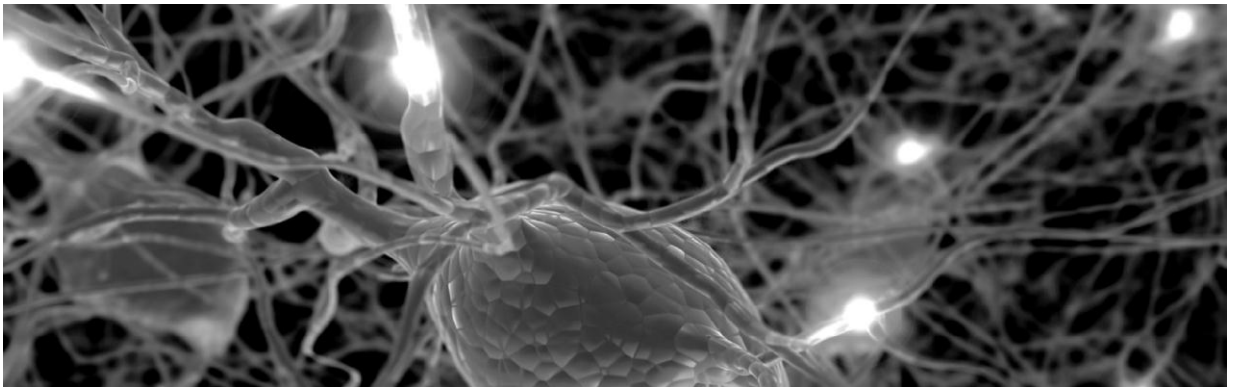


# Your Expanding Intelligence

*Fifth Edition*

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**Jill Wilks, M.Ed.**



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## Welcome: A Note from the Author

*We all have two lives, the one we are given and the one we create.*

—Mary Chapin Carpenter

I can imagine no better words for starting a learning journey than Mary Chapin Carpenter’s lyrics. For those entering higher education at a traditional age, this quote represents that cusp in a very black and white way—leaving the home(s) of your childhood and entering your creation of adulthood. Creating and integrating the life you want into the life you have been given starts now.

For those of you returning to school after years away, you, too, are in the process of creating, but the line between *given* and *create* is less clearly marked. Your journey is evolving as are all human lives. Consider where you began life as an infant and what your choices were when you were the age of traditional higher education students. How have you evolved? Toward your higher self or a more base self? Higher education encourages you to look toward the greater good for humanity, not merely a job.

Others may be considering this workbook to improve teaching and learning environments in higher education, K–12 settings, support offices, or homes. As faculty, administrators, or instructors, you may be wanting to evolve beyond industrial designs to create knowledge-age learning environments through syllabi or departmental or institutional design. As mentors, tutors, support professionals, advisors, or other educational leaders, you may be using this workbook to evolve beyond a helper role to direct or design for independence and interdependence in learning, rather than mere “right” answers and obedience. As parents, you may want to use the concepts to evolve toward servant leadership, setting limits but providing rich environments to nurture and challenge an effective internal authority in each child.

No matter your reason for considering these ideas, realize that everyone’s journey is unique. Humans are hardwired to learn and think, but both take time and observable challenge. Allow time for these ideas to sink in and become *yours* and allow the same for others. Industrialism has unwittingly overemphasized speed and ease, and as psychologist Martin Seligman suggests, learned helplessness.

This workbook does not intend to tell people what to think, but to nudge people simply to think, then practice deliberative democracy to listen and converse with others to consider solutions beyond our present imaginations! It also establishes baseline habits of individual learning and thinking, which allow people to accelerate learning or excel beyond historical struggles in any subject, even math.

Finally, realize or recall that higher education was not designed historically to get people jobs or careers. That’s a recent expectation. Education was placed as a cornerstone of American ideals to ensure effective democracy. The ability to *practice*—not merely espouse—democracy, liberty, justice, and the pursuit of happiness requires a higher sense of citizenship.

Through higher education humans have the opportunity to improve the ability to think globally, to communicate and collaborate across diverse topics and populations, to create wellness, and develop a higher aesthetic sense. Indeed, those transferable skills increase access to jobs,

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- Schwartz, Barry. *The Paradox of Choice: Why More Is Less: How the Culture of Abundance Robs us of Satisfaction*. New York, NY: HarperCollins, 2004.
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# Your Learning: 1

## Be Curious

### **Senior who considered his *Expanding Intelligence* one semester before graduation**

“During my school career, I often wondered if I was ever going to make it through. My attitude was all wrong, and my grades showed it. I didn’t want to invest in something that I thought was only going to be temporary. I would tell myself that I was learning the material, but my grades did not reflect what I had learned, only what I hadn’t.

