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Toward a Model of the Value Aspects of Motivation in Education: Developing Appreciation for Particular Learning Domains and Activities

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Currently well-developed lines of theory and research on motivation in education focus on its expectancy aspects, especially as they apply in achievement situations that call for striving to attain specific goals. This article considers concepts and principles that might be included in a model that addresses the value/interest/appreciation aspects of motivated learning, including learning in exploratory situations that do not require focused achievement striving. Featured concepts and principles include an optimal match between the learning opportunity and the learner's prior knowledge and experiences, learner identification with or perception of self-relevance of the learning domain, curricular choices that feature content and activities that lie within both the cognitive and the motivational zones of proximal development, and teacher scaffolding of learners' exposure to the domain in ways that build motivational schemas that enable learners to appreciate the domain's value and experience its satisfactions.

This article suggests concepts and principles that might be included in a theoretical model that could guide efforts to develop the value (as opposed to the expectancy) aspects of human motivation, particularly motivation to engage in domain-specific learning activities. The model is intended to inform theory and research relating to the acquisition and nurturance of interest in, appreciation for, or continuing motivation to pursue particular topics or genres of cognitive experiences related to content-area learning.

THE NEED FOR MORE ATTENTION TO THE VALUE/INTEREST/APPRECIATION ASPECTS OF MOTIVATION

There have been remarkable developments in theory and research on motivation in education, but we currently know much more about motivation in some situations than in others. In particular, we know a lot about motivation in achievement situations in which one is striving to accomplish clear goals and one's relative success or failure in doing so is assessed with reference to standards of excellence. However, we know much less about motivation in potential learning situations that do not involve seeking to achieve explicitly delineated goals. When engaged in primarily intrinsically motivated activities (e.g., when reading a self-selected book related to one's interests), expanding or deepening one's learning may be an implicit goal, along with other goals such as experiencing pleasure, appreciating the author's artistry, critiquing the author's arguments, or looking for ideas that one might use in one's work. However, one is not studying to prepare for a test or reach some mastery criterion, so this is not an achievement situation (as usually defined). We need more attention to these potential learning situations that involve lifelong or at least sustained engagement in particular interest areas, which often lead to the development of expertise.

In primarily intrinsically motivated learning situations, the value aspects of motivation are more salient to the learner than the expectancy aspects. That is, the person is focused on engaging in the activity in the way that he or she intended, so as to derive the expected benefits from doing so, without feeling any pressure to produce a performance that meets some standard of excellence and without making success–failure assessments or attributions. Currently, we know a lot about the expectancy aspects of motivation. We know, for example, that the person's sense of efficacy or expectations for success connect with related causal attributions for success and failure, emphasis on learning versus performance goals, selection of strategies for accomplishing the task and managing failure and frustration, and so on (see Table 1). However, we

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TABLE 1
General Dispositions, Situational Codes, Subjective Experiences, and Response Strategies Relating to the Expectancy Aspects of Motivation in Achievement Situations

Productive–Adaptive Alternatives	*Unproductive–Maladaptive Alternatives*
General Dispositions	
• Perceived effort-outcome covariation	• Perceived lack of covariation
• Internal locus of control	• External locus of control
• Concept of self as origin	• Concept of self as pawn
• Incremental theory of ability	• Entity theory of ability
• Outcomes attributed to internal and controllable causes	• Outcomes attributed to external or uncontrollable causes
• Perceived self-efficacy	• Perceived lack of efficacy
Situational Goals/Focus	
• Learning, mastery goals	• Performance–failure avoidance goals only
• Focus on task	• Focus on ego, self-worth protection
• Seek to acquire knowledge, skill	• Seek to earn reward or avoid punishment
• Seek optimal challenges, flow experiences	• Seek to minimize risk of failure
Subjective Experiences and Coping Responses	
If success is achieved easily:	
• Complete task, integrate learning	• Complete task, feel relieved or reinforced
• Attribute success to sufficient ability plus reasonable effort	• Attribute success to ability alone or to ability plus external, uncontrollable causes
If difficulties are encountered:	
• Continued focus on task	• Task focus invaded by self or ego concerns
• Continued emphasis on deep-processing strategies	• Increased reliance on surface-level strategies
• Calm, analytic problem solving	• Increasingly anxious, frustrated
• Sustained confidence	• Fear of failure, plunging confidence, eventual learned helplessness
If success is not achieved:	
• Attribute failure to remediable deficits in knowledge, strategy selection, or effort	• Attribute failure to fixed limitations in ability
• Seek to acquire needed knowledge and skill, eventually reach mastery	• Seek to avoid such tasks if possible; otherwise, defend against perception of incompetence or at least hide one's incompetence from others

Note. From *Motivating Students to Learn* (p. 58), by J. Brophy, 1998, Boston: McGraw-Hill. Copyright 1998 by McGraw-Hill. Adapted with permission.

know much less about the value/interest/appreciation aspects of motivation (how people's attitudes toward and beliefs about the nature of domain-specific learning activities connect with their intrinsic motivation to engage in these activities, their ideas about the benefits they might derive from such engagement, and so on). Consider the following examples:

1. Two seemingly similar students in the same classroom have the same exposure to the same potential learning experience (hearing or reading a selection from a storybook or history text; watching a video that dramatizes a story or depicts a historical event). As a result of this experience, one of the students gets "turned on" to that literary genre or historical era, but the other does not. Why?

