

Personal Competency

A Framework for Building Students' Capacity to Learn

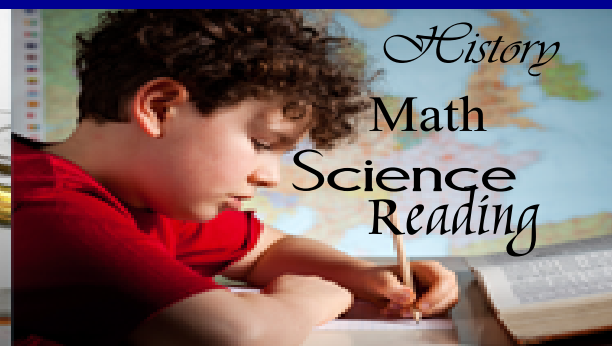
Social/Emotional

Metacognitive

Personal Competencies

Cognitive

Motivational



Sam Redding

Center on Innovations in Learning



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Sam Redding

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Personal Competency Framework

A student's capacity to learn grows naturally through the experience of schooling, just as a rogue stalk of corn will sprout from an unattended seed, stretching toward the sun. Like a plant that is watered and nurtured, however, a student's capacity to learn will burst forth when teachers feed its roots. Personal competencies are the roots, the sturdy propellants of learning. They lie below the surface and too often receive insufficient nourishment. Their effects are evident in the student's mastery of knowledge and skills, but the knowledge and skills are the green leaves that we see and not the deep roots that produce them.

A chief purpose of schooling is for students to master the knowledge and skills contained in the curriculum. Schools, however, can also intentionally build students' personal competencies that are necessary for success in school, the purposeful navigation of life's challenges, and the pursuit of personal interests and ambitions. A personal competency is an ever-evolving accumulation of related capabilities that facilitate learning and other forms of goal attainment. Four personal competencies are particularly salient: cognitive competency, metacognitive competency, motivational competency, and social/emotional competency. These personal competencies can be enhanced through instruction and by example, as part of the academic curriculum, in extracurricular programs, and through engagement of families. They include their own specific clusters of knowledge and skills as well as values, attitudes, and learning habits (patterns of behavior).

An expanded goal for education includes intentional enhancement of personal competencies as well as mastery of the curriculum's specific knowledge and skills. Note that competencies are enhanced while knowledge and skills are mastered. Mastery assumes criteria for determining whether specific learning objectives are met at any point in time, such as for a student of a certain age or grade level. Bloom's taxonomies, and their later revisions, (Bloom & Krathwohl, 1956; Krathwohl, Bloom,

By intentionally building students' personal competencies and learning habits, teachers contribute to the students' ability to learn. The personal competencies are malleable, and they are enhanced most effectively when given focus in the curriculum, school culture, and instructional practices.

A student is presented with a learning **challenge**, either self-selected or assigned, and the student **determines** to set the challenge as a goal and to persist until the goal is **achieved**.

& Masia, 1973) and state curriculum standards provide organizational structures for categorizing knowledge and skills. Within these structures, content is added (the curriculum), and assessments gauge mastery. Elements of the four personal competencies are typically scattered about the curriculum's scope of knowledge and skills, and are thus subject to an assessment of their mastery. However, the competencies themselves are not often defined and operationalized within the standard curriculum or school program.

In asserting a higher profile for personal competencies in our goals for education, a personal competency framework is in order and defining its key components is necessary, especially given their interrelationship to one another. In our Personal Competency Framework, we use terms that may have different meanings in different contexts, so it is good to define them here.

- *Mastery* is a marker, the demonstration of specific knowledge and/or skill according to objective criteria.
- *Competence* is the possession of a sufficient degree of knowledge and skill to perform a functional role. I am a competent reader, a competent typist, a competent mechanic, a competent teacher, or a competent father.
- *Competency*, on the other hand, is not a marker, end state, or a level of capability but a general and evolving accumulation of related capabilities that facilitate learning and other forms of goal attainment.

A student may *master* the knowledge and skill required to add two numbers, thus meeting objectives for this function. That is one tiny incremental step toward *competence* in mathematics. The student employs the four *competencies* in achieving mastery. In fact, mastery of addition incrementally reinforces all the competencies for learning (cognitive, metacognitive, motivational, and social/emotional) and strengthens the patterns of behavior through which the competencies combine to reach a new learning goal, such as mastery of multiplication.

The elements of a Personal Competency Framework, as proposed here, are:

1. **Personal Competencies:**

Cognitive Competency—prior learning that organizes the mind and provides associations and understanding to facilitate new learning

Metacognitive Competency—self-regulation of learning and use of learning strategies

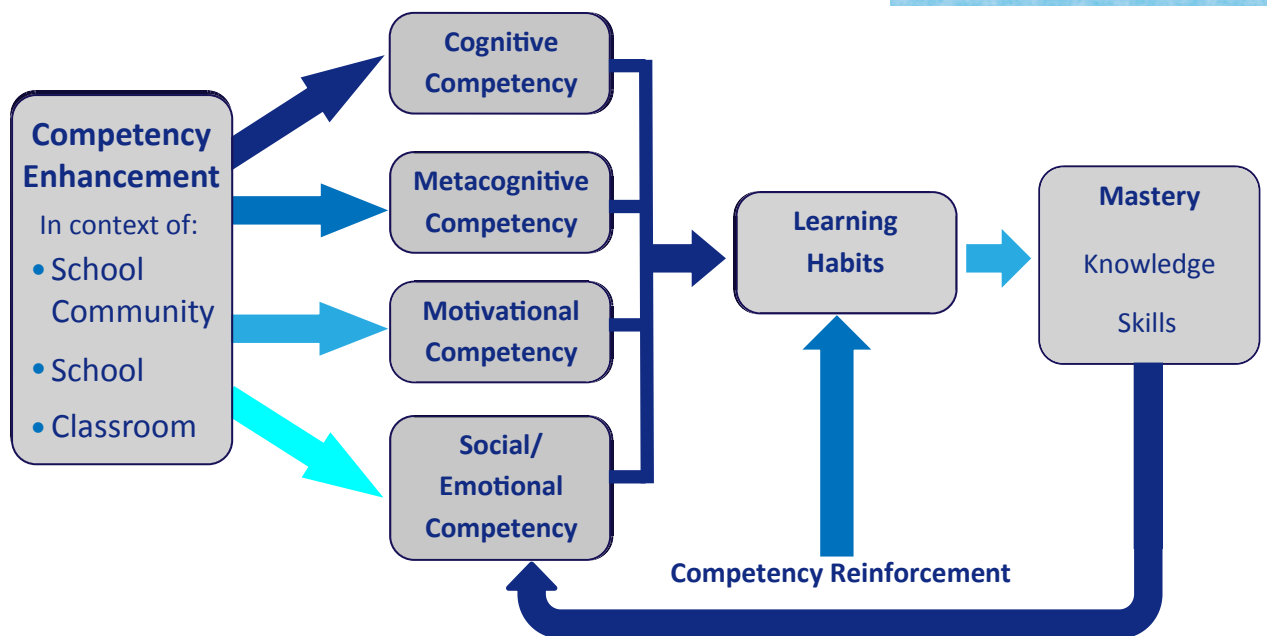
Motivational Competency—engagement and persistence in pursuit of learning goals

Social/Emotional Competency—sense of self-worth, regard for others, and emotional understanding and management to set positive goals and make responsible decisions

2. **Learning Habits:** the conversion of individual competencies into coordinated patterns of behavior activated when confronting new learning tasks
3. **Mastery:** meeting criteria for specific objectives related to knowledge and skills
4. **Competency Enhancement:** the intentional development of students' personal competencies within the contexts of the school community, school, and classroom
5. **Competency Reinforcement:** the strengthening and modification of personal competencies and patterns of behavior that result from both the process of pursuing mastery and mastery itself
6. **Contexts:** the environments within which personal competencies are intentionally developed: school community (families, students, school personnel), school (curriculum, programs, and school culture), and classroom (instruction and classroom culture)

Figure 1 illustrates the relationships among the components of the Personal Competency Framework.

