some learning-oriented activity. Since that time, multiple subcategories of goals have emerged within the goal-orientation literature.

One global term that seems to deviate from the general/specific definitional pattern we observed was the concept of *self-efficacy*. Twenty-one studies we reviewed discussed the construct of self-efficacy, and 50% of those studies included an explicit definition of this term. In only three instances (14%) did the researchers fail to furnish either an implicit or an explicit definition (i.e., Alexander et al., 1997; Guthrie et al., 1996; Seifert, 1995). Further, among those making an implicit reference to self-efficacy, most referenced the writings of Bandura (e.g., 1977, 1986) and Schunk (e.g., 1991).

Several factors may contribute to the rather well-defined nature of this particular term. On the one hand, self-efficacy has a much more recent history within the motivation literature than some of the concepts reviewed (e.g., goals or extrinsic motivation). Also, unlike the goal terms we just described, the lineage of self-efficacy is much clearer. Pajares (1996) acknowledged these two conditions when he stated:

The construct of self-efficacy has a relatively brief history that began with Bandura's (1977) publication of "Self-Efficacy: Toward a Unifying Theory of Behavioral Change." (p. 545)

Moreover, because there has been some debate in the literature as to the place of self-efficacy among such related concepts as *attribution theory* (Graham & Weiner, 1996) and *self-competence* (Pintrich & Schunk, 1996), those investigating self-efficacy may have felt more compelled to be very specific in their language usage to make the assumed distinction more apparent. Cer-

tainly, it would seem that Bandura has gone to great lengths to be very explicit in differentiating *self-efficacy* from other common terms which pertain to perceptions of self (e.g., *perceived self-competence*, Harter, 1996; *task-specific self concept*; Wigfield & Eccles, 1992). For instance, using Bandura's (1986, p. 391) definition as a guide, Pintrich and Schunk (1996) have noted: ". . . the definition of *self-efficacy* includes 'organize and execute courses of action,' which represents the theory's more specific and situational view of perceived competence. . . . A second aspect that distinguishes self-efficacy from self-concept and self competence is that it is used in reference to some goal ('attain designated types of performance,' p. 88)." In essence, by their explicitness, Bandura and others employing his definition (e.g., Moriarty, Douglas, Punch, & Hattie, 1995; Shell, Colvin, & Bruning, 1995; Schunk, 1996) have ensured the clarity and limpidity that characterize this term in the literature we reviewed.

### SUMMARY OF REVIEWED STUDIES

The preceding discussions of the framing variables and the explicitness of reviewed definitions extracted from the studies outlined in Table 2 set the stage for a consideration of central conceptual issues relative to achievement motivation terminology. In summary, those key observations are as follows:

- Several varied, well-established, but related, programs of research exist under the broad rubric of *academic motivation*. These traditions have not only contributed to the growing presence of motivation research, but also help to explain some of the subtle distinctions in and diverse labeling of motivation terminology.
- There has been a proliferation of motivation studies and resulting terminology in the past 5 years. Indeed, the number of motivational terms per study in the reviewed literature almost doubled since 1992. Much of this proliferation of terminology appears attributable to the growth of conceptual subcategories under broader motivation labels, as with the presence of such terms as *mastery*, *performance*, *task-involved*, and *ego-involved goals* under the general heading of *goal orientations*.
- The burgeoning of motivation terminology has contributed to potential confusion in understanding the subtleties and distinctions that may or may not exist between and among families of terms (e.g., *goal orientations*). This potential for confusion is greater for those who do not belong to the community of motivation researchers or who do not understand the traditions from which these families of terms arose.
- Achievement motivation researchers appear most interested in the motivations of upper elementary/middle-school students (grades 4 through 8), especially as they pertain to performance in the domains of mathematics and science.
- Most researchers relied on self-report or self-perception measures to ascertain participants' motivations. Perhaps this is why studies of motivations in very young learners are much more limited in this literature.
- Researchers were as likely to leave key motivation terms undefined as they were to define them explicitly or implicitly.
- With the exception of self-efficacy, broad terms (e.g., *interest*) were frequently left undefined, whereas rather specific terms (e.g., *situational interest* or *individual interest*) were more often explicitly or implicitly articulated by researchers.