2. A teacher wants to teach *King Lear* (or the U.S. Constitution, or photosynthesis) in ways that motivate students not only to remember key ideas but to appreciate Shakespeare (or civics, or biology), value it, and seek to learn more about it on their own.

What motivational concepts or principles might help us to explain Example 1 or formulate good advice to the teacher in Example 2? The current knowledge base in motivation in education doesn't take us very far in addressing these questions. We do know that the content and learning activities will have to be matched to the learners' cognitive levels and otherwise be meaningful to them, that a supportive and collegial social context is desirable, and that extrinsic pressures or incentives should not be used in ways that undermine intrinsic motivation. We also know that preexisting interest in a topic can lead to deeper processing and better retention of new information about the topic, although we know much less about how to induce and nurture such interest if it is not already present.

Most other principles derived from leading motivational theories tend to be much more useful for addressing the expectancy aspects of motivation than the value aspects, even when they make reference to the value aspects. For example, achievement motivation theorists and goal theorists include value concepts but tend to limit them to the value that people place on the extrinsic rewards that they expect to obtain from succeeding at a task, without considering the value they may place on engaging in the processes involved in doing the task or on any intrinsic benefits they may expect to derive from such task engagement. Furthermore, achievement motivation and goal theory concepts do not apply well to potential learn-

ing situations that are not achievement situations that call for striving to attain clear goals.

Csikszentmihalyi's (1993) concept of flow richly describes peak experiences of intrinsic motivation, but his descriptions of flow-promoting situations focus on the importance of an optimal match between the challenge level of the task and the person's developing skills. This is useful as far as it goes but doesn't explain why people seek flow experiences in certain domains but not others. Even Deci and Ryan (1994), two of the leading intrinsic motivation theorists, focus their attention on the degree to which learning situations support learners' needs for competence, autonomy, and relatedness. These principles have more to say about the social context in which learning takes place than about the domain or activity involved in the learning, except for the proviso that the task should be at an optimal level of challenge for the learner (so as to support the learner's competence needs).

Attribution theory has rich potential for application to the kinds of questions addressed in this article, because along with investigating learners' attributional thinking concerning causes for success or failure, one could explore their attributional thinking concerning their reasons for engaging in the activity in the first place (e.g., Why do I seek or avoid opportunities to learn about history? What does learning about history do or fail to do for me?). So far, however, applications of attribution theory to motivation in education have concentrated almost exclusively on attributional thinking related to explanations for success or failure in achievement situations.

In summary, the best developed lines of theory and research on motivation in education are not sufficient for explaining how learners may come to value particular learning domains or activities or how teachers might stimulate the development of such value. They are useful for identifying parameters within which such value may be nurtured: Concepts and principles from existing models remind us that intrinsic motivation in a learning domain is unlikely to thrive when the task is too difficult for the learner, when the learner feels pressured or threatened in the learning situation, and so on. Other concepts and principles are needed, however, to explain individual and situational differences in the kinds of intrinsic motivation to learn that are developed when these boundary conditions are met. In the classroom context, the question becomes, given situational conditions that create a supportive social context and optimize the expectancy aspects of motivation, what features of the learning domain or activity affect the value aspects, and how might these features be configured or adjusted so as to encourage students not only to seek to accomplish the learning goals but also to appreciate the value of what they are doing and learning?

The remainder of this article outlines some principles that might emerge as components in a model of the value aspects of motivation in education. First, I identify two principles concerning the relations between the learner and the learning situation that need to be in place to set the stage for motivated learning. Then I suggest modifications of commonly emphasized curricular and instructional guidelines that appear needed to ensure that school learning situations are optimized with respect to their motivational as well as their cognitive features.

TWO KEY FEATURES OF MOTIVATIONALLY OPTIMAL LEARNING SITUATIONS

So far I have noted that, along with key features that might be identified from a learning and cognition standpoint, an optimal classroom learning situation will feature a supportive social context (a learning community that encourages students to adopt learning goals rather than performance goals) and optimally challenging content and learning activities. I hypothesize that this model needs to be extended to indicate that, to encourage intrinsically motivated learning, optimal learning situations also will feature (a) a motivationally optimal match with the learner's current characteristics and (b) content and activities that are currently perceived, or at least have the potential to become perceived, as relevant to the learner's personal identity or agendas.

Optimal Matching (The Motivational Zone of Proximal Development)

Models of cognitive development and learning typically include a readiness principle. At minimum, learners must be ready for a task. That is, they must already be able to do what the task requires or else be able to develop these abilities in the process of engaging in it. Refinements of this principle are expressed as *optimal match* concepts, suggesting that the best tasks are neither too easy nor too difficult for the learner. Sociocultural educational models extend this idea to include the role of the teacher in optimizing the match, because mediation (via modeling, coaching, and scaffolding) by a teacher can make a task that lies within the zone of proximal development appropriate as a context for mentor-guided learning, when the task might have been too difficult as a context for self-guided learning (Tharp & Gallimore, 1988).