Figure 1. A Personal Competency Framework



Putting the Pieces Together

A student is presented with a learning challenge, either self-selected or assigned, and determines to set the challenge as a goal and to persist until the goal is achieved. In school, the goal is typically associated with mastery of specific knowledge and skills relative to objective criteria. The student's acceptance of the challenge and her tenacity in pursuing the goal are influenced by the student's mindset: her perception of her ability to succeed, her belief that her current competency is subject to

The **interplay** of the four personal competencies takes on a **pattern** of behavior that the student may **employ** in pursuing future learning goals.

improvement, and that she exercises control over the path to goal attainment. The value the student places on the goal also enters into the calculation and is influenced by the student's social/emotional competency. Once the decision is made to accept the challenge and pursue the goal, the student engages an interaction between her background knowledge (cognitive competency) and her regulation of the learning process (metacognitive competency). The student draws from her social/emotional competency to ask questions of the teacher, seek help from her peers, maintain her focus, and buck up when the work gets tough. The interplay of the four personal competencies takes on a pattern of behavior that the student may employ in pursuing future learning goals. Arriving at her destination—goal attainment as evidenced in mastery of new knowledge and skill—the student's personal competencies and patterns of behavior (learning habits) are reinforced and refined.

Cognitive Competency

Cognitive competency can be described as having two aspects: (1) *cognitive content*—the knowledge that is held in memory, and (2) *cognitive processes* by which current knowledge and new information are manipulated, analyzed, and assimilated. Although cognitive processes receive considerable attention from education theorists in promoting critical thinking, creativity, and deep understanding, the processes themselves depend upon the store of knowledge. Daniel Willingham (2009) explains the primacy of cognitive content over cognitive process in school learning this way:

Data from the last thirty years lead to a conclusion that is not scientifically challengeable: thinking well requires knowing facts, and that's true not only because you need something to think about. The very processes that teachers care about most—critical thinking processes such as reasoning and problem solving—are intimately intertwined with factual knowledge that is stored in long-term memory (not just found in the environment). (p. 28)

We will focus on the accretion of cognitive content as the staple of cognitive competency, and include in our discussion of metacognitive competency such conscious strategies as problem solving, informal logic, evaluation, and divergent (creative) thinking that are employed during the learning process.

The cultural literacy movement (Hirsch, 1987) and advent of curriculum standards in the 1980s and 1990s owe their prominence to the realization that knowledge is both an end goal in education and an evolving foundation for new learning. Likewise, the Common Core standards of the 21st century are an effort to ensure that students accumulate knowledge of a

particular nature and in a logical sequence so that memory can provide ready examples and associations for what is yet to be learned. A student's reservoir of background knowledge is a distinguishing personal competency. E. D. Hirsch, Jr. (2009) has called for a restoration of the common school philosophy, with a common core curriculum, to ensure that all students in a mobile society acquire the necessary background knowledge regardless of the school they attend.

Memory matters. Memorization is a skill in the learning-to-learn repertoire that can be built with various mnemonic techniques. The content of memory—what is learned and committed to long-term memory—is a resource upon which the student draws in tackling new learning challenges. For this reason, *what* is learned (and committed to memory) is an aid in learning apart from the skill of memorization. Thus, in determining the curriculum, the school and teacher make decisions about what students learn that impact their facility with future learning. Daniel Willingham (2009) states it plainly: “When it comes to knowledge, those who have more gain more” (p. 42). Hirsch (2009) would add to this pronouncement that the specificity of knowledge is as important as the quantity.

Hirsch (2009) has emphasized the importance of the content of learning in building cognitive structures (associational webs) and understanding that facilitate new learning. The founder of the Core Knowledge Foundation, Hirsch is emeritus professor of education and humanities at the University of Virginia. Hirsch contends that all students benefit from a grade-by-grade curriculum that includes common elements of cultural knowledge that enable them to better understand and acquire new learning. Hirsch's point is that the “how-to” emphasis in education is empty without the mastery of knowledge that provides context and association. Knowledge is both an end in itself and a facilitator of new learning as it enhances cognitive competency.

Curiosity is an innate inclination that compels a person to seek knowledge (Litman, 2005). Curiosity may be seen as an element of motivation, but it also bears on cognitive competency in that a curious student will acquire knowledge beyond the scope of the curriculum. Of course, a curious mind will also reach into far corners of the curriculum. “Curiosity involves an indissoluble mixture of cognition and motivation” (Loewenstein, 1994, pp. 94–95). Curiosity arises from a perceived gap in knowledge or understanding, and is therefore cognitive in origin, but is also associated with an emotion of aroused attentiveness. Cognitive competency includes curiosity aimed at knowledge that is retained in memory.

The distinction between knowledge and cognitive competency is worth noting here. Knowledge, like skill, is specific to

The content of memory—what is learned and **committed** to long-term memory—is a **resource** upon which the student draws in **tackling** new learning challenges. For this reason, *what* is learned (and committed to memory) is an **aid** in learning apart from the skill of memorization.

Cognitive competency is the **reservoir** of prior learning that enables the learner to **access** webs of association and understanding to efficiently **acquire** new learning.

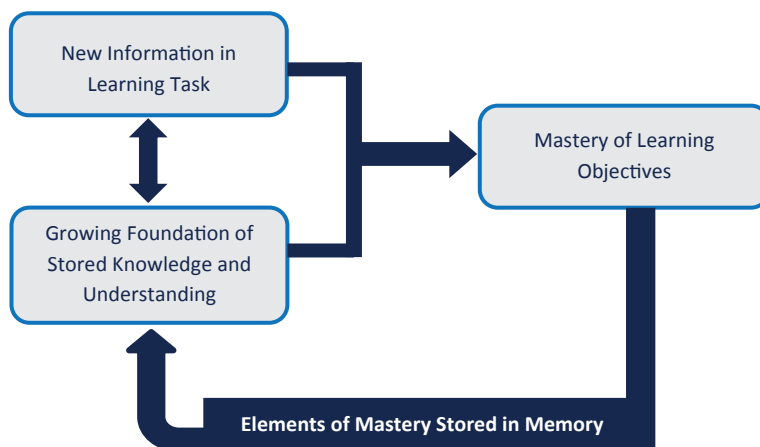
objectives and criteria in school learning. Cognitive competency is the reservoir of prior learning that enables the learner to access webs of association and understanding to efficiently acquire new learning. For particular new learning tasks, the contents of the cognitive reservoir are critical—their relevance to the specific learning task determines the ease with which the new learning is acquired. Because mastery is based on meeting criteria for learning objectives at a point in time, all knowledge acquired in the process does not stick in accessible memory for use in new learning tasks.

A teacher enhances a student’s cognitive competency by:

1. Reviewing prior learning and connecting it with newly introduced topics.
2. Expecting that specific knowledge is memorized and teaching memorization techniques.
3. Reinforcing elements of mastered knowledge that can be retained in memory through review, questioning, and inclusion in subsequent assignments.
4. Including vocabulary development (general vocabulary and terms specific to the subject) as learning objectives.
5. Identifying and teaching common facts, ideas, phrases, and quotations that the student will encounter in reading and discussion.
6. Assigning rich reading and the application of the reading in written work and discussion.
7. Using writing assignments to encourage the association and integration of new learning with known concepts and the thinking and expression that facilitates deep understanding.
8. Encouraging each student’s natural inclination to be curious by providing pathways of exploration and discovery.

