

CHAPTER 1

Why We Need Self-Directed Learners

Most states in the United States and several provinces in Canada have imposed extraneous standards for learning. They have implemented externally administered assessments tied to these standards or coupled high school graduation to passing such assessments. Extrinsic accountability links teacher evaluation and even merit pay to increases in test scores. In some states school principals are held accountable for gains in standardized test scores. In the current politics of education, the key to school success is higher test scores. Such practices shift the focus toward the transmission of test-related information, making it difficult to embrace and sustain curriculum and instructional strategies designed for individual meaning-making and personal, self-directed learning. We may be contributing to a generation of “other directed,” dependent, externally motivated learners. The basic question is *are we preparing students for a life of tests or for the tests of life?* Or is it possible that, given tests are one of the gatekeepers for a student’s future, we should prepare them for both?

If we believe that we are preparing students to strategically confront

The foundational element in effective work systems is self-correcting, self-managing, self-accountable, self-governing behavior. Energy spent on monitoring and attempting to affect the behavior of team members or other entities from the outside is energy wasted and energy that could be better expended on improving the business and the capability of people. The critical element is to increasingly create self-governing capability.

—Carol Sanford,
*Myths of Organizational
Effectiveness at Work*

2 ASSESSMENT STRATEGIES FOR SELF-DIRECTED LEARNING

Children come fully equipped with an insatiable drive to explore and experiment. Unfortunately the primary institutions of our society are oriented predominantly toward controlling rather than learning, rewarding individuals for performing for others rather than cultivating their natural curiosity and impulse to learn.

—Peter Senge, “The Leader’s New Work”

and creatively resolve the ambiguous, paradoxical, and dichotomous problems and conflicts they will encounter in our increasingly more complex society, then the focus of education must shift. Both teachers and students must become continual and internally driven learners: self-analyzing, self-referencing, self-evaluating, and self-correcting. The purpose of this book is to establish a refreshing new view of assessment practices and to illuminate how assessment can enhance continuous, lifelong, self-directed learning.

Assessing as an Essential Component of Learning

Technology is now driving a new definition of accountability. We have the capacity to track data with greater specificity, thereby providing better information to teachers about test results. State departments are becoming increasingly more astute about how to provide such information.

You have the power to declare the person you are becoming.

—Joe Marino

However, given the number of tests that are being given, the cost of such procedures, and the lack of timeliness from most state departments, analysis of results does not always provide good individual diagnostic information.

In addition, process-oriented goals, such as the student’s capability to become more self-directed and self-evaluative, cannot be assessed using product-oriented measurement techniques. Our existing evaluation paradigm must therefore shift to one that allows for a more balanced method that includes classroom-based assessments that complement state-based assessments. Assessing student growth toward self-direction demands alternative and authentic forms of assessment. Students can become more self-directed when they know the intended learning outcomes and receive constructive feedback regarding their progress during the learning process. Alternate and more authentic forms of assessment are performance based, including rubrics, checklists, portfolios, and exhibitions that allow students to demonstrate their understanding and application of knowledge through the creation of a product or performance.

We believe that assessment is a mechanism for providing ongoing feedback to the learner and to the organization as a necessary part of the spiraling processes of continuous renewal: self-managing, self-monitoring, and self-modifying. We must constantly remind ourselves that the ultimate purpose of evaluation is to have students learn to become self-evaluative. When students graduate from our schools, we want them to have methods of self-evaluation and to know how to turn to external critique for self-improvement. We want them to know how to give and receive constructive feedback and how to revise their work based on such feedback. If students graduate from our schools dependent on others without an understanding of what is good, adequate, or excellent work, then we have failed them.

Evaluation, the highest level in Bloom's Taxonomy (1956), means generating, holding in your head, and applying a set of internal and external criteria. For too long, teachers have been practicing that skill. We need to shift that responsibility to students—to help them develop the capacity for self-analysis, self-referencing, and self-modification.