Similar concepts are needed in the motivational sphere. First, we need a principle of motivational readiness or optimal match that postulates that the features of a learning domain or activity must line up with the learner's prior knowledge and experiences in such a way as to stimulate interest in pursuing the learning. This would occur when the domain or activity is familiar enough to the learner to be recognizable as a learning opportunity and attractive enough to interest the learner in pursuing it. It would not occur if the activity were overly familiar to the point that the learner had become satiated with it (at least temporarily), if it were so unfamiliar that the learner could not understand or appreciate its potential value, or if the learner's prior experiences with it had been unrewarding.

A motivational principle of this kind might provide at least part of the explanation for individual differences such as those illustrated in Example 1. In addition, where we could identify group differences in prior knowledge or experience that may have created parallel group differences in motivational readiness to respond to particular learning opportunities, optimal match notions also would help us to understand age, gender, social class, ethnic, and cultural differences in motivational patterns.

To complement the optimal motivational match concept, we also need a motivational analog of the zone of proximal development concept to incorporate the idea that classroom teachers or other mentors can help learners begin to see the value in potential learning opportunities that they have not yet come to appreciate (and might never come to appreciate) on their own. Motivationally effective teachers make school learning experiences meaningful for students not only in the cognitive sense (enabling the students to learn the content with understanding) but also in the motivational sense (enabling them to appreciate its value, particularly its potential applications in their lives outside of school).

In summary, the classroom learning situation is optimal from a motivational standpoint when it features curricular content and learning activities that are well matched to the learner's current characteristics because they are either (a) already familiar to the learners and valued as learning opportunities worth pursuing or (b) less familiar to or valued by the learners but nevertheless within their motivational zones of proximal development, so that the learners can begin to value them if the teacher mediates their learning experiences effectively. Learning situations representing contrasting theoretical intersections between the cognitive and the motivational zones of proximal development are illustrated in Table 2.

Identification/Self-Relevance Perceptions

To explain group and individual differences in the initiation and development of sustained interests and appreciations, we also need concepts that describe the "task attraction" or "rewarding experience" elements of the optimal match described previously. Eccles and Wigfield (1985) suggested that subjective task value has three major components: (a) attainment value (the importance of attaining success on the task to affirm our self-concept or fulfill our needs for achievement, power, or prestige), (b) intrinsic or interest value (the enjoyment that we get from engaging in the task), and (c) utility value (the role that engaging in the task may play in advancing our career or helping us to reach other larger goals). This is a useful classification scheme, although for applications to the classroom I would expand it slightly to emphasize certain appreciation aspects of student motivation to learn in the domains emphasized in school curricula. A broadened version would include experiencing the satisfaction of achieving understanding or mastering a skill under attainment value, developing aesthetic appreciation of the content or skill under intrinsic value, and gaining awareness of the role of the learning in improving the quality of one's life or making one a better person under utility value.

Several lines of theory and research suggest that matches between learners' perceptions of themselves and their perceptions of learning opportunities have strong potential for fueling motivation to learn. At minimum, learners must per-

TABLE 2
Theoretical Schematic: Intersections of the Cognitive and Motivational Readiness Dimensions, Including the Zones of Proximal Development

	Above the Motivational ZPD[a]	*Within the Motivational ZPD*[b]	*Below the Motivational ZPD*[c]
Above the cognitive ZPD (not yet able to learn)	Potential learning goal is beyond the learners' current cognitive and motivational capacities, even with mediation.	Mediation could help learners appreciate the value of the potential learning goal, but could not overcome current limitations in their cognitive capacities.	Learners already appreciate the value of the domain, but attainment of the potential learning goal is beyond their current cognitive capacities, even with mediation.
Within the cognitive ZPD (able to learn with mediation)	Mediation could help learners attain the potential learning goal, but could not overcome current limitations in their capacities for coming to appreciate the learning domain.	The learning goal lies within both the cognitive and the motivational ZPDs, so effective mediation should produce learning and appreciation.	Learners already appreciate the value of the domain and could attain the potential learning goal with effective mediation.
Below the cognitive ZPD (has learned already)	Learners already have attained the learning goal via rote processes, but they are not yet ready to appreciate the value of this learning domain, even with mediation.	Learners already have attained the learning goal via rote processes, and they could learn to appreciate the value of the learning domain with effective mediation.	Learners already have attained the learning goal as meaningful learning within a context of appreciation for the value of the learning domain.

Note. ZPD = zone of proximal development.
[a]Not yet able to appreciate. [b]Can learn to appreciate with mediation. [c]Appreciates already.

ceive some relevance of the potential learning opportunity to their personal agendas. Better yet, they should respond to the potential learning situation in a more personal or intense fashion—in effect, saying to themselves "I am that," "I want to do that," "This is for me," and so on.