Figure 2 shows the relationships among the basic components of cognitive competency in the acquisition of new knowledge and skills.

Figure 2. The Basic Components of Cognitive Competency in School Learning



Cognitive Competency in Practice

A standards-based curriculum may ensure that students acquire the knowledge at the right time to form a foundation for new learning, but it is no guarantee. The vertical and horizontal articulation of the curriculum—teacher-to-teacher, grade-to-grade, course-to-course—takes lots of collaborative planning time, but it is time well spent. It is well spent especially if it is accompanied by instructional planning to ensure that each student is appropriately reached with the curriculum. Students should not be confined by the official curriculum in the knowledge they are able to acquire, and teachers can see that each student is given the opportunity and encouragement to reach beyond the content of the classroom. Students build their cognitive competency through their out-of-school reading and their fruitful use of the Internet. The quality of the reading material matters, as does its content. Scores on standards-based assessments are not always a full indication of what students know, what they have committed to memory, and what they can draw upon to learn more. Students' writing is often a surer means for determining the depth and breadth of their understanding, and writing exercises their ability to make associations among areas of their knowledge, reaching beyond it in their research to solidify their understanding and formulate their ideas. Memorizing facts, quotations, speeches, and poems may seem old-fashioned, but accessible knowledge must be contained in memory. The student's working and accessible vocabulary provides the most basic units of association in learning. A student's natural curiosity, combined with the teacher's savvy provision of pathways to exploration and discovery, contributes to a mounting store of cognitive content and associations.

Metacognitive Competency

Intentional or formal learning, especially in school, requires a set of skills including task definition, goal-setting, active listening, note-taking, strategic reading, organization of content, access to resources, research, questioning, memorization (mnemonics), outlining, practice, analytical thinking, self-monitoring, and test preparation. These skills and their related habits (such as time management) are subsumed within the psychological concept of metacognition, but they are also found in programs that promote what are more commonly called study skills. From the 1960s forward, financial assistance programs and open admission community colleges brought millions of nontraditional students into higher education, and colleges responded

Questions for Reflection

1. How is cognitive competency different from the mastery of knowledge and skill?
2. A well-articulated, standards-based curriculum seems to be the norm for schools today. Why is that not enough to ensure that all students grow in their cognitive competency?
3. What is meant by the student's working and accessible vocabulary providing the basic units of association in learning?
4. Does the emphasis on knowledge stored in memory sound old-fashioned? Is it relevant today?
5. What kinds of reading/writing/discussing assignments best enhance cognitive competency?
6. How do teachers tap students' natural curiosity to build their cognitive competency?

Self-regulation of learning, then, is an aspect of metacognition that can be **taught, learned, and practiced.**

with supportive services programs to build learning skills. Similar programs have been instituted in high schools and elementary schools as the science of learning found its place alongside the standard curriculum. In addition to the separate courses and programs that focus on learning skills, teachers have integrated learning-to-learn instruction and modeling within the standard curriculum.

An example of a widely adopted learning-to-learn technique is SQ3R—survey, question, read, recite, and review—to guide a student in reading for understanding. SQ3R was introduced by Francis Pleasant Robinson in 1946 in his book *Effective Study*, which was published in several editions over the ensuing decades (Robinson, 1978). SQ3R gained currency in the 1970s, along with other methods for learning-to-learn, and a plethora of “how to study” books hit the market.

Metacognition is commonly defined as “thinking about thinking,” but a competency that is engaged for purposeful learning requires more than introspective musing. In the context of schooling, metacognition is important to the teacher as well as the student because it is both taught and learned. Bandura (1997) explains that “an integral part of effective instruction is teaching students how to regulate their own learning” (p. 223). Self-regulation of learning, then, is an aspect of metacognition that can be taught, learned, and practiced. In this sense, metacognition is a tool for problem solving, and new learning tasks present the student with a problem to be solved—how to achieve mastery.

Metacognition consists of both self-appraisal (knowing what I know) and self-management (selecting strategies to solve problems, including mastery of new learning) (Hacker, 1998). In fact, the self-regulation of learning requires interplay of self-appraisal and self-management by adjusting strategies based on feedback on progress toward mastery. Another way to look at this is through the lens of knowledge theory. Declarative knowledge is information stored in memory (what I know), and procedural knowledge is knowing how to do something (strategies for mastery, for example). The student regulates learning by selecting and applying strategies aimed at mastery, appraising understanding and performance, and adjusting strategies until mastery is achieved.

Self-regulatory metacognition proceeds through three steps: (1) goal setting and planning (including choice of strategies), (2) monitoring progress through the plan’s implementation, and (3) adapting the plan based on feedback (self-appraisal or from the teacher or program). Given a learning challenge (a problem to solve)—set by the teacher, the program, or by the student herself—mastery is the goal. In planning, the student considers

what she already knows, what the task entails, and what learning strategies might be employed. The student pursues a course of action based on the planned strategies, occasionally stopping to consider if the strategies are working, and adjusting strategies to move closer to the goal of mastery.

Obviously, the three simple steps in self-regulatory metacognition can be taught to students, as can a variety of learning strategies and techniques for self-appraisal. Because self-regulatory metacognition can be taught, it can be learned, and as the student becomes more adept with the process, metacognitive competency is enhanced and ready to be tapped in new learning challenges. This requires the ability to transfer appropriate elements of the process and strategies from one learning challenge to another, an ability that also grows with practice.

Metacognition is an exercise in problem solving and analysis—how best to master a learning task. Teaching, modeling, and practicing a problem-solving approach to self-managed learning and specific metacognitive skills and routines enhance the students' ability to learn (Whimbey & Lochhead, 1991).

John Dunlosky and his colleagues (Dunlosky, Rawson, Marsh, Nathan, & Willingham, 2013) describe 10 learning techniques and their relative utility and offer recommendations for their application. The 10 learning techniques (which others may call strategies) are:

1. **Elaborative interrogation:** Generating an explanation for why an explicitly stated fact or concept is true
2. **Self-explanation:** Explaining how new information is related to known information, or explaining steps taken during problem solving
3. **Summarization:** Writing summaries (of various lengths) of to-be-learned texts
4. **Highlighting/underlining:** Marking potentially important portions of to-be-learned materials while reading
5. **Keyword mnemonic:** Using keywords and mental imagery to associate verbal materials
6. **Imagery for text:** Attempting to form mental images of text materials while reading or listening
7. **Rereading:** Restudying text material after an initial reading
8. **Practice testing:** Self-testing or taking practice tests over to-be-learned material
9. **Distributed practice:** Implementing a schedule of practice that spreads out study activities over time
10. **Interleaved practice:** Implementing a schedule of practice that mixes different kinds of problems—or a schedule of study that mixes different kinds of material—within a single study session

The student **pursues** a course of action based on the planned **strategies**, occasionally stopping to consider if the strategies are working, and **adjusting** strategies to move closer to the **goal** of mastery.

Students develop metacognitive competency by understanding that they have **control** over their learning and **responsibility** for it and by knowing **procedures** that lead to mastery, **strategies** to employ, and **methods** for testing their own progress.

Dunlosky et al. (2013) found significant variation in the effectiveness of the 10 learning techniques, with such techniques as practice testing and distributed practice demonstrating high utility, and others, such as highlighting and rereading, showing relatively low utility. The authors concluded that students sometimes cling to less effective techniques with which they are familiar rather than changing their approach to include more effective techniques. This study illustrates the importance of teaching students a variety of metacognitive strategies, encouraging their use of a variety of approaches, monitoring the effectiveness of their strategies, and knowing when to use which strategy.