## CONCEPTUAL ISSUES

When the specialized lexicon of the motivation literature is considered collectively, as indicative of interrelated programs of research, several perplexing issues or questions surface. Many of these issues, which we have just foreshadowed, have been addressed by motivation researchers in particular (e.g., Ames, 1992; Bong, 1996) and psychologists in general (e.g., Alexander et al., 1991; Bruner, 1990). However, it is again important to bring them to the attention of individuals who seek to incorporate motivation terms in their programs of research. Specifically, from this review of the motivation literature, we wish to consider three significant issues:

- accessibility—the degree to which individuals are presumed to have direct access or deep understanding of these central motivation constructs;
- separability—how dichotomous, unidimensional, and independent such variables are; and
- variability—the degree to which identified constructs represent motivation traits or states.

### *Accessibility*

As far back as James (1890) and Cooley (1983/1902), there have been philosophical debates about the accessibility of one's self-knowledge, which would encompass the motivation variables we have chosen to explore in this review. James believed that the *self* was composed of three parts: the material self (e.g., body, family, or home), the social self (e.g., who we are and how we interact with others), and the spiritual self (e.g., inner or subjective being). Moreover, James believed that an individual could explore these aspects by introspection and observation and that one's personal identity arises from the continuity of the stream of consciousness. The difficulty, however, is that James felt that only some portion of one's self is knowable at any point in time and that even knowing a particular portion was difficult because much of human experience and action takes place at an unconscious level. In fact, as is reflected in the following quote, James believed that much of human action and experience took place at a subconscious level. "Keep your eye on the place aimed at, and your hand will fetch it; think of your hand, and you will likely miss your aim" (James, 1890, p. 520). Both James and Cooley referred to this portion of the self that could be known as the *empirical self*.

As we sought to decipher the language of the motivation literature, it was unclear to us how researchers would judge their success in excavating the "self" and its related constructs. How well do they feel that they are tapping into learners' goal orientations, their perceived competence, or their individual interest, for instance. To what degree do the ratings these researchers receive or the statements they hear accurately reflect the deeply held, pervasive motives, needs, or drives of their participants.

Whether the focal point is self-efficacy, individual interest, or mastery

goals, we found that researchers, at least on the surface, often framed these motivational constructs without noting any limitation, as though they were wholly conscious, accessible, and, thereby, readily testable. That is, one assumption seemingly underlying a segment of this research is that an individual's motives, needs, or goals are explicit knowledge that can be reflected upon and communicated to others (Alexander et al., 1991). Even though we approached the issue of the ability of very young children to understand and communicate their motives, needs, or goals earlier in this review, this present topic extends beyond the youngest of students. Certainly this question of the conscious and accessible nature of motivation constructs can be directed toward any aged learner and to any psychological phenomenon. However, because much of the literature we perused relied on self-report measures without the benefit of behavioral corollaries, and because there was little discussion of the topic of accessibility, we feel that this issue deserves attention.

Recently, motivation researchers have taken up this debate of the conscious or unconscious nature of one's self-knowledge. Epstein (1973, 1994), for example, has argued that much of the self exists in an unconscious state and is manifest in automatic or reflexive processing. To the credit of the researchers represented in this review, we acknowledge that they likely recognize the limits of their measures and approaches to give full voice to such intricate and illusive concepts as those central to this analysis. Even in those cases when researchers made no explicit note of this condition, they frequently spoke in terms of learners' "beliefs" or "perceptions" (Ames, 1984, 1992; Dweck, 1986). Such conditional words may be these researchers' admittance of the restricted access all humans have to their motivations—leaving those who research these critical constructs with a semblance or a suggestion of the phenomenon that lies within. Of course, even these semblances provide educators with significant clues as to the motives and needs that guide human thought and action.

### *Separability*

What does it mean when students are said to be intrinsically or extrinsically motivated, to have mastery goals or task goals, or to have an individual interest in mathematics? Are intrinsic and extrinsic motivations dichotomous conditions, as these studies seem to suggest? Can mastery or task goals really be conceptualized as unidimensional constructs within motivation? Does it make sense to discuss students' individual interests as if they were separate from their goal orientations or their self-efficacy beliefs? Our efforts to understand the specific lexicon of achievement motivation stimulated such questions and stirred such rumblings.