We believe that the intent of assessment should be to support learners in becoming self-directing and that what matters most in any assessment strategy is whether learners are becoming increasingly more able to self-evaluate. We want students to know how to give, receive, and make good use of constructive feedback.

Self-knowledge is the first step in self-assessment. The intent of this book is to provide educators with strategies to design diverse ways of gathering, organizing, and reporting evidence of continual learning and meaning-making in their efforts to support learners in becoming self-managing, self-monitoring, and self-modifying.

The Demand for Self-Directed Learners

Simply teaching students how to read the bible was once a sufficient mission for schools. Modern educators are realizing, however, that new goals are becoming increasingly apparent as survival skills for our children's future, for the perpetuation of our democratic institutions, and even for our planetary existence (Hay, 2001). Such goals include the following:

- The capacity for continued learning
- Knowing how to behave when answers to problems are not immediately apparent

You might well remember that nothing can bring you success but yourself.

—Napoleon Hill

4 ASSESSMENT STRATEGIES FOR SELF-DIRECTED LEARNING

- Cooperativeness and team building
- Precise communication in a variety of modes
- The appreciation of disparate value systems
- Problem solving that requires creativity and ingenuity
- The enjoyment of resolving ambiguous, discrepant, and paradoxical situations
- The generation and organization of an overabundance of technologically produced information
- The pride and craftsmanship of product
- Knowing and accepting ourselves
- Personal commitment to larger organizational and global values

Dave Posner, chief technical officer of Encirq Corporation, states, “What our 21st Century citizens need are trained minds and a passion for creative endeavor. And by a ‘trained mind’ I mean not only the ability to think, to gather data, to formulate models, to test hypotheses, to reason to conclusions, and so on. I mean, most importantly, the desire for and habit of thinking.”

Business leaders warn that the workforce must undergo a revolutionary change in order to respond effectively to this new work environment. Workers have to rethink their approach to “work” as they previously knew it. They are focusing more on learning how to build values, attitudes, and skills that will allow them to survive and succeed through multiple job changes and with far less structure and security (Panella, 1997). Dent (1995) states, “The coming work revolution will force us to rediscover our greatest strength—individual initiative—thus nurturing a spirit of entrepreneurship.”

A person’s sense of self-efficacy—believing that you have the capacity to do the job—is the most influential factor in ensuring a person’s success in life. Bandura (1997) states,

Perceived self-efficacy is concerned not with the number of skills you have, but with what you believe you can do with what you have under a variety of circumstances . . . effective functioning requires both skills and the efficacy beliefs to use them well.

Our democracy is threatened by a lack of commitment to citizenship, particularly the right to vote. We are exposed to so many sources of information that it has been increasingly more difficult to determine whether sources are credible. Our students will have to learn how to read information and discern the biases. They will have to become better informed about the global as well as local impact that the government’s decisions will have. Our democracy is based on the principles of balance—a delicate balance between local,

state, and nation. Now, more than ever, we must protect that balance through the constant vigilance of our citizenship. Students will have to know how to develop and defend their opinions based on the information they absorb. This requires continuous self-directed learning.

People governed by an internal locus of control show initiative in controlling their environment. They control their own impulsivity, gather information, are cognitively active, eagerly learn information that will increase their probability for success, and show signs of humor. When compared with individuals with an external locus of control, they are less anxious, less hostile, less angry, more trustful, less suspicious of others, less prone to suicide, less depressed, and less prone to psychosis (Laborde & Saunders, 1986).

Self-Direction: A Natural Human Tendency

Humans quest for mastery of their environment, control, self-empowerment, and continuous lifelong learning. Wheatley and Kellner-Rogers (1998) state,

Each human being is bred with a unique set of potentials that yearn to be fulfilled as surely as the acorn yearns to become the oak within it.

—Aristotle

Every living thing acts to develop and preserve itself. Identity is the filter that every organism or system uses to make sense of the world. New information, new relationships, changing environments—all are interpreted through a sense of self. This tendency toward self-creation is so strong that it creates a seeming paradox. An organism will change to maintain its identity.

