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Toward a More Complete Picture of Student Learning: Assessing Students' Motivational Beliefs

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The purpose of this article is to provide an overview of the assessment of students' motivational beliefs. The body of the article is focused on a particular type of motivational belief, namely, beliefs involving achievement goal orientations. I explain why these beliefs are an important aspect of academic learning, and suggest how teachers can incorporate assessments of them within existing classroom routines.

Educational theorists have argued that there is much more to learning than the "cold" processing of information (Pintrich, Marx, & Boyle, 1993). Learning also involves the cultivation of adaptive motivational beliefs. To the extent that students develop adaptive motivational beliefs, they are more likely to seek out challenges, take risks, persist in the face of difficulty, and ultimately demonstrate higher levels of achievement. Given the relationship between motivational beliefs and subsequent academic outcomes, teachers need to ensure that they are monitoring this component of student motivation as part of their overall assessment of students.

The purpose of this article is to provide an overview of what is meant by motivational beliefs, explain why these beliefs are an important aspect of academic learning, and discuss how teachers can incorporate assessments of these beliefs in their pre-existing classroom routines.

What are Motivational Beliefs?

Over the past 15 years, one of the most active areas of research on students' motivational beliefs has been the investigation of achievement goal orientations. Goal orientations are students' reasons for engaging in or avoiding achievement-directed behavior. These goal orientations are important because they serve as the basis for how students define their own competence (Pintrich & Schunk, 2002). Students' goal orientations are context-sensitive and can be influenced by classroom procedures, practices, and policies (Ames, 1992).

Researchers have distinguished two types of goal orientations, typically labeled *mastery goals* and *performance goals*. Recently, motivational theorists have further distinguished achievement goal orientations to highlight how each has an *approach* and *avoidance* component (Elliot, 1999). The following three configurations of goal orientations have received the most attention in the research literature: *mastery-approach goals*, *performance-avoid goals*, and *performance-approach goals*.

Students who have *mastery-approach goals* define competence in terms of self-improvement and self-set standards. When engaged in achievement-directed behavior, they focus on learning, skill development, creativity, and understanding. The empirical evidence suggests that when students approach achievement tasks with a mastery orientation, they experience a variety of desirable outcomes: enhanced interest in learning, more positive attitudes toward learning, viewing of errors as informational, attribution of failure to lack of effort (rather than lack of ability), academic engagement and effort, perseverance in the face of challenges, more risk-taking, and asking for assistance when needed (Pintrich & Schunk, 2002).

Students holding *performance-avoid goals*, on the other hand, are focused on avoiding looking dumb, stupid, or less able than other students. Students with these goals are concerned with protecting their self-worth at all costs. Consequently they are more likely to engage in self-sabotaging behaviors, such as cheating, avoiding help when they need it, and withdrawing effort (Urdu, Ryan, Anderman, Gheen, 2002). In addition to self-sabotaging behaviors, this maladaptive set of motivational beliefs has been linked to a variety of undesirable outcomes. For example, students who have performance-avoid goals are more likely to view errors as indicating a lack of ability, experience high levels of anxiety, exert less effort, place less value on tasks, give up in the face of difficulty, and ultimately demonstrate lower levels of achievement (Pintrich & Schunk, 2002).

Finally, students holding *performance-approach goals* engage in achievement behaviors for the purpose of demonstrating their ability, besting others, and obtaining recognition (Pintrich & Schunk, 2002). Students with a performance-approach orientation define competence in relation to others (e.g., getting the highest grade).

The empirical evidence for outcomes associated with performance-approach goals is less clear than that of mastery-approach and performance-avoid goals. For example, researchers have found a link between performance-approach

goals and desirable outcomes, such as high levels of performance and achievement as measured by grades. However, the results on other outcomes are less favorable. For example, a performance-approach goal orientation has been linked to anxiety during evaluation (see Elliot, 1999; Pintrich & Schunk, 2002 for an overview). Given these mixed outcomes, some researchers feel that general statements linking performance-approach goals with positive achievement outcomes are not yet warranted.

In short, scholars have come to recognize that students have varying combinations of achievement goals. Researchers therefore have been busily examining combinations of goal orientations, across varying contexts, to determine which pattern of goal orientations are most optimal in particular situations. At this point, it is safe to say that a mastery goal orientation leads to generally desirable achievement outcomes for students, whereas a performance-avoidance goal orientation leads to maladaptive beliefs and outcomes.

Why Are Students' Motivational Beliefs Important?

Because achievement goal orientations influence academic outcomes, it is important that teachers monitor and cultivate adaptive motivational beliefs in their students. Besides being a means to enhancing academic achievement, cultivating adaptive goal orientations is a worthwhile instructional goal in and of itself. Stiggins (2001) explains, "*We cannot separate affect and achievement from one another in the classroom.* As teachers, we must know how to help students develop academically empowering dispositions" (p. 340, emphasis in original). Stiggins is not alone in this view. Researchers, here and abroad (e.g., Segers, Dochy, & Eduardo, 2003), have been developing new modes of assessment that take into consideration the relationship between students' motivational beliefs and academic achievement.