“In taking this class my senior year, I faced a real eye-opener when I saw the impact this kind of thinking has had on my education and me. Most of my classes were ones I didn’t want to be in, just ones I had to get through to finish my degree. I viewed schooling as a problem, not an opportunity. This is the primary reason that I struggled for all these years in my education. Every year I struggled with earning acceptable grades and going to class.

“Last November when I went to get graduation papers signed, I learned I had to take a couple more classes. On one hand I was excited to come back because I love it here, and I felt I still needed the social aspect of college. On the other hand, I was devastated because I had been going to school for the last four years, and I had expected to be finished, so I started the semester with a bad attitude.

“Ironically, this semester has helped me look at school and life in a whole different light. I am sad that I did not take this class sooner so that I could see what I was doing to myself, but I am glad that I now know that I can change my future.

“I realize now that success is just a matter of making things interesting so that I will want to learn. I’ve looked back and scolded myself for wasting time, money, energy and opportunities that probably won’t happen again in my life. I will not say that I wasted my college career because I have learned some useful information. I am just sad that I did not take more opportunities available to me that I learned about in this class.

“I am determined to continue my change, however. I will also remember that only I can make learning more meaningful, which means only I can make my life more meaningful.”

## Prepare: Prime for Efficient Learning

Use two different pen or pencil colors to measure your learning, rather than waiting for an authority figure to tell you. Before reading the chapter, answer *Prepare* questions as thoroughly as you are able with existing brain. If you do not know anything about the information, be aware of and honest about it. Simply write, “I do not know,” or create an abbreviation for same. After completing the chapter through lecture/workshop, reading, and activities, return to this self test and add new information using a different pen or pencil color so you can see brain growth.

1. How are educational, medical, business, and warfare models changing to meet the needs of the knowledge age?
2. Discuss the differences between industrial and knowledge paradigms.
3. What is meant by expanding intelligence, and how do firing and wiring together direct that intelligence?
4. Why do we need to unlearn industrial habits? After answering, complete the sentence stem: To create effective habits in higher education, I need to unlearn...
5. Complete 2–3 answers for each concept by defining it, providing an example of it, and/or explaining the purpose for knowing about it.

Disequilibrium:

Fight-flight response:

Tend-befriend:

Dendrites:

Filters/perspectives:

Cognitive structure:

Neurochemicals:

Power-to versus power-over

6. What is meant by “guide and direct” your thoughts, feeling, and actions?

## Input: Changing Times

### From Industrialism to the Knowledge Age

---

*When resources came out of the ground, America was a rich country. Now that resources come out of the head, it is a developing country.*

—Tribes: A New Way of Learning and Being Together

For fifty-plus years, humanity has been experiencing a shift from an industrial to a knowl-edge age. During industrial times, leaders designed school, work, and home environments to insure power over people, intending to keep them calm, orderly, and obedient. Humans were taught to be good or be punished, and leaders thought the management methods would boost productivity and efficiency. Unfortunately, humans are not the machines that industrial designs expected them to be. Indeed, by nature they are spirited thinkers and in-novators, hardwired to face and overcome immense challenge.

Consider this move away from the power-over of “might, muscle, and machinery” to add a balance of the complementary energy of intellect or the power-to achieve. Horrible as it may be to realize, the attacks on the Trade Centers were not a result of muscle, might, and amassed weapons. They were a result of intellectual capacity, not one I embrace, but intel-lectual capacity all the same.

As times change, knowledge-age designs will move away from the use of fear as a mo-tivator to teach people to “choose” good in order to create “brain highs” or a sense of flow and belonging. By igniting and facilitating each person’s full potential or power-to achieve whatever one sets the mind to, education and other human management mod-els will capitalize on the fact that humans are natural learners—when systems let them be. Indeed, human wellness requires constant learning, and an ability to direct both creates civility and empathy for differences!

Because education is how America hands out life choices, systems must continue to face honestly their use of the power-over in regards to the distribution of information and the measurement of intellectual development and potential. Industrial designs control some learners, resign them to failure by prohibiting or limiting essential tools, informa-tion, habits, resources, and ways of demonstrating learning.

With the World Wide Web, cell phones, a global economy, and expanding human di-versity, people are now limited only by their internal drive and motivation. More than ever, learners must become less dependent on authority figures and more independent and interdependent in learning and decision making.