Peak performers' primary locus of control is not external, but internal. One element that stands out clearly among peak performers is their virtually unassailable belief in the likelihood of their own success—and their track records reinforce their beliefs (Garfield, 1995).

Recent research in the neurosciences indicates that the human brain reconstructs itself from experience. Ornstein claims, "To make a personal change, we have to be able to observe the automatic workings inside ourselves. He describes the brain as having a neural selection system that wires up the nervous system differently, depending on the demands on the organism." Managing and developing the mind is to bring automatic processes into consciousness.

6 ASSESSMENT STRATEGIES FOR SELF-DIRECTED LEARNING

Defining Self-Directedness

A self-directed person can be described as being

- *Self-Managing*: Knowing the significance of and being inclined to approach tasks with a sense of clarity about the outcomes, a strategic plan, and necessary data, and then drawing from past experiences, anticipating success indicators, and creating alternatives for accomplishment
- *Self-Monitoring*: Having sufficient self-knowledge about what works, establishing conscious metacognitive strategies to alert the perceptions for in-the-moment indicators of whether the strategic plan is working or not, and to assist in the decision-making processes of altering the plan and choosing the right actions and strategies
- *Self-Modifying*: Reflecting on, evaluating, analyzing, and constructing meaning from experience and applying the learning to future activities, tasks, and challenges

These dispositions transcend all subject matters commonly taught in school. They are characteristic of peak performers whether they be in homes, schools, athletic fields, organizations, the military, governments, churches, or corporations. They are what make marriages successful, learning continual, workplaces productive, and democracies enduring.

Authenticity necessitates behaving autonomously, for it means being the author of one's actions—acting in accord with one's true inner self.

—Edward Deci, *Why We Do What We Do*

The goal of education, therefore, should be to support others and ourselves in liberating, developing, and habituating these intellectual dispositions more fully. Taken together, they are a force directing us toward increasingly authentic, congruent, ethical behavior, the touchstones of integrity. They are the tools of disciplined choice making. They are the primary vehicles in the lifelong journey toward integration. They are the “right stuff” that makes human beings efficacious.

They are the primary vehicles in the lifelong journey toward integration. They are the “right stuff” that makes human beings efficacious.

Assessing the “Bigger Picture”

Since the school environment and culture signals their values, teachers will more likely value and teach for self-directed learning if they are

in an environment that models, supports, and values self-directed learning. Teachers who have a sense of efficacy spawn more efficacious learners. No assessment of any one unit is complete, therefore, without assessing the qualities of the other surrounding units. To assess student progress, the quality of classroom conditions must be monitored as well. To assess teacher performance, the quality of school workplace conditions must be examined; and to assess the quality of the school district, the community support and commitment must also be assessed. Thus, a well-conceived assessment design includes a search for consistency and integrity of surrounding conditions that directly influence each component of the organization. Through sound leadership practices, staff development, and coaching, all inhabitants of the learning organization can become continuous and self-directed learners.

How much do students really love to learn, to persist, to passionately attack a problem or a task?

. . . to watch some of their prized ideas explode and to start anew?

. . . to go beyond being merely dutiful or long-winded?

Let us assess such things.

—Grant Wiggins

Learning Continuously Through Feedback Spirals

Self-directed learners demonstrate a commitment to change by building critique and assessment into their everyday actions. By reexamining and clarifying various aspects of the values, purposes, goals, strategies, and outcomes, they continue to learn and develop an even more positive disposition toward continued learning. But what process design best promotes this kind of feedback and continuous learning? Individuals employ feedback spirals by scanning the environment for clues about the results of their actions.

Whoever ceases to be a student has never been a student.