As individuals functioning within an academic realm, it seems unlikely that actions can be simply cast within one oppositional category or another,

whether that category is intrinsic or extrinsic motivation, individual or situational interest, or ego or learning goals. When speaking of the intrinsic/extrinsic dichotomy, Rigby, Deci, Patrick, and Ryan (1992) observed that:

The dichotomous theorizing that pitted learning as a natural, self-initiating process against learning as a conditioning or programming process provided the context within which discussions of intrinsic motivation and extrinsic motivation began. (p. 166)

The authors go on to state that “an unfortunate consequence of such polarized theorizing is that it often creates dichotomies that are overstated and reified” (p. 166). Whether these unfortunate consequences are significant to students’ learning and development, they do appear to have the potential to mislead educational researchers and practitioners. That is, the presence of these dichotomizations may spur educators to see student academic learning and development in oversimplified, “black-and-white” terms, when the motivation reality may more aptly exist in shades of gray (Ames, 1992).

As a case in point, evidence of this dichotomization is also apparent in the goal-orientation research, where performance goals are typically set up against mastery goals in relation to academic performance. The premise of these contrast studies is that certain goal orientations (e.g., performance or ego) translate into negative academic outcomes, whereas alternative orientations (e.g., mastery or learning) provide positive academic results (e.g., Ames, 1992; Bouffard, Boisvert, Vezeau, & Larouche, 1995). The difficulty with operating under this premise is that any complex academic task may well be undertaken to satisfy multiple goals, including recognition from others or enhanced understanding or being helpful to others (e.g., prosocial behaviors; Archer, 1994; Wentzel, 1989). As Miller et al. (1996) stated, at this point “. . . we do not know whether socially based academic goals are empirically distinguishable from other goals such as learning goals” (p. 390). In addition, the very premise that performance or ego goals do not result in academic gains has been called into question (Bong, 1996; Bouffard et al., 1995; Elliott & Dweck, 1988), raising additional doubts about the actual polarization of such goals.

Yet, the complexity within and across these achievement motivation constructs has to do with more than just their polarization. It also pertains to their representation as rather unidimensional, singular entities. Indeed, the proliferation of subcategories for certain terms in this review, most noticeably goal orientations, may be evidence of an increasing sensitivity to the complex, multidimensional nature of most motivational constructs (Bong, 1996). Harter’s (1981, 1985) research, for example, is reflective of this growing awareness. In her examination of self-perceptions and self-competence, Harter worked to unravel these forces and identify the aspects that comprise them. To date, she has identified 5 dimensions in children’s self-perception

profiles (1985), including social acceptance, academic competence, and physical appearance. Adolescent profiles (Harter, 1986) consisted of 8 dimensions (e.g., job competence and friendships), as compared to 12 dimensions for undergraduates' self-perceptions (Neeman & Harter, 1986). Thus, what Harter and her colleagues have done is investigate the general trends and changes in students' self-competence as they develop through their school years. In addition, she has investigated what we have referred to, in our own work, as phases (e.g., Alexander, 1997). That is, she has explored how students' self-competence at a given grade or age might be affected positively or negatively by various sociocontextual factors. Certainly, paying heed to both the more distinct life-span-like changes as well as the phase-like changes of self-competence affords a more complete picture of this important construct.

Even the unpacking of the construct of interest into individual and situational aspects demonstrates the multidimensional character of the more superordinate term interest. Moreover, the research in this area reveals one advantage to this conceptual unraveling. To be more specific, when researchers have studied the relationship between interest and academic learning, the outcomes they reported often appeared contradictory or nonsignificant (Tobias, 1994). Only when interest was treated as two interacting components (i.e., situational and individual) was the pattern in these results made clearer (Alexander, 1997; Alexander et al., 1995). These emerging patterns further indicated that the dimensions of interest could at times work in harmony to facilitate learning, as when an academic task was found to be not only stimulating or pleasurable, but also relevant to the learners' deep-seated interests. At other times, however, situational and individual interest could well operate in conflict, as when a student's need for immediate pleasure or arousal was stronger than any personal involvement with the topic or task at hand.