The concept of identification should be useful here—construed to include not only identification with a person or model but also identification with an interest area or genre of knowledge or skill (hereafter called a learning domain). Lawrence Kohlberg (1966) used the latter identification concept in his gender-role identification theory: As toddlers and young children become aware that they are either boys or girls, they become motivated to explore what this means and to identify with anything (e.g., types of clothing, toys, developmental tasks, or recreation activities) that they come to perceive as linked to their own gender. That is, boys tend to develop preferences for and motivation to pursue "male" interests, and girls, "female" interests.

Also potentially useful here are various self-concepts, including ideal selves or possible selves. As children develop, their self-concepts become more salient and better articulated, and these begin to spawn self-relevance perceptions that may apply to any aspect of life. To the extent that self-relevance perceptions become attached to particular learning domains or activities, they may begin to guide learners' decision making regarding the potential value of learning situations.

The concepts of identification and self-relevance perceptions should prove useful for understanding group and individual differences in responses to learning domains and activities. For example, they might help to explain gender differences in responses to mathematics and science versus poetry and literature, as well as racial or ethnic differences in responses to contrasting treatments of history, social studies, and the humanities. These concepts also would be useful for understanding certain age-related phenomena such as children's motivational readiness for the next Disney movie or teenagers' identification with "their" music, lingo, clothing styles, and so on. (For more on this point, see Bergin, 1999.)

More generally, the concepts of identification and self-relevance perceptions should help explain any situation in which people make "me" versus "not me" decisions about a potential interest area and follow up accordingly. Other useful concepts might include the notion of identity exploration as developed by Erikson (1968), the concept of role ascription as used in sociology, and various concepts used in research on the learning or adoption of values, such as the stages of internalization described by Deci and Ryan (1994) as steps toward intrinsic motivation.

In summary, location of a learning opportunity within or below the learners' motivational zones of proximal development makes it possible for them to come to appreciate the value of the learning. The development of such appreciation becomes much more likely, however, to the extent that the learners perceive some relevance of the learning to their personal agendas. Ideally, learners will respond to the learning opportunity in a personal or intense fashion—in effect, saying to themselves, "I am that," "I want to do that," "This is for me," and so on. If the learners do not identify with the learning so intensely, they should at least perceive it as self-relevant. If self-relevance is not already obvious to the learners, the teacher will need to mediate the learning in such a way that desired self-relevance perceptions are developed.

CURRICULUM CONTENT AND INSTRUCTIONAL METHODS AS CONTRIBUTORS TO MOTIVATIONALLY OPTIMAL LEARNING SITUATIONS

The previous section implies that motivation to learn may be optimized when the learning goals and activities either already are perceived as self-relevant or can become so perceived because they lie within the learners' motivational zones of proximal development. Educational policymakers, curriculum developers, and (most directly) teachers have the potential to create motivationally optimal learning situations by developing optimal curricula and bringing them to life in the classroom using optimal instructional methods.

Curriculum: Teach Content That is Worth Learning and Develop This Content in Ways That Help Students to Appreciate its Value

To provide a rational basis for helping students perceive self-relevance to what they are learning and to appreciate its potential applications in their personal lives, the curriculum needs to focus on content that is at least potentially relevant to students and applicable to their lives outside of school. Curriculum theorists generally identify three major sources of curriculum: *society* (the knowledge, skills, values, and dispositions that the society would like to see developed in its young people); the *learners* (their prior knowledge and experiences and current needs and interests); and *knowledge of enduring value* (including but not limited to the disciplines). I believe that there is wisdom in this notion, so that curricula are likely to show consistent emphasis on content worth learning only when they are developed with attention to all three of these curriculum sources, not just one or two of them. Furthermore, such curriculum development needs to be guided by clear curricular purposes and goals, phrased in terms of student outcomes. This kind of goal-oriented curriculum development leads to instructional programs in which all elements—content sources and representations, discussion questions, activities, assignments, and assessment methods—are included because they are considered useful as means for helping students to attain the learning outcomes that represent the programs' goals.

When instructional planning is guided by worthwhile purposes and goals, curricula will feature content that students

can appreciate as worthwhile and activities that they can appreciate as authentic. This will enable teachers to understand not only what to teach but also why what they teach is important for their students to learn. This will put them in position to help students learn with awareness of each lesson or activity's purposes and goals. In summary, basic motivational principles suggest that everything included in a curriculum should be included because it is worth learning for reasons that can be understood by the learners, and these reasons should be emphasized in introducing the content and scaffolding the activities that will be used to develop learning.

Curricula developed in this goal-oriented fashion will consist of coherent networks of connected content structured around powerful ideas. These powerful ideas will be developed in sufficient depth to promote deep understanding of their meanings and connections, appreciation of their significance, and exploration of their applications to life outside of school. As much as possible, learning will occur through engagement in authentic activities that require using what is being learned for accomplishing the very sorts of life applications that justify inclusion of this learning in the curriculum in the first place. In these and other respects, the instructional program will feature principles commonly displayed by programs that have been developed to teach school subjects in ways that create connected understandings of powerful ideas rather than broad but shallow coverage of mostly disconnected content (Good & Brophy, 1995, 1997). These principles are summarized in Table 3.