—George Iles

Components of Feedback Spirals

Feedback spirals depend on a variety of information for their success. In some cases, individuals make changes after consciously observing and reflecting on their own feelings, attitudes, and skills. Some spirals depend on the observations of outsiders (critical friends). And in other cases, those directly involved in a change collect specific

8 ASSESSMENT STRATEGIES FOR SELF-DIRECTED LEARNING

kinds of evidence about what is happening in the organization's environment. Once these data are analyzed, interpreted, and internalized, actions are modified to more closely achieve the goals. Thus, individuals are continually self-learning, self-renewing, and self-modifying.

The components of a feedback spiral may be diagrammed as a recursive, cyclical pathway (Figure 1.1):

Clarify goals and purposes: What is the purpose for what you are doing? What beliefs or values does it reflect? What outcomes would you expect as a result of your actions?

Planning: What actions would you take to achieve the desired outcomes? How would you set up an experiment to test your ideas? What evidence would you collect to help to inform you about the results of your actions? What would you look for as indicators your outcomes were or were not achieved? And how will you leave the door open for other discoveries and possibilities that were not built into the original design? What process will you put in place that will help you describe what actually happened?

Take action/implement: Execute the plan

Assess/gather evidence: Implement the assessment strategy

Study, reflect, evaluate/derive meaning: Whether this is an individual or organizational change, how are the results congruent with stated values? What meaning can be made of the data? Who might serve as critical friends to coach, facilitate, or mediate your learning from this experience? What have you learned from this action?

Modify actions based on new knowledge: What will be done differently in the future as a result of reflection and integration of new knowledge? Is this worth trying again?

Revisit/redefine: Do the goals still make sense? Are they still of value or do they need to be redefined, refocused, refined? This returns to the first step in the spiral of goal clarification.

The Teacher as a Self-Directed, Continuous Learner

The concept of self-directed learning is familiar to many professional teachers. As they are self-directed, learning includes self-managing,