Building on this illustration of the interplay between individual and situational interest, we come to another quandary. As is evident in the prior discussions of interest and goal orientations, it is difficult to deal with one motivation construct without invoking the name of another. Our own research in domain learning serves as a case in point (Alexander, 1997; Alexander, Kulikowich, & Schulze, 1994; Alexander & Murphy, 1998a). It almost seems that the deeper we have delved into understanding the role of interest in academic development, the more often we have needed to speak about learners' *goals*, their *intrinsic* or *extrinsic motivations*, and their sense of *competence*. Similarly, in our charting of achievement-motivation terms, we rarely encountered a study that did not define, illustrate, or elaborate its central constructs by mentioning related motivation terms. This pattern suggests that there is little true independence among achievement-motivation constructs. Instead, there is a great deal of interrelationship among them.

This theme of interdependence versus dependence is not restricted to our

20 selected motivation terms, however. We have found that individuals' motivations are also impacted by various cognitive and strategic factors. For instance, we have found strong relationships between students' interests and their subject-matter knowledge and between their strategic efforts and their reported interest in the domain under study (Alexander, Kulikowich, & Schulze, 1994). Other researchers have reported interrelationships between motivation and nonmotivation factors. For instance, Kreitler, Zigler, Kagan, Olsen, Weissler, and Kreitler (1995) examined the roles of cognitive and motivational variables on disadvantaged children's academic achievement. They found that both sets of variables significantly predicted achievement. What these cases suggest to us is that the treatment of motivation constructs as truly independent variables must be held suspect.

### *Variability*

When we go back to what Eccles et al. (1998) labeled the "grand" theories of motivation (i.e., psychoanalytic theory, field theory, and behavioral/drive theory), we find that much of that early research focused on motivation traits. That is, these researchers sought to identify the rather stable patterns in individuals' motives, needs, and drives that remained consistent across situations and across time. Such a trait perspective, or at least the semblance of one, however, did not end with these early grand theories, but can still be found in contemporary motivation research (Eccles et al., 1998; Pintrich & Schunk, 1996). In fact, in 1992, *Motivation and Emotion* dedicated a special issue to the exploration of trait versus nontrait conceptualizations of intrinsic and extrinsic motivation. Among the articles, Harter and Jackson (1992) found that, when given the option, many students indicated that their particular orientation (i.e., intrinsic or extrinsic) was strongly related to the particular academic domain. In response to this finding, these researchers stated, "Our analysis highlights the more general point that inferences concerning the trait-like nature of constructs must be carefully examined in light of the measurement strategy adopted, as well as the empirical distribution of scores that are generated by a given approach" (p. 223).

Similarly, in the research on goal orientation, we are given the impression that one's stance toward academic tasks constitutes a stable, enduring characteristic of his or her personality. For instance, Silva and Nicholls (1993) explicitly define ego and task-goal orientations as "general traits that cut across domains" (p. 282). The very selection of the term *orientation* reinforces this impression and belies any dynamic, state-like quality to one's academic goals. So, those students with ego goals manifest more concern for the opinions of others than the knowledge or skills they may gain from task engagement (Whang & Hancock, 1994). Moreover, this orientation to the task is considered characteristic of students regardless of the task or domain they are presented.

In recent years, however, there has been some movement away from a

strong trait-like perspective in the motivation literature and toward a more domain-specific viewpoint (Alexander, Murphy, & Kulikowich, 1998; Harter, 1996; Pintrich, 1994). The frequent attention to particular academic domains in this review is reflective of this growing interest in domain-specific motivations. In effect, students' interests, self-efficacy beliefs, goals, and the like are seen to vary depending on whether the task domain is mathematics, science, reading, or history. The task specificity inherent in definitions of self-efficacy (e.g., Bandura & Schunk, 1981; Garcia & Pintrich, 1996; Schunk & Swartz, 1993) and interest (e.g., Alexander et al., 1995; Schiefele, 1996; Schraw & Dennison, 1994) have, in many ways, been catalysts for this progression from general to more domain-specific assessments of achievement motivation. However, while the transition to more domain-specific investigations of achievement motivation is a step or two away from strict trait views of motivation constructs, the degree to which researchers have embraced more dynamic, state views remains disputable. For example, two investigations in this review explicitly addressed the trait/state issue (Albin, Benton, & Khramtsova, 1996; Benton et al., 1995). In these studies, the researchers assigned trait qualities to the variable of individual interest, whereas situational interest was conceptualized as more state-like.