The teacher enhances a student's metacognitive competency by:

1. Thinking out loud to show, by example, how a learning task is approached and pursued.
2. Pairing students as problem solver and active listener following instruction and modeling on the culture of thinking, as in the Think Aloud Paired Problem Solving (TAPS) method (Robbins, 2011).
3. Teaching specific learning strategies and techniques, such as active listening, note-taking, strategic reading, organization of content, access to resources, research, questioning, memorization (mnemonics), outlining, practice, analytical thinking, self-monitoring, and test preparation.
4. Teaching the process of (a) goal setting and planning (including choice of strategies); (b) monitoring progress through the plan's implementation, and (c) adapting the plan based on feedback (self-appraisal or from the teacher or program).
5. Including self-checks and peer-checks as part of assignment completion.
6. Showing how to chart and graph assignment completion and objective mastery.
7. Including the documentation of learning processes and strategies employed in the completion of an assignment.
8. Teaching procedures of logic, synthesis, and evaluation to employ in critical thinking.
9. Teaching techniques for divergent thinking to expand the universe of considerations in creative thinking.

Figure 3 illustrates the basic components of metacognitive competency.

Figure 3. Basic Components of Metacognitive Competency

Metacognitive Competency in Practice

Students develop metacognitive competency by understanding they have control over their learning and responsibility for it and by knowing procedures that lead to mastery, strategies to employ, and methods for testing their own progress. Teachers build students' metacognitive competency by modeling (thinking out loud), by directly teaching learning procedures and strategies, and by including in their assignments the use and documentation of the student's procedures and strategies. Students can be shown how to track their own progress with charts and graphs. Self-checks and peer-checks before submitting their work to the teacher are effective methods for encouraging responsibility for learning and self-monitoring. How-to-study, reading for meaning, speed reading, active listening, memorization, and test-preparation skills are often included in separate courses and modules for students, but these techniques are best reinforced within the context of each class and subject. Students can be taught analytical procedures for logical and divergent thinking that become strategies in learning, especially when critical thinking and creativity are required.

Motivational Competency

As the education establishment moved to objectify the goals and content of education with curriculum standards and assessments, the question of the student's motivation to learn drew sharper attention. What would greater rigor mean for students who were already disengaged? Would more student assessment

Questions for Reflection

1. Do we really need to teach metacognitive processes and strategies, or do students learn them by trial and error?
2. How do teachers build students' metacognitive competency within the context of their subjects?
3. What is meant by teaching procedures and techniques for logical and divergent thinking?

When the student both assumes **control** over actions that lead to **outcomes** (internal rather than external locus of control) and takes **responsibility** for the efforts that produce the outcomes (attribution), he is inclined to engage and **persist** with goal pursuit.

only reveal more failure and dampen the spirits of teachers as well as students? Were curriculum standards overly prescriptive and confining, constricting the teacher's ability to reach students in ways that stirred their interest?

Agency is the individual's execution of choice of situations, challenges, and tasks among competing opportunities. A person's sense of agency is explained in two concepts, each with its own body of research in psychological literature: locus of control (Rotter, 1990), and attribution (Weiner, 1974, 1980). The two concepts inform an understanding of the urge to act, and in terms of agency, they bear especially on the individual's propensity to initiate goal-directed behavior. When the student both assumes control over actions that lead to outcomes (internal rather than external locus of control) and takes responsibility for the efforts that produce the outcomes (attribution), he is inclined to engage and persist with goal pursuit.

Matthew Crawford (2009) calls the struggle for individual agency the "very center of modern life" (p. 5), expressed in our search for meaningful work and self-reliance; even with imposed performance metrics in our work (or in school), our jobs lack "objective standards of the sort provided by, for example, a carpenter's level, and as a result there is something arbitrary in the dispensing of credit and blame" (Crawford, 2009, p. 8). Crawford sees the manual trades and their inclusion in the school curriculum as a means to assert individual agency because performance in them is measured against the concrete standards of the craft. "Craftsmanship entails learning to do one thing really well, while the ideal of the new economy is to be able to learn new things, celebrating potential rather than achievement" (p. 19). People take pride in being good at something specific. Being good at something specific, held against standards that mark what is good, and knowing the personal effort, focus, and practice necessary to meet the standards reinforces a sense of agency. In school, mastery of learning objectives is the standard to which the student strives, and the craft of learning carries its own ethics.

Motivation is attributed to extrinsic and intrinsic consequences of behavioral paths, such as the pursuit of a learning task. Walberg (2011) makes the case for incentives (extrinsic rewards) to increase student motivation to learn, citing the Cameron and Pierce (1994) synthesis of 96 experimental psychological studies that measured the effects of incentives or rewards on sustained intrinsic motivation to learn, finding nearly all positive effects. Walberg further describes the Dallas O'Donnell Foundation Advanced Placement Incentive Program, which paid teachers and students in Texas \$100 each for passing an Advanced Placement examination.

The passing rate for minority students in the Dallas Independent School District rose to 11 times greater than the U.S. average (Hudgins, 2003). In 2002, 10 Dallas schools had 52 passing AP scores for each 1,000 African American and Hispanic juniors and seniors, compared with 11 for each 1,000 in Texas statewide and 5 for each 1,000 nationwide (Hudgins, 2003). (Walberg, 2011, p. 11).

Daniel Pink (2009) brought intrinsic motivation to the fore as a driver of human striving in his best-selling book *Drive: The Surprising Truth About What Motivates Us*. Pink's book aims at understanding human motivation in general (with examples from the workplace), not specifically motivation to learn in school. His ideas, however, have been echoed by educators. Although schools commonly use extrinsic incentives (including grades and rewards for achievement) as a means to engage students, Pink asserts that the intrinsic satisfaction of mastery, purpose, and autonomy are more powerful inducements for a person to act.

Jere Brophy (2004) bridges the divide between extrinsic and intrinsic motivation by suggesting that mastery of learning—although initially motivated extrinsically by the teacher's rewards (recognition, good grades) and punishments (bad grades)—may become intrinsically rewarding to the student. The intrinsic motivation to master is the ideal and the ultimate goal, but the teacher may not depend upon it in leading all students to engage with their work. The teacher's consequences (rewards and punishment) for mastery, for many students, prompt success that makes the pursuit of mastery itself intrinsically rewarding.

Albert Bandura (1997) contributed to the understanding of motivation through his work on self-efficacy perception, a person's belief in his or her ability to complete tasks and achieve goals, such as a learning task in school. Expectancy value theory holds that a person's willingness to engage in an activity is a function of how much one values the activity, coupled with one's expectation for success in the activity, and compared with how much one values and expects success in other activities that compete for his time and attention (Wigfield & Eccles, 2000). What a person values is influenced, in part, by his personal aspirations (Hoge, Smit, & Crist, 1997).

A learning task may be self-selected or presented by the teacher (directly, in the context of a reading assignment, or as a step in a digital learning regimen). Apart from the student's cognitive and metacognitive competency in grappling with and mastering the task, the student must simply want to engage and persist. Motivation is the wanting to. From the teacher's perspective, we may call this student engagement, implying that

Apart from the student's cognitive and metacognitive competency in **grappling** with and **mastering** the task, the student must simply want to **engage** and **persist**. Motivation is the wanting to.

Mindset has emerged as a concept to describe a person's **attitudes, beliefs, and disposition** relative to particular realms of activity in life.

the teacher's instruction can be calibrated to prompt each student to engage with learning aimed at instructional objectives. From the individual student's perspective, engaging in a learning task competes with other available activities among which the student makes choices. Life, in school and out, is a steady stream of choices to be made among alternative courses of action.