Scaffolding Students' Appreciation of Their Learning (Building Motivated Learning Schemas)

Creating motivationally optimized learning situations requires attention to both curriculum and instruction. A goal-oriented curriculum is crucial because unless there are good reasons for learning something and authentic activities to use as vehicles for developing this learning, there is no basis for appreciating the learning. Instructional aspects are crucial as well, however, because optimally mediated learning experiences raise students' consciousness of the purposes and goals of each learning activity and help them to build schemas that will enable them to learn with understanding, appreciation, and life applications (and thus to derive the motivational benefits as well as the knowledge and skill benefits that the learning activities are designed to develop). Relations between learning goals, zones of proximal development, curricular choices, and teacher mediation of students' learning experiences are illustrated in Table 4.

Much of what we teach in school, especially in the humanities and social sciences, is primarily cognitive rather than perceptual or sensorimotor and often is relatively abstract and complex. Consequently, so are the aesthetic and other forms of satisfaction that may be experienced in learning this content, as well as the processes involved in applying it to life outside of school.

Given the complexities of the learning and applications involved, it seems likely that only the brightest and most dedicated students will experience the satisfactions and acquire the application potentials that are inherent in school learning opportunities unless we do a better job of building these outcomes into our instructional goals. This is why, instead of talking just about teaching school subjects for understanding, I prefer to talk about teaching them for understanding, appreciation, and life application.

I include the term *appreciation* to connote that students should not merely understand what they are learning but value it because they realize that there are good reasons for learning it. These reasons include not only practical applications but ways that the learning might enrich the learners' rep-

TABLE 3
Teaching for Understanding: 10 Key Features

1. The curriculum is designed to equip students with knowledge, skills, values, and dispositions that they will find useful both inside and outside of school.
2. Instructional goals emphasize developing student expertise within an application context and with emphasis on conceptual understanding of knowledge and self-regulated application of skills.
3. The curriculum balances breadth with depth by addressing limited content but developing this content sufficiently to foster conceptual understanding.
4. The content is organized around a limited set of powerful ideas (basic understandings and principles).
5. The teacher's role is not just to present information but also to scaffold and respond to students' learning efforts.
6. The students' role is not just to absorb or copy input but also to actively make sense and construct meaning.
7. Students' prior knowledge about the topic is elicited and used as a starting place for instruction, which builds on accurate prior knowledge and stimulates conceptual change if necessary.
8. Activities and assignments feature tasks that call for critical thinking or problem solving, not just memory or reproduction.
9. Higher order thinking skills are not taught as a separate skills curriculum. Instead, they are developed in the process of teaching subject-matter knowledge within application contexts that call for students to relate what they are learning to their lives outside of school by thinking critically or creatively about it or by using it to solve problems or make decisions.
10. The teacher creates a social environment in the classroom that could be described as a learning community featuring discourse or dialogue designed to promote understanding.

Note. From *Looking in Classrooms* (7th ed., pp. 408–409), by T. Good & J. Brophy, 1997, New York: Longman. Copyright 1997 by Longman. Adapted with permission.

TABLE 4
Theoretical Schematic: Planning Curriculum and Instruction for Cognitively and Motivationally Optimal Learning

Goals: Identify knowledge, skill, attitude, value, and dispositional outcomes most worth developing (in this domain).

ZPD filters: Identify potential learning goals that lie within the learners' cognitive ZPDs and are either below or within their motivational ZPDs.

Curricular choices: Within ZPD guidelines, choose content that optimally blends all three curriculum sources (society's needs, learners' current capacities, and knowledge of enduring values) and focus on authentic activities that provide a basis for learning for understanding, appreciation, and life application.

Mediation: Model, coach, and scaffold in ways that help learners both to acquire meaningful understandings and to value this learning as self-relevant and applicable to life outside of school.

Note. ZPD = zone of proximal development.

ertoires of insights and appreciations or otherwise enhance the quality of their inner lives. I include the term *life application* as a reminder that students should experience authentic activities that will enable them to apply what they are learning to their lives outside of school. Many so-called application exercises do not qualify as authentic activities because they are too artificial to be very useful as preparation for genuine applications. Also, many activities that are considered authentic from the perspectives of the disciplines that inform school subjects are not authentic from the motivational perspective emphasized here.

For example, many mathematics (or history, science, etc.) educators consider any activity to be authentic as long as it engages students in discipline-based problem solving or other activities that involve doing what mathematicians (or historians, scientists, etc.) do. From a motivational perspective, many of these activities are not authentic because the content and problems involved are so far removed from everyday life that they have life application potential only for specialists in the discipline. To put this another way, most of the potential life applications of school subjects involve acting as consumers–appliers of discipline-based knowledge, not acting as disciplinarians engaged in producing such knowledge.

The notion of learning with understanding, appreciation, and attention to life applications implies much more than mere interest in a topic, and it includes cognitive strategies and metacognitive control components along with affective components. I find it helpful to view this kind of motivated learning as a *schema* (or, if you prefer, a family of related schemas)—a network of connected insights, skills, values, and dispositions that enable students to understand what it means to engage in academic activities with the intention of accomplishing their learning goals and with awareness of the strategies they use in attempting to do so. The total schema cannot be taught directly, although some of its cognitive and skills components can. In addition, its value and dispositional components can be stimulated and supported through modeling and communication of attitudes, beliefs, values, expectations, and related dispositions to action.