A few examples will serve to illustrate why classroom teachers need to monitor students' goal orientations when evaluating the success of their instructional efforts. Consider a teacher who relies heavily on timed skill and drill worksheets to improve students' standardized test scores in math. Even though test scores might initially increase, students who once held an adaptive goal orientation toward math may now feel pressured to succeed, fear they can no longer be successful at math, and do everything they can to avoid looking "dumb" (e.g., engage in cheating or some form of self-sabotage). In rendering a judgment of whether the instructional approach was a success, we would need to weigh the negative impact on students' achievement goal orientations against the positive gains in test scores. Conversely, consider how favorable an outcome it would be for a student who, after spending a year in a teacher's classroom, feels like – for the first time in her academic career – she can be successful in science, personally values the topic, and wants to understand and learn more.

Not surprisingly, researchers (Ames, 1992; Pintrich & Schunk, 2002) have found that the classroom environment has a powerful influence on students' motivational beliefs. Teachers should, therefore, continually monitor how their classroom procedures and activities influence students' achievement goal orientations. This is particularly important when it comes to classroom evaluation procedures. Motivational theorists (Ames, 1992; Pintrich & Schunk, 2002) maintain that the way in which students are evaluated has a strong influence on the goal orientations they adopt.

By including the assessment of students' goal orientations in their evaluations, teachers communicate to students that positive motivation beliefs are valued. In doing so, they are actually supporting the development of such beliefs in students (Ames, 1992; Pintrich & Schunk, 2002). In addition, assessments of students' goal orientations provide teachers with important information they can use in formative evaluations of their own teaching. Based on this information, teachers can make necessary and timely adjustments to their instructional practices and thereby support students' academic learning.

How can Teachers Assess Students' Motivational Beliefs?

The last thing teachers want is yet another responsibility to add to an already overflowing plate of expectations and demands on their time. Fortunately, methods for assessing students' motivational beliefs can be incorporated into pre-existing instructional strategies and assessment practices. The following is a brief overview of methods for assessing student motivational beliefs that teachers can incorporate into their pre-existing routines (see also Anderson & Bourke, 2000; Chapman, 2003; Pintrich & Schunk, 2002; Stiggins, 2001).

Observations. Teachers routinely make observations of their students' behavior. During any given lesson, teachers are watching for behavioral signs that students are paying attention, not disrupting others, and behaving within the guidelines of class expectations. By being aware of and focusing on specific motivational behaviors, teachers can incorporate the assessment of motivational beliefs into these pre-existing observational routines.

For example, teachers might assign a challenging in-class assignment just beyond their students' current ability level. By observing whether students are willing to seek help when they are experiencing difficulty, teachers may be able to infer the goal orientations held by their students. For instance, students holding a performance-avoid goal orientation would be expected to avoid asking for help, fearing that their help seeking might be perceived as sign that they are less capable than other students. Unfortunately, the research evidence suggests that "the very students who need help the most seek it the least, and a performance goal orientation exacerbates the situation" (Urduan, Ryan, Anderman, & Gheen, 2002, p. 68). To the extent that teachers can infer maladaptive beliefs from observing their students' achievement behavior, the more likely they will be able to intervene and encourage more adaptive beliefs and

behaviors.

Of course, inferences based on observations of student behavior can be incorrect. However, when conducted judiciously, observations of students' effort, persistence, and avoidance behaviors can provide useful insights. According to Pintrich and Schunk (2002), "these behaviors are valid indicators of motivation to the extent that they are straightforward and involve little inference on the part of observers" (p. 15). Still, given the wide array of alternative explanations for student behaviors (e.g., feeling ill, distracted by out-of-school concerns, fatigue), inferences made about student motivation beliefs need to be validated by comparing them with other indicators of motivation (e.g., multiple samples of student work, surveys, assessment conversations, and so on).

Questionnaires. Paper-and-pencil questionnaires are the most popular and efficient way to assess students' goal orientations. Students typically are provided with a list of statements about their achievement-goal beliefs and are asked to indicate their level of agreement with these statements by circling one of various possible choices (e.g., *strongly disagree, disagree, agree, or strongly agree*). Teachers can get ideas for writing items from examining sample items in Elliot (1999), Pintrich & Schunk (2002), Stipek (1998), Urdan, et al. (2002), and related sources. The following are sample items representing different achievement goal orientations (items with a plus sign represent a mastery orientation and items with minus sign represent a performance-avoid orientation):

- *Making mistakes is part of learning (+)*
- *I want to learn as much as possible from this science experiment (+)*
- *Its important that I keep trying, even if I make mistakes (+)*
- *I just want to avoid doing poorly in this class (-)*
- *When I don't understand my math assignment, I often guess instead of asking someone for help (-)*
- *I am afraid if I ask questions I will look "dumb" (-)*

Younger students can be read more simplified statements and asked to indicate their agreement by circling one of several emoticons (i.e., smiling face, ambivalent face, frowning face). Teachers can summarize the data to get a sense of the motivational beliefs held by the class in general (e.g., percentage of students holding a mastery goal orientation), subgroups of the class (e.g., potential differences in goal orientations between girls and boys), and individual students (e.g., Johnny avoids sharing his answers in class discussions because he worries that others will think he is "dumb").