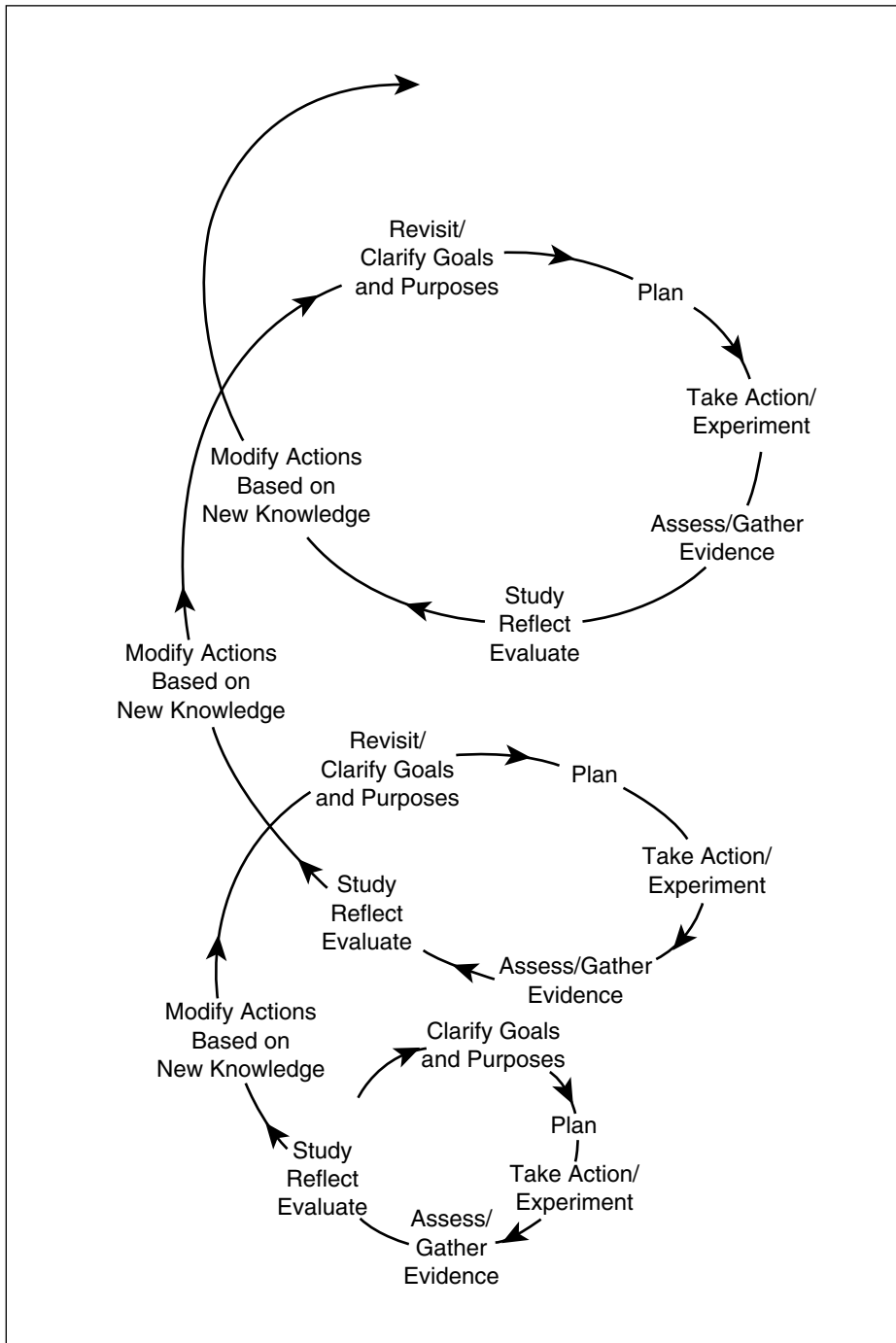


Figure 1.1

SOURCE: Costa & Kallick (1994), *Assessment in the learning organization*. Alexandria, VA: Association for Supervision and Curriculum Development. Used by permission.

10 ASSESSMENT STRATEGIES FOR SELF-DIRECTED LEARNING

self-monitoring, and self-modifying. These behaviors apply as much to teachers as they do to students.

Teachers self-manage, self-monitor, and self-modify on a daily basis. They plan lessons, activities, units, and events intended to produce student learning. During an event or lesson, teachers keep that plan in mind and continually monitor their own and student's behaviors, being alert to indicators of achievement. Then, upon completion of the lesson, teachers reflect on the lesson to evaluate its effectiveness in producing the desired student outcomes. Thus, the act of teaching is viewed as an opportunity for continually improving student learning and the craft of teaching.

As you read and reflect on this section, you may better understand what is meant by self-directed learning as it is applied to our craft of teaching. You are also invited to assess your professional self by comparing what effective teachers do with your own instructional dispositions and capacities.

The Self-Managing Teacher

Prior to teaching, most teachers engage in the complex intellectual skills of planning. Such teacher decisions include the following:

Becoming clear and precise about descriptions of anticipated student learnings that are predicted as a result of instruction. During planning, a teacher envisions cues: definitions of acceptable forms of student performance for learning. The teacher also selects potential solutions, back-up procedures, and alternative strategies for times when the activity needs to be redirected. Accomplished teachers have immediate goals for a lesson, but they also know that the lesson leads to a longer-term, more pervasive outcome as well. They keep in mind the school's or district's standards of learning.

Drawing forth past knowledge about students' present capabilities or entry knowledge. This information is drawn from previous teaching and learning experiences, data from school records, test scores, and clues from previous teachers, parents, and counselors. Empathic teachers plan lessons taking the students' point of view—their interests, their attention span, and learning styles.

Making mental maps of the instructional sequences or strategies that will most likely produce immediate and long-range instructional outcomes. Flexible teachers draw on multiple strategies to achieve their lesson goals. Based on their knowledge of the content to be taught, the learners in their charge, and the available resources, they

can design multiple alternative instructional strategies for achieving their goals. (This becomes even more apparent during teaching—the self-monitoring—described below.)