A student's motivation to learn is impacted by the student's mindset. Mindset has emerged as a concept to describe a person's attitudes, beliefs, and disposition relative to particular realms of activity in life. Stanford University professor Carol Dweck's scholarly work laid a foundation for understanding mindset, and her book *Mindset: The New Psychology of Success* (2006) did much to popularize the beneficial consequences of a growth mindset—the belief, for example, that a competency is not fixed but is enhanced through learning and effort. An academic mindset has been explored by Jason Snipes, Cheri Fancsali, and Ginger Stoker (2012). They incorporate within the academic mindset the components of grit and growth, passion and purpose, and identity and community, and connect these mindset components with the student's facility with learning strategies to impact learning outcomes.

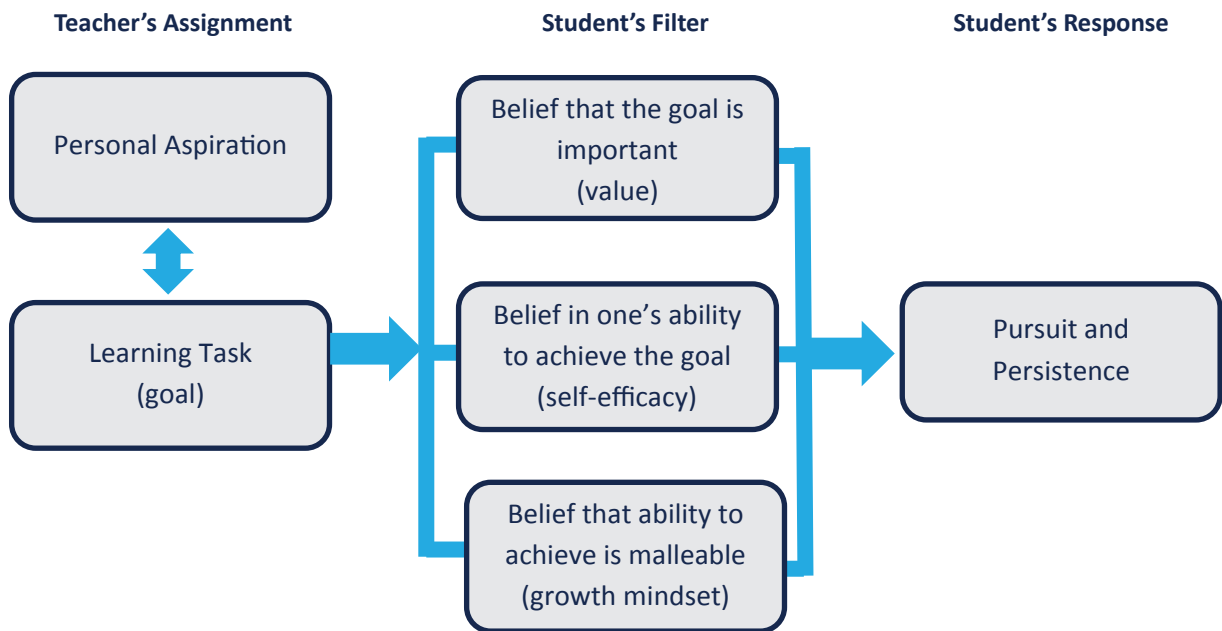
Student motivation to learn is approached as a function of the teacher's instructional practices (Margolis & McCabe, 2006) and the student's mindset (Dweck, 2000, 2006). Whether enhanced through incentives, instructional practice, or change in mindset (or combinations of the three), motivation to learn has grown in importance in equal proportion to the escalating demand for greater rigor and accountability in education.

A teacher enhances a student's motivational competency by:

1. Promoting a growth mindset by attributing learning success to effort and self-regulation, reinforcing the idea that both actual ability and self-efficacy are malleable and grow with practice, and insisting upon (and rewarding) persistence to mastery.
2. Connecting learning tasks to the student's personal aspirations.
3. Differentiating assignments to provide the right balance of challenge and attainability.
4. Helping students "find the fun" in learning rather than simply making tasks fun (Redding, Twyman, & Murphy, 2013).
5. Stretching the student's interests to find value in new topics (acquired relevance).
6. Celebrating mastery.
7. Helping parents understand their influence on their children's mindset, sense of agency, and motivation to learn, especially in their verbal attributions.

Figure 4 illustrates the basic components of motivation to learn.

Figure 4. Basic Components of Motivation to Learn



Motivational Competency in Practice

It is good advice to not get hung up on the debate over intrinsic and extrinsic motivation; the dichotomy is in many ways artificial. In adult life, we may be motivated by money or fame or the accolades of our peers, but that is because we value these goals and find satisfaction in their pursuit, not because they have been imposed upon us. In school, making mastery of learning valuable to students is our chief task, and if incentives (grades, rewards, recognition) lubricate the gears in that direction, so much the better. A growth mindset, a sense of self-efficacy in improving academic performance, and a value for mastery form the triad of motivational competency for students. Teachers contribute to their students' growth mindsets when they are careful in language, attributing success in learning to effort and strategy rather than smarts. They help parents understand the power of their language and their expectations at home in forming their children's mindsets and motivation to learn. Teachers enhance students' sense of self-efficacy in meeting learning challenges when they carefully match their assignments to each student's current level of mastery, making the work challenging but within reach. Teachers instill in their students a value for mastery by providing ladders for incremental success and celebrating what students know and can do. Teachers stir students' motivation to learn by teaching

Questions for Reflection

1. Acquired relevance is a term that means the student develops an interest in a topic not previously relevant to him. Why is it important for teachers to not only make learning relevant to students' current interests but also stretch their interests to value new topics?
2. For students to acquire a growth mindset, it is important that their teachers view intelligence and competency as malleable. How do teachers set an example for a growth mindset in what they say to students and what they expect from students?
3. When a student is motivated by the pursuit of mastery and mastery itself, how is this exhibited in the way he or she approaches difficult learning tasks?

with enthusiasm, demonstrating their own delight in learning, connecting topics and assignments to students' interests and aspirations, tapping students' innate curiosity, and stretching students' awareness of fascinating subjects beyond their current knowledge or interest. Teachers find where each student's passion lies, and use that as a platform for expanded interest and accomplishment.

Social/Emotional Competency

Founded in 1994 by Daniel Goleman, the Collaborative for Academic, Social, and Emotional Learning (CASEL) became a national force for promoting evidence-based programs that contribute to emotional health, positive relationships, and responsible decisions. The social and emotional learning (SEL) camp links social/emotional competency to motivation to learn and success in academic pursuits (Durlak et al., 2011; Zins, Weissberg, Wang, & Walberg, 2004). According to Elias (2006), "Effective, lasting academic learning and SEL are built on caring relationships and warm but challenging classroom and school environments" (p. 7). Social/emotional competency is built through both evidence-based programs and the culture of the school and classroom.

Durlak and colleagues (2011) conducted a meta-analysis of research on social and emotional learning programs and their impact on academic as well as on social and emotional learning. They found that schools' intentional implementation of evidence-based social and emotional learning programs not only improved social and emotional competency but also yielded an 11 percentile point gain in academic achievement. The study's authors outlined four conditions that are foundational to successful social and emotional programs and approaches:

1. peer and adult norms for high expectations and support for academic success;
2. caring teacher–student relationships;
3. student engagement through the teacher's classroom management practices and cooperative learning; and
4. safe and orderly environments that teach, encourage, and reinforce positive behaviors.

SEL uses a vocabulary that differs from that of character development, but many of its aims are the same. Prevention of antisocial behaviors such as bullying and detrimental personal behaviors such as drug abuse may be achieved, in part, through sound programs that build students' social/emotional competency: self-awareness, responsible decision-making, relational skills, social awareness, and self-management. In 2003, the state of Illinois passed the Children's Mental Health Act which

required the “State Board of Education to develop SEL learning standards and all school districts to incorporate them into their educational plans” (Devaney, O’Brien, Resnik, Keister, & Weissberg, 2006, p. 2).