Another reason for our puzzlement about the trait/state nature of these motivation constructs pertains to the way in which investigations are conducted and implications for practice derived. For instance, in her discussion of goals and classroom structures, Ames (1992) noted that the nature of the task, evaluations, recognition, and authority dimensions of the learning environment, which are elements of the classroom structure, can significantly influence children's orientations toward achievement goals. We find this same premise mirrored in other investigations of goals where instructional conditions are manipulated to affect students' orientations (e.g., Meece et al., 1988; Nichols, 1996; Nichols & Miller, 1994). For instance, Nichols and Miller attempted to alter students' goal orientations toward Algebra II by placing them in cooperative learning settings where they worked in groups rather than the traditional lecture style. In both studies, Nichols found that students in the cooperative treatment groups exhibited significantly greater gains in learning-goal orientations. Such an approach, however, is paradoxical.<sup>1</sup> On the one hand, if students' goal orientations are truly orientations (i.e., motivational traits), then it is unclear what effect any manipulation of the instructional context should have on them. On the other hand, if sociocontextual factors have the power to transform students' perspectives on academic tasks, then it seems unlikely that the researchers are dealing with a motivational trait.

<sup>1</sup> We are indebted to Kathryn Wentzel for this suggestion regarding the sociocontextual influences on presumed goal orientations.



## CONCLUSIONS AND IMPLICATIONS

Prior to considering the implications of this review for instructional practice and for educational theory and research, we again acknowledge the delimitations and limitations of this endeavor. Among the constraints we have placed on this analysis of the motivation literature was our decision to focus on terminology that was specifically linked to academic outcomes (e.g., grades or test performance), domains (e.g., mathematics or educational psychology), or tasks (e.g., comprehending expository text or solving a word problem). Moreover, we chose to restrict our search of the literature to motivation lexicon that has appeared, with some regularity, in the research on academic learning and development. This decision led us to exclude several lines of motivational research, including the growing literature in self-regulation (Zimmerman & Pons, 1992) and expectancy–value theory (Wigfield & Eccles, 1992). Likewise, we did not attempt to be exhaustive in our physical search of journals, confining ourselves to 17 outlets. We also elected to exclude particular bodies of work that centered on concepts we saw as wide-ranging in scope or as bridging several prominent programs of motivation research, such as expectancy–value theory. The presence of several thorough reviews in these areas reinforced our decision to refrain from incorporating them in this analysis. Finally, our overarching goal was to consider the nature of the selected terminology. We did not extend our analysis to the specific outcomes or results that have been associated with these selected constructs. Others, far more expert in this domain than we, have taken it upon themselves to analyze and summarize trends in such results (e.g., Eccles et al., 1998; Graham & Weiner, 1996; Wentzel, 1991c).

Although some may have preferred an exhaustive analysis of the literature, such an undertaking would have been daunting and unfeasible, especially for researchers whose primary research affiliation is outside the realm of motivation. Perhaps the fact that we are seeking to make sense of a body of research that is different from, but related to, our own is what makes this review unique. Such an effort may help to avoid what Phillips has described as the “sterility of . . . compartmentalization” (1996, p. 1006). Others within the motivation community may well perceive this conceptual terminology with a different eye. That remains to be seen. What we do offer is an analysis of the literature from the perspective of individuals who see value in this body of work and who wish to enhance our own programs of research with well-chosen and well-defined constructs that are mainstays in the research on motivation.

### *Implications for Instructional Practice*

Even in light of these various delimitations and limitations, this synthesis of key achievement motivation terminology leads us to certain implications

for instructional practice. Perhaps the most compelling perception that arises from this exploration is the number of motivational constructs significantly linked to students' academic growth and development. From intrinsic motivation or self-efficacy to individual interest, there appears to be an array of noncognitive forces that should be considered as teachers seek to create effective learning environments that move students forward toward competence or proficiency. Yet, this realization brings with it several questions about the way in which instructional practice may need to be formed or transformed to energize these positive motivation forces. For instance, as the language of motivation begins to permeate the discourse of instructional practice, will teachers view these constructs as unmalleable traits that only serve to sort and categorize learners or to rationalize their current educational progress or the lack thereof? Or will these teachers see these constructs as motivational dimensions that are susceptible to instructional intervention?