Anticipating strategies for assessing student outcomes. Gathering evidence during the lesson will provide a basis for evaluating and making decisions about the design of future instruction.

Planning for continuous self-learning. Self-directed teachers view each lesson as a “thought experiment” in which not only the students learn but so, too, does the teacher. Every lesson provides an opportunity to learn more about the craft of teaching and instructional strategies, the processes of student learning, the content or discipline in which they are working, or the standards of learning. For example, as a continuous learner, the teacher might say to him- or herself: “I’m experimenting with my wait time after asking a question; I’m going to pay attention to what happens to students’ thinking when I increase my use of wait time.” Or, “In our staff development, I learned about asking more complex questions using positive presuppositions. Today this lesson will provide a perfect opportunity to practice designing and posing those complex questions and to search for their effects on my students.”

Sometimes events happen in the classroom to which teachers spontaneously and intuitively respond. Even though these actions are unplanned, they can serve as a source of continuous learning as well. Teachers might “take a birdwalk” from their designed lesson and students get so intrigued that the results are better than what was planned. The teacher may then add that strategy to his or her repertoire and plan to use it again.

Planning flexibly with the student in mind. Planning also demands that the teacher think flexibly by engaging multiple student perspectives, multiple and simultaneous outcomes, and multiple pathways. Effective teachers have the capacity to view their lesson in both the immediate and longer range as well as from their own and students’ points of view. They are not only analytical about the details of this lesson and can also see connections between this lesson and other related learnings. They know where this lesson is leading and how it is connected to broader curriculum goals.

The Self-Monitoring Teacher

Once a lesson begins, effective teachers are alert, aware, and conscious of what is occurring in the classroom. Most teachers have little time to consider alternative teaching strategies and the consequences

12 ASSESSMENT STRATEGIES FOR SELF-DIRECTED LEARNING

of each. During the lesson, teachers constantly make conscious or subconscious, spontaneous, and planned decisions.

Keeping standards of learning and a planned strategy in mind while teaching provides teachers with a backdrop against which to make new decisions. One of the great mental skills of teaching is to remember the lesson plan during the press of interaction. Teachers often suffer cognitive overload: too many things going on all at the same time.

Metacognitive teachers are aware of their own thinking, decisions, and actions. *Metacognition* refers to teachers' critically important capacities to consciously "stand outside themselves" and reflect on themselves as they manage instruction. During a lesson, teachers may ask themselves, "Are my directions clear? Can students see the image on the screen? Am I communicating precisely so students understand me? Should I speed up?" Such internal dialogue means the teacher is constantly monitoring his or her own and students' behavior during instruction.

Successful, conscious teachers engage in such metacognitive skills as the following:

- Keeping place in a long sequence of operations
- Knowing that a subgoal has been attained
- Detecting errors and recovering from them by making a quick fix or retreating to the last known correct operation

This kind of monitoring involves both looking ahead and looking back. Looking ahead includes

- Learning the structure of a sequence of operations and identifying areas where errors are likely
- Choosing a strategy that will reduce the possibility of error and will provide easy recovery
- Identifying the kinds of feedback that will be available at various points and evaluating the usefulness of that feedback

Looking back includes

- Detecting errors previously made
- Keeping a history of what has been done to the present and thereby what should come next
- Assessing the reasonableness of the present and the immediate outcome of task performance

Flexible teachers manage their impulsivity by avoiding strong emotional reactions to classroom events. This is an efficient strategy to

reserve the limited capacity for conscious processing of immediate classroom decisions.

Many classes are filled with students in a heterogeneous array of languages, cultures, and learning styles. Each student must be dealt with employing different strategies, cultural experiences, vocabulary, examples, and techniques. Flexible teachers have a vast repertoire of instructional strategies and techniques, and they call forth alternative strategies as needed (Costa & Garmston, 2000, pp. 163-167).