Service learning is a programmatic tool within a social/emotional learning framework. Connecting classroom academics with opportunities to perform real-world service to the community, service learning has become a staple of many school programs to enable students to demonstrate their social/emotional competency and learn from the experience. Huffman (1993) saw service learning as a way for students to demonstrate their concern for the welfare of others. Lickona (1991) encouraged service learning to promote students’ understanding of moral and ethical questions.

Positive Behavioral Interventions and Supports (PBIS) was introduced in the reauthorization of the Individuals with Disabilities Act in 1997 (Sugai & Simonsen, 2012). The U.S. Department of Education has also demonstrated its support for PBIS through its collaboration with the Technical Assistance Center on Positive Behavioral Interventions and Supports (PBIS), with 11 technical assistance units across the United States. According to the PBIS website (PBIS, 2009), the logic of its operation is

based on (a) documented need for improving the social behavior of students in U.S. schools, (b) demonstrated success of PBIS to improve both student social behavior and academic performance, (c) demonstrated effectiveness of PBIS as a practical technology that can be implemented at socially important scales by actual implementers, (d) the value of schoolwide behavior support systems on the education of children with disabilities, and (e) a current need to extend PBIS practices to a broader range of students, schools, and contexts. (para. 2)

PBIS originated in research on the educational needs of students with disabilities, but it has expanded its reach to serve as a schoolwide framework aimed at providing behavioral supports and interventions for all students.

Resilience is a term that describes a person’s tendency to persevere through setbacks, overcome adversity, and bounce back. Angela Duckworth, a University of Pennsylvania professor, has built from the work on positive psychology by her colleague Martin Seligman (see, e.g., Seligman, 2011) to focus on “grit” and “self-control” as two attributes predictive of success. Duckworth, in a published interview with Deborah Perkins-Gough (2013), explains that grit includes tenacity and hard work, characteristics ascribed to resilience, but adds to them a long-term, focused passion (sense of purpose). Grit, according to

Resilience is a term that describes a person’s tendency to **persevere** through setbacks, to **overcome** adversity, to bounce back.

Learning, especially school learning, is both a **personal** and **social** activity.

Duckworth, has no correlation with talent and can be enhanced over time. Resilience and grit are characteristics that reveal in behavior aspects of a student's social/emotional competency. Duckworth's inclusion of a focused passion or sense of purpose as an ingredient of grit bears on the motivational power of aspiration as well as the importance of personal contribution to the well-being of others that is a facet of social/emotional competency.

Paul Tough's bestselling book, *How Children Succeed: Grit, Curiosity, and the Hidden Power of Character* (2012) reveals in its title a kinship with character education and its tradition of isolating specific traits as components of character. CASEL stresses skills rather than traits in its approach to social/emotional competency, and PBIS focuses on the management of behaviors. Although these three orientations—traits, skills, and behaviors—vary, they all aim at improving social/emotional competencies. They also assume an underlying foundation of values, of regard for self and for others.

Learning, especially school learning, is both a personal and social activity. The student brings to the learning enterprise a level of social/emotional competency that affects learning, including understanding and managing emotions, setting and achieving positive goals, feeling and showing empathy for others, establishing and maintaining positive relationships, and making responsible decisions (CASEL, n.d.). Deficiencies in social/emotional competency illustrate their palpable impact on learning. For example, a student wrestling with emotional distress is ill-equipped to focus on learning tasks. Contentious relationships with teachers and peers are obstacles to school success. The personal priority of gaining attention from peers through negative classroom behavior competes with the ability to set and achieve positive learning goals and to responsibly behave as a member of the classroom.

As with other competencies, social/emotional competency is malleable, subject to enhancement through instruction as well as through the example set by teachers and peers and through the school's and classroom's norms for relationships among teachers and students. The positive sentiments of self-worth and regard for others contribute a value component to the motivational equation. In making a decision to engage and persist with a goal-directed activity, such as a learning task, the student chooses to invest time and effort in this pursuit rather than in other, competing pursuits. That decision is laden with value judgments about the significance of the learning task and its connection with the student's interests and aspirations. These judgments are influenced by the student's understanding

of what is best for himself and for other people, including his teacher, parents, and peers.

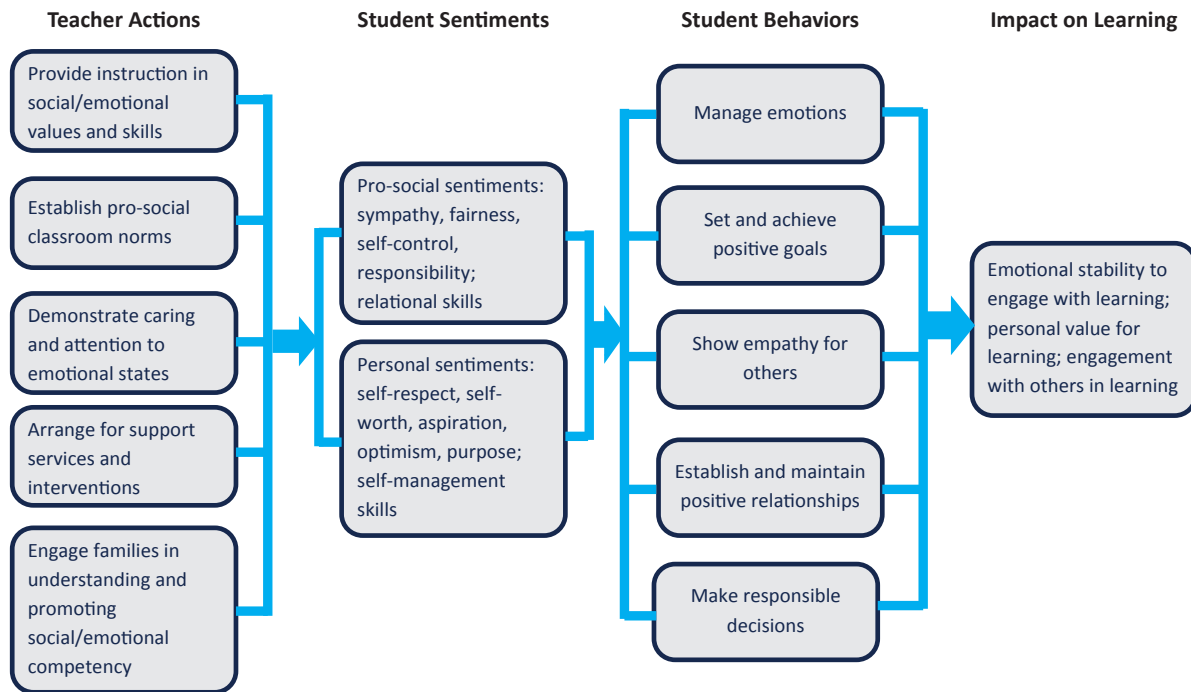
The teacher enhances a student's social/emotional competency by:

1. Including social/emotional objectives in the instructional plan.
2. Teaching and reinforcing positive social skills and relationships.
3. Modeling responsible behavior, caring, optimism, and positive verbal interactions.
4. Adopting evidence-based programs that enhance social/emotional competency.
5. Establishing classroom norms for personal responsibility, cooperation, and concern for others.
6. Being attentive to students' emotional states and guiding students in managing their emotions.
7. Helping students set constructive goals for learning and social relationships and know how to pursue and achieve the goals.
8. Teaching students to understand the consequences of their decisions and to take responsibility for them.
9. Using cooperative learning methods.
10. Encouraging questioning, seeking help from others, and offering help to others.
11. Arranging for support services from psychologists and social workers when students demonstrate a need for support.
12. Working closely with parents to promote social/emotional competency at home.