If teachers come to believe that they can indeed impact students' motivational orientations or states (Ames, 1992; Blumenfeld, 1992), what instructional strategies are more likely to bring about optimal motivation? For instance, should teachers specifically aim their efforts at altering a particular motivation construct (e.g., self-efficacy or individual interest) or the conditions that might give rise to it (e.g., academic success or domain-specific knowledge)? With regard to these various constructs, what configuration of achievement motivations should be expected in highly successful students and how should these profiles transform over the course of students' educational careers? That is, should teachers expect that students have a consistent motivational profile throughout their schooling, or should students become increasingly more intrinsically motivated, self-efficacious, or individually interested as they move through the grades?

Finally, as we consider the complexities and subtleties in this array of achievement motivation constructs, we must wonder whether the fine distinctions in terminology that fuel the various programs of research we encountered and that instigated this review have value to practitioners. That is to say, what level of sophistication in motivation terminology should teachers possess to best serve their students? How valuable is it for practicing teachers to distinguish between self-efficacy and attributions or between ego and mastery goals? At this point, this question cannot be answered from the literature synthesized in this review.

### *Implications for Educational Theory and Research*

Our personal agenda in engaging in this extensive review was to gain a deeper and clearer understanding of the myriad of motivational terms that pertain to academic learning and development. For individuals, like us, who wish to infuse the concepts and insights of the motivation community into our own research programs, issues such as the clarity of definitions and the

relatively fine distinctions between terms are important concerns. Just finding our way through the maze of goal terms was quite an undertaking. However, we must accept that this issue of conceptual clarity may not be as critical to some within the motivation community as it appears to be for others (e.g., Bong, 1996; Pintrich, 1994), especially if clarity requires an abandonment of program-specific vernacular. In effect, when a motivation expert reads the term *learning goal* or *self-efficacy*, he or she is probably cognizant that the research comes from the lineages of Ames and Bandura, respectively. The careful choice of the term *learning* instead of *mastery* to mark a particular category of goal is, therefore, a brand of theoretical ownership—what Phillips (1996) calls one's root metaphor. Trying to find common terminology ground, as we might wish and as some have attempted (e.g., Meece et al., 1988; Meece & Holt, 1993), may be undesirable under this condition.

While we do not wish to advocate an increase in the motivation terminology, there were certain terms that our experts considered important that were not well represented in the empirical works we reviewed. Specifically, we found no mention of self-schema in this body of work and only limited reference to agency and social goals. Several factors may explain this discrepancy. First, these may be relatively new areas of research that are only beginning to make their way into mainstream educational journals, such as those that we examined. Second, it is possible that much of the discussion of these constructs remains at the more general, theoretical level, especially given their recent history. Of course, it may simply be the case that we failed to identify the body of empirical work on self-schema, agency, and social goals that populate the literature. Indeed, as Wentzel (personal communication, 1998) noted, social goals have more often been investigated in relation to social competence rather than academic achievement, and such studies are frequently published in the developmental literature.

One interesting fact that struck us in our charting of these achievement-motivation constructs was that most of the research we reviewed was conducted by American researchers studying American students. Moreover, virtually all of the literature represented a Western philosophical orientation. This is certainly understandable, especially given the volumes that we searched. However, it gave us reason to pause and to reflect on whether the conclusions and implications that educators draw from this rich literature can be generalized to a broader sociocultural population. For instance, are the successful students in other cultures also those who are mastery oriented and intrinsically motivated? Does the conception of social goals carry a different connotation to those raised in non-Western traditions? Such questions can only be answered through programs of cross-cultural motivation studies.

Finally, as we suggested in our discussion of instructional practice, we do not seem to have a comprehensive picture of students' motivations as they manifest across their educational careers. Although our focus in this review

has been on individual terms that anchor this important literature, we feel that such an integrated, systemic, and longitudinal perspective on these critical constructs is warranted. Only in this way can we hope to learn more about how various achievement motivation constructs may work in concert or in conflict within classrooms; how learners' motivation orientations or states are colored or shaped by cognitive, physical, and sociocultural forces or vice versa; or how the course of motivation may change across the life span. Such an ambitious agenda not only requires that researchers consider alternative methodologies and diverse perspectives, but it also necessitates that motivation researchers, and those in other research communities, join forces for what would undoubtedly be a challenging, albeit worthwhile, excursion into learning and development.

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