The Self-Modifying Teacher

After teaching the lesson, the teacher now has two sources of information: the lesson that was envisioned during planning and the actual lesson as performed. Teachers analyze the lesson by collecting and using understandings derived from the comparison between actual and intended outcomes. If the teacher finds a great similarity between the two, there is a match. But a discrepancy exists when there is a mismatch between what was observed and what was planned. Teachers generate reasons to explain the discrepancy: cause-and-effect relationships between instructional situations and behavioral outcomes.

Self-directed teachers take responsibility for their own actions and constantly strive to improve. One might hear a self-evaluating teacher say, "Of course the students were confused. Did you hear my directions? They were all garbled. I've got to give more precise directions."

Self-directed teachers consciously reflect upon, conceptualize, and apply understandings from one classroom experience to the next. As a result of this analysis and reflection they synthesize new knowledge about teaching and learning. As experiences with teaching and learning accumulate, concepts are derived and constructed. Teachers' practice thus becomes more routinized, particularized, and refined. They are capable of predicting consequences of their decisions and experiment more and take more risks. They expand their repertoire of techniques and strategies to be used in different settings with varying content and unique students and situations.

Thus, the professional teacher is a continual learner—managing the instruction and learning in their classrooms, self-monitoring their own and students behaviors, and then self-modifying to improve themselves and their students' achievement constantly.

A Reflection on Learning

Following is a reflection by Heather Wieler, a second-grade teacher at Glenora Elementary School in Edmonton, Canada:

14 ASSESSMENT STRATEGIES FOR SELF-DIRECTED LEARNING

Initially I thought the students would respond to the choice with confusion—thinking they had to do them all or feeling confused about “which one to choose.” However, I found that when given clear expectations and examples of another’s work they were very enthusiastic about the project. I also realized that my students have become familiar and comfortable with the idea that not everything has to be done the same way by everyone all the time. They are starting to realize that there are often different ways of solving the same problem or different strategies that can be used to accomplish the same task. In this lesson they were excited to choose what they really wanted to reflect on—instead of being told what to reflect on. I was also surprised at the quality of writing I received from the children. They knew they had to follow the criteria, but the content was up to them and it was evident in their writing. I received entries that were meaningful, perceptive, detailed and insightful—and perhaps what was most intriguing was that each entry was so unique. I didn’t read the same thing over twenty-six times but was genuinely interested in what the children had to say because they wrote about what was meaningful to them.

As we read through the examples together I asked the students questions such as

Where did this person use “think back”?

What details is he giving?

Can you find the sentence with the details?

How about the looking ahead part?

The students enthusiastically identified parts where the writer was using “Think back . . . Look ahead.” However, they missed a key example I was hoping they would find—they did not make the connection that the one person wrote about how working in a greenhouse is important to the community and that was a concept discussed in the previous social unit. I considered pointing it out—but decided instead to let them find their own examples of evaluation and see where their own observations took them. It’s still a learning process for me too—that there isn’t always one right “answer” or way of doing things. It’s not self-directed learning when you simply tell students everything—we have to let them make the discoveries.

My objective in getting the students to use the motto “Think back . . . Look ahead” and to identify examples of evaluation is to get them to articulate the thinking that they do. It is a learning process for them and for us as teachers—but as we continue our work with our students it is amazing to see the growth from year to year in both the staff and students.

Summary

To develop the humility of continuous learning, the school community gathers data through conscious observation of their own feelings, attitudes, and skills; through observation and interviews with others; and through collecting evidence of the effects of their efforts on the environment. These data are analyzed, interpreted, internalized. Based on this analysis, actions are modified in order to achieve the goals more closely. Thus, individuals and organization are continually self-learning, self-renewing, and self-modifying (Costa & Kallick, 1994).

Self-directed people are resourceful. They tend to engage in cause-and-effect thinking, spend energy on tasks, set challenging goals, persevere in the face of barriers and occasional failures, and accurately forecast future performances. They proactively locate resources when perplexed. Seeking constant improvement, they are flexible in their perspectives and are optimistic and confident with self-knowledge.