Like other schemas, motivated learning schemas differ on dimensions such as generic versus situation specific or sketchy, and uncertain versus well developed, elaborated, and coordinated. The schemas that are most instantly accessible and usable for guiding information processing and problem solving tend to be domain or situation specific—part of a pattern of expertise based on a rich accumulation of prior knowledge and experience. In short, experts know their way around the domain and are able to immediately begin systematic exploration of new exposures to the domain by activating well-developed and integrated schemas, whereas novices must grope for clues as to what the domain is all about, what cues are significant, and how to proceed.

I believe that these principles apply as much to the motivational aspects of learning as to the information-processing aspects. Students who are ignorant (or misled) about a learning domain (e.g., studying dramatic plays in language arts) may be unable to generate much appreciation for the domain because they are unable to see its potential. Lacking concepts (e.g., foreshadowing, Achilles' heel) and strategies (analyzing plot developments and making predictions based on them, noting clues to characters' personal strengths and flaws) to guide their information processing, students without much prior knowledge or development of schemas for studying plays are not yet able to experience many of the insights and satisfactions that such study offers. Even those who appreciate the play as a story (rather than merely as "stuff" to be memorized for a test) may not find much personal relevance in it unless they have learned, for example, to identify with dramatic characters and think about how they (the students) might act in parallel situations.

The point here is that learners may need to develop relatively elaborated schemas that include motivational as well as cognitive components before they can engage in abstract and complex learning activities with appreciation (not just learning) goals and can experience some of the satisfaction or other intrinsic reward potential that the learning opportunity offers. I believe that our theorizing about intrinsically motivated learning, especially the kind of learning that occurs in school, needs to accommodate these schematic notions. Similar ideas

have been expressed by Markus and Nurius (1986) in writing about the implications of being schematic versus aschematic in imagining one's possible selves in various domains and by Middleton and Toluk (1999) in writing about motivation as a basis for adaptive decision making.

Students do not need much motivational scaffolding to induce them to begin motivated learning of primarily physical skills such as certain sports and recreation activities. Relatively brief observation of models playing kickball, Ping-Pong, pinball, or simple computer games may be enough to convey a basic sense of the nature of the activity, how to engage in it, and what kinds of rewards or satisfactions to expect. However, much more extensive scaffolding may be required to bring students even to such initial levels of readiness to appreciate certain academic content and learning activities, especially as the curriculum moves away from basic skills. In the case of relatively advanced content in the humanities and social studies, intrinsically motivated learning may not become possible for most students unless teachers provide sufficient scaffolding to enable these students to begin to appreciate the potential value in the domain and begin to explore it in ways that enable them to experience its satisfactions.

In summary, to explain the acquisition of new values or interests in domain-specific activities, we probably need a concept something like *scaffolded appreciation.* This concept would imply that motivated functioning in the domain is schema driven. For some activities mere exposure may be sufficient to stimulate rapid development of needed schemas, because the novice can observe what is involved in carrying out the activity and can "see the point to it" immediately. For many other activities, however, especially in cognitive domains like those taught in school, a mentor would need to scaffold novices' exposures so as to provide a "take" or entry point that will allow them to experience activities in the domain as meaningful and satisfying. Both in the selection of learning domains and activities in which to engage learners and in the choice of scaffolding strategies used to guide that engagement, the mentor's work would need to be guided by motivational goals as well as learning goals.

These ideas about how teachers might scaffold students' appreciation of what they are learning and help students to develop motivated learning schemas might seem novel at first, but fundamentally they are just classroom applications of well-established principles of socialization or sociocultural learning. Ideas about the nature of oneself and about what kinds of experiences are likely to be self-enhancing usually are not acquired primarily through introspection or self-guided development of insight. Instead, people, especially children, acquire most of their self-referenced attitudes, beliefs, expectations, and dispositions to action through exposure to socializing influences. Socializing influences include direct instruction in knowledge or skills and communication of related values, beliefs, and expectations by parents, teachers, and other mentors; modeling (not only of behaviors but of related attitudes and beliefs) by people whom one observes (especially people with whom one identifies); and general cultural norms communicated by family members, peers, social institutions, and the media.

These socializing influences convey expectations not only about how people (in general and in various categories such as man or woman; child, teenager, or adult, etc.) should act but also about how they should think and feel. This includes attitudes and beliefs about the nature of learning experiences in general and in particular content domains—whom these learning experiences are meant for, whether they are enjoyable or worth pursuing, and if so, what one will get out of them. Depending on the extent and nature of their prior sociocultural learning experiences, particular learners (e.g., high school students) might view a potential learning experience (e.g., upcoming study of *King Lear*) with counterproductive attitudes and beliefs (Shakespeare is boring, difficult, and "not for me"), with productive attitudes and beliefs (Shakespeare is well worth studying for his gripping plots, rich characterizations, and deep insights into the human condition, and *King Lear* is considered one of his masterpieces), or with no strongly formed attitudes and only vague beliefs (Shakespeare is supposed to be a great playwright, but he wrote a long time ago, so I wonder if I will like the play). The latter students will develop clearer attitudes and beliefs through their experiences during the unit, including both the input they receive from their teacher and classmates and their own emergent responses as they read and discuss the play.