Figure 5 shows the basic components of social/emotional competency, its enhancement, and the impact on learning.

As with other competencies, social/emotional competency is **malleable**, subject to enhancement through **instruction** as well as through the **example** set by teachers and peers and through the school's and classroom's **norms** for relationships among teachers and students.

Figure 5. Basic Components of Social/Emotional Competency and Its Enhancement



Social/Emotional Competency in Practice

CASEL advocates five competencies that together constitute what we have lumped together as social/emotional competency. These five are: (1) understanding and managing emotions, (2) setting and achieving positive goals, (3) feeling and showing empathy for others, (4) establishing and maintaining positive relationships, and (5) making responsible decisions. CASEL catalogs evidenced-based programs that demonstrate results in building these five competencies (see www.casel.org). In addition to a programmatic approach to enhancing social/emotional competency, a school can infuse within its mission, curriculum, and culture an intentional focus on attitudes and behaviors that build and reflect self-worth, respect, and responsibility. Specific social skills can be taught and reinforced, including such basic but essential skills as making introductions, paying and receiving compliments, and not forgetting the magic words—please and thank you. Cooperative learning methods build social skills, and service learning provides opportunities to practice pro-social behaviors. Schools must be attentive to students’ emotional states, their anxieties and stresses, their personal struggles, and proactively counsel and instruct students in understanding and managing their emotions. Schools must also be equipped to provide supportive interventions at the right times. Social/

emotional objectives can be structured into each class's curriculum and instructional plan. Because social/emotional competency is so strongly influenced by the home environment, intentional engagement of families serves two purposes: (1) the school and teacher develop a better understanding of the student, and (2) the parents learn how to foster social/emotional competency through their interactions with their children at home.

Mastery of Knowledge and Skills

School learning is organized into a curriculum that structures the scope and sequence of knowledge and skills to be mastered by students. Benjamin Bloom's mastery learning model (1971), in which students progress through ordered learning objectives until demonstrating mastery, varies the amount of time each student is allowed for achieving each objective to account for differences in students' rate of learning. The learning objectives in this model are organized within Bloom's domains and their corresponding gradations of complexity.

Bloom ordered learning processes across two dimensions: (1) the type of learning is structured into three domains: cognitive, affective, and psychomotor; and (2) the sophistication of learning is placed on a continuum within each domain. Within the cognitive domain, Bloom ordered from simplest to most complex the categories of knowledge, comprehension, application, analysis, synthesis, and evaluation. Lorin Anderson (Anderson et al., 2001; Pohl, 2000), a former student of Bloom's, modified the categories as: remembering, understanding, applying, analyzing, evaluating, and creating.

For the affective domain, Bloom (Krathwohl, Bloom, & Masia, 1973) established the following categories, again ordered from simplest to most complex: receiving phenomena, responding to phenomena, valuing, organization, and internalizing values. Bloom offered no categories for the psychomotor domain, but other psychologists have. Simpson (1972) suggested the psychomotor domain categories, from simplest to most complex, as: perception (awareness), set (readiness to act), guided response, mechanism (basic proficiency), complex overt response (expert), adaptation, and origination.

Bloom's taxonomies provide a structure for organizing instructional objectives and criteria for mastery within the context of a standards-based curriculum. The advantage of such a comprehensive structure is that it encompasses the full range of knowledge and skills and the varying levels of sophistication.

Questions for Reflection

1. In what ways can schools engage parents to gain a better understanding of students and to equip parents to foster social/emotional competency at home?
2. What practical social skills can be taught to children and reinforced in their behavior?
3. What are examples of classroom norms that reinforce social/emotional competencies?
4. What support services and interventions are typically available for students and how do teachers access them?
5. How do students learn to understand and manage their emotions?
6. Why does social/emotional competency affect the motivational component of value for learning?

By **intentionally** building students' personal competencies and learning habits, teachers **contribute** to the students' ability to learn.

Curriculum standards are typically organized in ways similar to Bloom's taxonomies, aligned with subject areas such as mathematics and language, with grade-level benchmarks that are incorporated into instructional plans as learning objectives, expressed as criteria for knowledge and skills to be met by students. The structuring of the curriculum and instruction to include clear learning objectives is the basis for determining mastery (demonstrated proficiency).

Learning Habits

Habits are actions "patterned into sequences that are repeated at particular times in customary places" (Wood & Neal, 2007, p. 843). Wood and Neal explain the relationship between habits and goals:

Habits emerge from the gradual learning of associations between responses and the features of performance contexts that have historically covaried with them (e.g., physical settings, preceding actions). Once a habit is formed, perception of contexts triggers the associated response without a mediating goal. Nonetheless, habits interface with goals. Constraining this interface, habit associations accrue slowly and do not shift appreciably with current goal states or infrequent counterhabitual responses. Given these constraints, goals can (a) direct habits by motivating repetition that leads to habit formation and by promoting exposure to cues that trigger habits, (b) be inferred from habits, and (c) interact with habits in ways that preserve the learned habit associations. (2007, p. 843)

In the goal-directed behavior of school learning as well as social relationships and other personal pursuits, personal competencies are exercised. The patterns of behavior associated with successful goal attainment, over time, become habitual, and these habitual behaviors include the interlaced enactment of personal competencies.

"Fluency" and "cognitive fluency" are related to "habit formation" and are common in current psychological literature, reflecting the influence of cognitive psychology. Fluency is the ease or difficulty we experience in making decisions, and ease assumes that we are drawing from cognitive patterns established through prior experience. Fluency is an affective corollary of habit formation, the perception of ease that ensues from ingrained patterns of behaviors when pursuing a goal. We might hope that these patterns of behavior become rewarding in their own right, and in pursuit of mastery the student enters something like Mihaly Csikszentmihalyi's (1990) concept of flow, complete absorption and pleasure in the activity of learning.

The four personal competencies—cognitive, metacognitive, motivational, and social/emotional—facilitate the student’s acquisition of new learning; they are the enabling dimension of the Personal Competency Framework. Effectively utilizing these dimensions of competency necessitates their conversion into behavior, and that behavior is organized into patterns we call learning habits. Learning habits, then, are the enacting dimension of the Personal Competency Framework.

Conclusions

Learning in school is a matter of goal attainment—the pursuit of myriad learning tasks in order to achieve mastery of the curriculum’s knowledge and skills. As with other forms of goal attainment, school learning requires the integrated exercise of four personal competencies: cognitive, metacognitive, motivational, and social/emotional. As the personal competencies are routinely engaged in learning, they form patterns of behavior that students set in motion with each new learning challenge. The strength and potency of these learning habits—and their underlying competencies—impact students’ success in school. By intentionally building students’ personal competencies and learning habits, teachers contribute to the students’ ability to learn. The personal competencies are malleable, and they are enhanced most effectively when given focus in the curriculum, school culture, and instructional practices.

Memory matters; what is retained in memory provides webs of association and routes to understanding when a student engages with new learning challenges. Teachers enhance students’ cognitive competency by helping them move key elements of mastered knowledge to memory; building their vocabularies; exercising their cognitive processes with rich reading, writing, and discussion; and channeling their curiosity toward pathways of exploration and discovery.

The student’s ability to manage his learning, to appraise his understanding and progress, and to employ and modify strategies determines his efficiency and effectiveness in achieving mastery. Metacognitive competency depends upon the student’s sense of agency, to be sure, but it also requires processes, skills, routines, and strategies that can be taught and learned. The teacher models “thinking out loud,” provides instruction on learning strategies, and includes in assignments the documentation of the students’ learning goals, strategies, and feedback loops.