Self-directed people are in a continuous learning mode. Their confidence, in combination with their inquisitiveness, allows them to constantly search for new and better ways. People with this disposition are always striving for improvement, always growing, always learning, always modifying and improving themselves. They seize problems, situations, tensions, conflicts, and circumstances as valuable opportunities to learn.

A great mystery about humans is that we confront learning opportunities with fear rather than curiosity and wonder. We seem to feel better when we know rather than when we learn. We defend our biases, beliefs, and storehouses of knowledge rather than inviting the unknown, the creative, and the inspirational. Being certain and closed gives us comfort while being doubtful and open gives us fear.

Immersed from an early age in a curriculum of fragmentation, competition, and reaction, students are trained to believe that deep learning means figuring out the right answer rather than developing capabilities for effective and thoughtful action. They have been taught to value certainty rather than doubt, to give answers rather than to inquire, to know which choice is correct rather than to explore alternatives.

Our wish is for creative students and people who are eager to learn. That includes the humility of knowing that we don't know, which is the highest form of thinking we will ever learn. Paradoxically, unless you start off with humility you will never get anywhere, so as the first step you already have to have what will eventually be the crowning glory of all learning: the humility to know—and admit—that you don't know and not be afraid to find out. This book will show how self-assessment contributes to such growth.

Organization of the Remainder of This Book

In Chapter 2 we describe the dispositions of self-directed learners. We start by building a background based on Robert Marzano's (2001) *New Taxonomy of Educational Objectives*. We then describe fourteen intellectual dispositions of self-directed learners. These dispositions often overlap as they are intended to be performed in an integrated way. They are classified under three components of self-directedness: self-managing, self-monitoring, and self-modifying.

Promoting self-directed learning doesn't "just happen" because we believe in it. It must become an integral component of the curriculum, instruction, assessment, and the culture of the learning organization. Everyone in the school community needs to continue to develop their capacities for self-directedness in order to build a community dedicated to continuous learning, incorporating many examples from schools that are dedicated to self-directed learning. Chapter 3 provides a range and variety of assessment strategies, all with the intent of promoting self-directed learning. Incorrect application of traditional forms of assessment may be used as summative and even punitive. This chapter shows how assessment may be used as a tool for students to gather data about their own progress, how assessment may promote personal mastery, and how feedback energizes continual learning.

What district, school, and classroom conditions must be in place for learners to become self-directed? Chapter 4 describes those cultural elements and the leadership qualities needed to construct and signal self-directed learning as a valid outcome for all the inhabitants of the learning community.

Peter Senge (Newcomb, 2003) believes that "to educate children well, school superintendents and cafeteria workers alike need to scrutinize how they think about their jobs. They must become aware of the deeply ingrained assumptions they may not even know they have—but that can inhibit their performance or blind them to new possibilities."

The teacher's role is crucial. This means that many teachers must modify their approaches from a traditional approach where information is dispensed and judged to one of inquirer, questioner, facilitator, and model. With the constant intention of having the student in charge of his or her own learning, we investigate the decision-making processes of teaching as lessons are designed, content selected, and instruction performed. Changing our ways of teaching to facilitate student self-directed learning may take a perceptual shift for many of us—from teacher as problem solver to assisting students to solve their own problems; from feeling solely responsible for motivating students to unleashing the innate motivation students have to learn; and from using praise and rewards to motivate learning to helping students

gain satisfaction for themselves for achieving their goals.

OK, so now you're convinced that schools and teachers should embrace self-directed learning. Where to begin? Drawing on experiences from other successful schools, Chapter 6 offers many suggestions for how to mobilize for action, how to get started, and where to begin.

The appendices include additional resources to support your new journey. They have further references and materials as well as quotations that exemplify self-directed learning.

Success isn't a result of spontaneous combustion. You must set yourself on fire.

—Arnold H. Glasow