Many different concepts and related bodies of theory could be brought to bear in developing hypotheses about the kinds of instructional methods that might help students to appreciate what they are learning and to develop motivated learning schemas. However, given that I have construed these appreciations and schemas as acquired primarily through sociocultural learning and talked about nurturing them within a motivational zone of proximal development, I stick with sociocultural terms and speak of the teacher as a mentor mediating the motivated learning of student novices. Other authors have noted potential extensions of sociocultural learning theory to other motivational issues (Blumenfeld, 1992; Hickey, 1997; McCaslin & Good, 1996), but I focus here on extending it to address issues involved in helping students come to value a learning domain or activity.

Sociocultural theorists typically speak of mediation of learning being accomplished through modeling, coaching, and scaffolding processes. These processes usually are defined and exemplified in ways that focus on the cognitive aspects of teaching and learning, but their definitions easily can be extended to address the motivational aspects.

Modeling. Teachers and other mentors can induce and nurture the development of intrinsic motivation to learn by socializing as they instruct in the domains that they address. One powerful socializing mechanism is modeling, particu-

larly cognitive modeling that includes overt verbalization of the thinking that guides one's behavior when engaged in an activity. From a motivational standpoint, ideal modeling of engagement in a potential learning activity (e.g., reading *King Lear*) would communicate not just the strategies used to accomplish whatever tasks need to be accomplished (e.g., becoming able to answer questions about the plot, characterization, etc.) but also the thoughts and feelings involved in savoring the experience and enjoying the aesthetic satisfactions that it offers (e.g., making connections between characterization and plot elements depicted in the play and parallel elements in one's own life or experiences, putting oneself in the place of Lear and thinking about how one might handle the dilemmas he faced, etc.).

Other forms of socialization (besides modeling) are also helpful, notably direct instruction and other verbal communication designed to induce positive attitudes, beliefs, and expectations about the learning domain. However, these methods merely tell students that worthwhile experiences await them if they pursue the domain. Cognitive modeling, in contrast, shows them what these experiences look and feel like.

Recent research has shown that systematic modeling and related socialization by teachers can induce parallel motivational orientations in their students. For example, Middleton (1995) found that students' responses to questions about what makes mathematics intrinsically motivating reflected the beliefs of their teachers (e.g., one teacher's belief that the key to motivating students is to assign easy work vs. another's belief that the key is to engage them in life applications). Also, Mitchell (1993), following up on ideas originally introduced by John Dewey, distinguished between merely catching students' interest and holding their interest in ways that lead to accomplishment of significant learning goals. Mitchell found that indirect methods such as presenting students with brain teasers or puzzles, allowing them to work with computers, or allowing them to work in groups were effective for catching but not necessarily for holding students' interest in mathematical learning activities. Holding of interest was associated with mathematical content development that reflected the principle of meaningfulness (students could appreciate the content's applications to their lives outside of school) and instructional methods that reflected the principle of involvement (students spent most of their time engaged in active learning and application activities, not just watching and listening). Other recent research also suggests the value of personally involving students in learning and especially in authentic activities that enable them to see how the learning can be applied in their lives outside of school (Anand & Ross, 1987; Cordova & Lepper, 1996; Hidi & Baird, 1988).

In summary, research literature illustrates the power of teaching through modeling, especially modeling that includes overt verbalization of the usually covert self-talk that guides one's generation and implementation of task engagement strategies. To this I would only add the point mentioned earlier in the *King Lear* example: Cognitive modeling should convey not only the strategies needed to meet the demands of the task but also the aesthetic experiences, personal satisfactions, celebrations of new insights, pleasures taken in familiar recognitions, and other manifestations of what it looks and feels like to engage in the activity with intrinsic motivation to learn.

Coaching. Similar extensions would apply to our thinking about coaching. Preparatory instruction, hints and cues given to guide students' task responses, as well as feedback given following such responses should not only communicate information about what to do or avoid doing but also convey enthusiasm for the activity, help students to experience the satisfactions that it offers, and stimulate appreciation of the nature and progress of their learning. Appreciation-oriented coaching would help students to take satisfactions in, develop connections among, or draw implications from their insights as they learn (e.g., by cuing them to think about key aspects of the personalities or motives of the characters in the play, complimenting them on the insights they have developed about these characters, or inviting them to speculate about what these insights portend about the outcome of the drama or tell us about what Shakespeare was saying about the human condition).