Given an ample reservoir of prior knowledge and facility in managing the learning process, a student must also possess a desire to engage and persist in learning. The desire to learn is

Questions for Reflection

1. How does mastery of knowledge and skill result from the application of personal competencies and contribute to their reinforcement?
2. Does the Personal Competency Framework make sense?
3. How are the four personal competencies—cognitive, metacognitive, motivational, and social/emotional—interrelated?
4. Does the concept of learning habits contribute to an understanding of how personal competencies are activated in behavior to pursue learning goals?

The value a student places on **learning** stems in part from the student's own sense of **self-worth**: "I am worthy of improving myself."

a function of the student's mindset ("I can grow as a learner"), value for mastery, satisfaction in the process and achievement of mastery, and belief in his ability to succeed. Attributing success in learning to effort and self-management feeds a growth mindset. By stimulating interest in topics, celebrating mastery and its pursuit, connecting learning tasks to student aspirations, and carefully assigning work that is challenging but in reach, the teacher fortifies students' motivation to learn.

The value a student places on learning stems in part from the student's own sense of self-worth: "I am worthy of improving myself." The student's understanding of his emotions and ability to manage them enables him to focus on the work of schooling and to find pleasure in it. His ease and skill in social relationships empower him to ask questions, seek help, give help, and work cooperatively with other learners.

As a student engages her personal competencies in pursuit of learning, patterns of fruitful behavior emerge. The behaviors take the form of habit, the habits of learning. They become fluid, almost automatic, as new learning challenges present themselves. The student becomes absorbed by the learning process, immersed in it, flowing. The roots of learning have been well-nourished by teachers, and the student's capacity to learn is ever enlarged.

Glossary

Agency—the individual learner’s decision to engage with learning tasks, setting in motion the interplay of competencies in pursuit of a goal (including mastery)

Attitude—an established way of thinking or feeling about a given subject that is reflected in behavior

Blended Learning—an instructional method that mixes traditional classroom instruction with online delivery of instruction and content, including learning activity outside the school, granting the student a degree of control over time, place, pace, and/or path

Character—a person’s distinguishing moral and mental qualities

Character Development—the idea that character is not a fixed attribute but is developed over time through experience, instruction, and example

Character Trait—a specific aspect of character such as honesty, frugality, or trustworthiness

Cognitive Competency—prior learning that organizes the mind and provides associations and understanding to facilitate new learning; includes curiosity focused on mastery that is retained in memory

Competence—the possession of a sufficient degree of knowledge and skill to perform a functional role

Competency—the ever-evolving accumulation of related capabilities that facilitate learning and other forms of goal attainment

Competency Enhancement—the intentional development of students’ personal competencies within the contexts of the school community, school, and classroom

Competency Reinforcement—the strengthening and modification of personal competencies and patterns of behavior that result from both the process of pursuing mastery and mastery itself

Criteria for Mastery—definitions of observable and measurable correct performances to demonstrate mastery of a learning objective, including the conditions under which the performance is demonstrated

Curiosity—inquisitiveness, desire for knowledge; an underlying emotion and the behavior associated with the pursuit of knowledge; arises from a perceived gap in knowledge or understanding

Disposition—a person’s habitual tendencies of attitude and mood

Exercise (learner)—repetition and rehearsal of new learning to strengthen understanding, confirm mastery, and commit to long-term memory; also called practice

Extrinsic Motivation—motivation to engage in completion of a task or pursuit of a goal in order to receive a reward or avoid negative consequences of not doing so

Feedback—information provided to the learner to confirm or correct progress toward mastery

Flow—the state of absorption, enjoyment, and focus when engaged in an activity

Fluency—sense of ease of difficulty relative to a specific mental exercise

Grit—a character trait that compels a person to persist in pursuit of goals and to overcome setbacks; resolve; resilience and purpose (passion)

Growth Mindset—the belief that most basic abilities can be developed through dedication and hard work (Dweck, 2006)

Instruction—the teacher’s design and provision of objectives, procedures, and content by which the learner proceeds toward mastery of specific knowledge and/or skill, either by direct interaction with the learner or through resources designated by the teacher

Intrinsic Motivation—motivation from the personal satisfaction of engaging in completion of a task or pursuit of a goal

Knowledge—the understanding of facts, information, relationships, and concepts, especially as defined in learning objectives

Learning—“a change in behavior or behavioral potential brought about by intervening experiences” (Schunk, 2001, p. 127)

Learning Habits—the conversion of individual competencies into coordinated patterns of behavior activated when confronting new learning tasks

Learning Objective—a statement of what the learner is expected to know and be able to do as a result of the learning experience, with measurable criteria for determining mastery

Mastery—demonstrated proficiency in knowledge and/or skill relative to specific objectives; meeting criteria for specific objectives related to knowledge and skills

Metacognitive Competency—self-regulation of learning and use of learning strategies

Mindset—a person’s set of attitudes and assumptions that influence perceptions, choices, and behaviors

Motivational Competency—engagement and persistence in pursuit of learning goals

Personal Competencies—the individual’s interrelated cognitive, metacognitive, motivational, and social/emotional competencies

Personalized Learning—personalization ensues from the relationships among teachers and learners and the teacher’s orchestration of multiple means for enhancing every aspect of each student’s learning and development

Practice (teacher)—instructional methods employed by the teacher, including design, planning, delivery, interaction, differentiation, classroom management, and assessment

Principles of Learning—the underlying psychological or behavioral principles upon which effective instructional and metacognitive practices, processes, and programs rest

Proficiency—a degree of skill or expertise; competence in a specific ability or role

Relational Suasion—the teacher’s ability to influence a student’s learning, motivation to learn, metacognitive competencies, and social/emotional competencies by virtue of the teacher’s personal knowledge of and interaction with the student and the student’s family (Redding, 2013)

Resilience—a person’s tenacity in dealing with stress, overcoming obstacles and adversity; the tendency to bounce back from difficulty

School Climate—the attitudes, mood, and morale of the people in the school

School Community—“A ‘school community’ consists of the people intimately associated with a school—students, their families, teachers, administrators, school staff, and volunteers—bound together by their common interest in the students served by the school” (Redding, 2011, p. 16)

School Culture—the school’s values, collective beliefs, norms, and its expectations of personnel and students; its practices, routines, and rituals

Self-Efficacy—a person’s belief about his/her ability to complete tasks and reach goals

Skill—proficiency in performing specific, related tasks with predetermined results, acquired through education or experience

Social/Emotional Competency—sense of self-worth, regard for others, and emotional understanding and management to set positive goals and make responsible decisions

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About the Author

Sam Redding, Ed.D., is the Senior Learning Specialist of the Center on Innovations in Learning (CIL), Associate Director of the Center on School Turnaround, and a consultant with the Building State Capacity and Productivity Center. Since 1984, Dr. Redding has served as the Executive Director of the Academic Development Institute (ADI), and from 2005 to 2011 as Director of the Center on Innovation & Improvement. He codeveloped Indistar®, a web-based school improvement technology, and Indicators in Action®, web-based tutorials for online professional development for educators. Dr. Redding is a former high school teacher and college dean and vice president. He received the “Those Who Excel” Award from the Illinois State Board of Education in 1990, the Ben Hubbard Leadership Award from Illinois State University in 1994, and the Ernie Wing Award for Excellence in Evidence-Based Education from the California-based Wing Institute in 2012. He has been executive editor of the *School Community Journal* since 1991 and was a senior research associate of the Laboratory for Student Success (LSS) at Temple University from 1995 to 2005, where he led the Lab’s work on comprehensive school reform. He has edited four books on family–school relationships, authored a book on school improvement and personalized learning, edited books on statewide systems of support, and written articles and chapters in the areas of school management, school improvement, turnaround, and factors affecting school learning. He has consulted with more than 30 SEAs on their systems for school improvement.

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