Goal-orientation questionnaires can be used as a non-graded measure of student learning. For example, a teacher can administer a brief questionnaire at the start of a math unit to quickly assess students' goal orientations and then pass out a similar assessment at the end of the unit to determine whether there have been any changes. Stiggins (2001) suggests that when using such questionnaires, teachers need to carefully explain to students why they are being asked these questions and that an honest answer is what teachers are looking for rather than a "right answer." Even when the purpose is carefully explained, students may still provide socially desirable responses rather than accurate responses, that is, responses they think their teacher wants to hear (Pintrich & Schunk, 2002; Stiggins, 2001). Therefore, teachers should consider occasionally using questionnaires that maintain the anonymity of students.

In summary, even though questionnaires have their limitations (e.g., socially desirable responses or invalid responses from young students not understanding the question), they can still yield reliable and accurate indications of students' motivational beliefs if used with care and in conjunction with other measures (Pintrich & Schunk, 2002).

Class discussions. Teachers often use class discussions to assess students' pre-existing, current, and changing knowledge. For example, a popular assessment conversation technique teachers use is the K-W-L chart (Ogle, 1986). The letters K, W, and L represent the following questions: *What do you already know?* *What do you want to know?* *What did you learn?* At the start of a new lesson or instructional unit, the teacher writes the letters K, W, and L on a large piece of construction paper and asks students to share what they already know about the topic and what they would like to learn. The teacher explains that following the lesson (or instructional unit), the class will return to the K-W-L chart to discuss what was learned as well as what students may still want to learn.

By simply elaborating on this pre-existing technique, teachers can incorporate motivational belief questions such as: *Are you interested in this topic? Do you think this topic is important? What goals do you have for this lesson? Having completed this lesson, are you interested in learning more?*

Using class discussions in this way allows teachers to develop a general sense of their students' achievement goals. However, given that individual students may be reluctant to share their actual motivational beliefs in a group setting, teachers should consider using more direct forms of assessment (e.g., one-on-one conversations) when attempting to understand the motivational beliefs of a particular student. Taking a few moments to visit with a student can provide meaningful insights into that student's achievement goals. As a result, teachers can get a more fine-tuned sense of the motivational beliefs of their students. They can then use this information to create learning environments that further support and cultivate adaptive motivation beliefs (see Ames, 1992; Pintrich & Schunk, 2002; and Stipek, 1998).

In summary, when assessing students' goal orientations, regardless of method, teachers need to use the same level of care and consideration as they would when assessing students' academic ability. Stiggins' (2001) cautions that many people wrongly assume that just because they are assessing motivational beliefs the principles of sound assessment can be disregarded. Issues of reliability and accuracy still apply. While it is beyond the scope of this article to address these issues, teachers should at the very least use multiple methods across multiple instances when assessing motivational beliefs. As with all assessment, no single method is sufficient.

Finally, teachers should avoid basing grades on motivational beliefs. Although students' motivational beliefs should be monitored and feedback provided in an effort to encourage the development of adaptive goal orientations, students should not be further penalized by receiving low marks for holding performance-avoidance goals or other maladaptive motivational beliefs.

Conclusion

The central message of recent research on student motivation is clear: students' motivational beliefs matter. To the extent that teachers take this message to heart and start incorporating students' motivational beliefs in their assessments and acting on the assessment data, the greater the likelihood that students will experience academic success.

A variety of accessible resources, written specifically for teachers, provide a much more extensive treatment of the concepts presented in this article. These resources present specific strategies, tools, and techniques for monitoring and supporting healthy motivational beliefs. For example, teachers interested in developing a deeper understanding of student motivation can turn to Paul Pintrich's and Dale Schunk's *Motivation in Education: Theory, Research, and Applications* or Deborah Stipek's *Motivation to Learn: From Theory to Practice*. Teachers interested in developing techniques for assessing student motivation will find Lorin Anderson's and Sid Bourke's *Assessing Affective Characteristics in Schools* and Richard Stiggins' *Student-involved classroom assessment* particularly useful. Elaine Chapman's *Alternative Approaches to Assessing Student Engagement Rates* provides an overview of methods that can be used to assess student engagement – a motivational factor associated with students' achievement goal orientations. (Complete citations for each source can be found in the reference section of this article.)

Teachers have both the opportunity and the responsibility for cultivating healthy motivational beliefs in their students. By fostering beliefs grounded in positive goal orientations, teachers will increase the likelihood that their classroom will be a dynamic, high achieving learning environment.

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