Scaffolding. Mentors also scaffold novices' development of expertise in a domain, gradually transferring responsibility for guiding learning to the novices as their expertise develops. So far, theory and research about scaffolding has focused on its role in helping learners acquire the skills needed to complete particular tasks successfully and begin to handle them independently. However, scaffolding also can be construed to include developing learners' capacities for valuing and deriving satisfactions from the learning domain or activity (gradually transferring responsibility for managing these motivational aspects of task engagement to the learners as they acquire the capacities for doing so). This kind of motivational scaffolding would begin with selecting appropriate learning activities in which to engage students in the first place, then following through by introducing them in ways that inform students about the activities' purposes and about what students can expect to get out of them, providing coaching that includes making statements or asking questions that draw students' attention to aspects of the learning experience from which they can take satisfaction (i.e., helping the students to appreciate the activity's "affordances"), and providing feedback that stimulates students not only to recognize but also to appreciate their developing expertise. Such appreciation-oriented feedback provides not just knowledge of results but also commentary on noteworthy qualitative features of the learners' responses or accomplishments, especially features that suggest developing interests or talents that might be pursued further. Where appropriate, this might be fol-

lowed up with questions to learners about why they chose the general approach that they chose or how they might improve or elaborate on what they have accomplished so far. These and related forms of scaffolding help communicate in subtle ways the notion that the learner not only is doing something worthwhile but doing it in ways that represent seriousness of purpose, growth in knowledge or craftsmanship, aesthetic qualities that reflect the learner's individuality, and so on. Table 5 illustrates how modeling, coaching, and feedback provided in the process of mediating or scaffolding students' learning experiences can address the motivational as well as the cognitive aspects of learning.

QUALIFICATIONS AND LIMITATIONS

I have argued that the potential for motivationally optimal learning situations exists when learning goals and activities are either already perceived as self-relevant or can become so perceived because they lie within the learners' motivational zones of proximal development. I have argued further that the potential that these optimal learning situations create for intrinsically motivated learning will be exploited most fully when teachers focus their curricula on content that is most worth learning and mediate the students' engagement with that content in ways that build motivated learning schemas by scaffolding the students' appreciation of the value of what they are learning.

Several qualifications and limitations on these arguments should be noted. First, these ideas are meant to complement, not replace, ideas drawn from the literature on expectancy-value theory, attribution theory, self-efficacy theory, goal theory, intrinsic motivation theory, and other sources that have contributed well-validated principles for establishing supportive learning communities and addressing the expectancy aspects of motivation. Development of theory and research connected to the arguments advanced in this article should extend our knowledge about motivation in education by helping us to understand how students may come to value the learning potential in content domains and learning activities that are emphasized in school curricula (i.e., not just to enjoy engaging in the activities because they are fun or provide opportunities to interact with one's friends but to value the knowledge or skills being developed).

Second, the causal relations postulated in these arguments are assumed to function probabilistically, not automatically. I am arguing that, if high school students' exposure to *King Lear* is mediated along the lines suggested in this article, more of the students will come to value studying this play (and Shakespeare generally) than would have otherwise and that among these students, perceptions of the self-relevance and potential life application value of studying Shakespeare are likely to become more solidified and multifaceted than they would have otherwise. However, I am not suggesting that all of the students in the class will become Shakespeare buffs. Clearly, the motivational forces initiated and sustained by even optimal mediation of *King Lear* will have to compete with other motivational forces linked to students' multiple needs and agendas; imperfect zone of proximal development fits will occur because a single teacher has to deal with 20 or more students who may have quite different needs and interests; time, resource, or policy constraints may force teachers to offer what they view as a compromise rather than an ideal exposure to the play; and a myriad of other complicating factors.

Finally, to date, these remain theoretical arguments, untested through research designed to do so. Until such research has been done and has yielded positive results, the arguments developed here must be regarded as hypotheses rather than as established principles.

TABLE 5
Theoretical Schematic: Scaffolding Both the Cognitive and the Motivational Aspects of Optimal Learning

Cognitive Aspects	*Motivational Aspects*
Modeling	
Convey key ideas and model strategies for learning these ideas and using them to accomplish authentic applications.	Convey reasons why this is worth learning, when and why we use it, and how it looks and feels when we do (verbalize self-monitoring and appreciation of growth in one's own knowledge, artistry, craftsmanship, etc.)
Coaching	
Cue attention to key foci at each step in the learning process; use questions or reminders to help learners negotiate the process and overcome temporary confusion or misdirected efforts.	Provide goal reminders and cues to next steps in the process in ways that develop learners' appreciation for the learning domain and for their own development of domain-specific knowledge and skill.
Feedback	
Provide timely feedback about correctness of response; explain reasons for errors and how to avoid or correct them; build capacity for self-monitoring and evaluation.	Provide feedback that calls learners' attention to developments in their knowledge or skill, ability to anticipate and prevent problems, or make corrections smoothly; signs of artistry or craftsmanship in their work; or unique "signature" elements indicative of their personal style of operating in this domain.

CONCLUSION

I do not see a need to restate the entire set of arguments, but I would like to reemphasize two key points. First, as a field of research and scholarship, motivation in education could use more attention to the value aspects of motivated learning. Especially needed are strategies for helping students come to value what they are learning for its perceived self-relevance and potential life application (not just to enjoy the activities in which they are engaged). Second, even those aspects of the school curriculum that are well worth learning may not become valued as such by students unless their exposure to them is designed to connect with their motivational zones of proximal development and is mediated in ways that scaffold not only their learning but their appreciation of what they learn.

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