Once people begin to see instructors as authoritative rather than authoritarian, they will begin to develop a personal, internal authority to direct individual learning and evalu-ate it against a recognized standard.

Such personalized learning allows all to develop and *practice* the self-discipline required of liberty, democracy, and the pursuit of happiness. Schools will unleash and mold the spirited, human power-to. Rich, engaging environments will allow instructors to lead learners by following and directing them to note how they learn; how to choose well-ness and self-discipline; and how to direct thoughts, feelings, and actions for intentional outcomes.

When the school day focuses on completing societal expectations and pursuing personal interests, students will become self-directed and self-disciplined learners. Until then, industrial designs inhibit the holistic wellness of our learners and our leaders. Rather than focusing on motivating students or pushing them up the ladder of success, we must shift to inspiring learners by creating rich environments that allow leaders to stand at the top of each ladder, saying, “Choose this ladder of learning today. It is so exciting!”

### Shifts in Work and War

---

*We now accept the fact that learning is a lifelong process of keeping abreast of change. And the most pressing task is to teach people how to learn.*

—Peter Drucker

The paradigm shift from the power-over industrial design to the power-to, human as co-creator, design has been happening for fifty years in business and medical models. Consider America’s airlines. The shift from industrial to knowledge designs has already driven some out of business, while others struggle to thrive after bankrupt status.

I was disappointed with supposed free-market capitalism when some airlines blamed fiscal challenges on the World Trade Center attack. In reality, most were struggling before the attack because they ignored the need to shift management models and found themselves ill-prepared for the worst. Southwest Airlines, however, had been using a knowledge-age business model long before the attacks. The model’s flexibility allowed them to retool ticketing and security practices in a matter of days. Of course, Southwest felt an impact, but they quickly nudged practices of continuous improvement from employees to solve a problem it took other airlines weeks, even months, to figure out.

American car industries are experiencing the same challenges. They could have avoided them if they had considered the power-to models of Edwards Demming fifty-plus years ago when he came to American businesses to offer his new model of human management: participatory governance. Americans rejected it. It represented a power-to achieve mental construct, not the familiar, self-perpetuating power-over model that was (and still is) well entrenched. So where did Demming take his model? Japan. Today, Honda, Toyota and Nissan, brought to the globe by forward-thinking leaders in Japan and an American, rule the market. Change comes by force or by choice, depending on an individual, departmental, institutional, or national ability for forward thinking and self-renewal.

Even the armed forces, the most rigid of American institutions, embrace new human management models for developing the power-to in the battlefield—which paradoxically generates the necessary energy for the power-over. Apparently, in trench-centric



# Module 1: Be Curious

vocabulary &  
annotations

## Complete Modules

---

Each chapter ends with a *Module* which directs you to either 1) establish baseline habits or 2) demonstrate mastery in the habits of higher education. The *Modules* direct you to APPLY brain-based learning habits in a *Companion Class* to ensure or expand efficient learning. The baseline portfolio allows you, support professionals, and institutions to create a successful journey. Recall that higher education is not a requirement. It is an expensive privilege and choice.

Unfortunately, industrial designs have done little to encourage thoughtful consideration about students' ethical responsibility for the cost of education. Start facing that implicit responsibility by mastering the habits detailed in the *Modules*. Each will allow you to balance your work and play time and insure timely completion of this expensive endeavor.

## Identify a Companion Class for Module Completion

---

A *Companion Class* is a course you are taking this term which will become the focus of application in this workbook. It is a course where you will APPLY the ideas and tools of efficient and authentic learning. Choose a course that uses traditional testing, reading, lecturing, and/or discussion because those habits often pose the greatest challenge. If possible choose a "killer" course, one that is challenging because you have **never studied** the subject or you have a **resistance to it** or you **do not like** the time of day or teaching style.

My Companion Class will be: \_\_\_\_\_

I am choosing this class because: \_\_\_\_\_

In this class, I hope to: \_\_\_\_\_

As the term progresses, you may need to change your Companion Class. That's fine. Simply come back to this page and make a note about your change. Remember, this workbook is establishing a baseline portfolio of one semester's habits so that you can adjust to meet personal and societal intentions, or demonstrate your mastery in interdependence and readiness.

I am changing my Companion Class to: \_\_\_\_\_

\_\_\_\_\_ Date: \_\_\_\_\_

I wanted to change because: \_\_\_\_\_

## Practice Deliberative Democracy and Civility

---

Some educational designs use discussion groups to encourage debate, argument, and persuasion, and *Your Expanding Intelligence* applauds any form of talking because it represents active learning. The workbook's front cover notes the increased brain activity when learners talk or write.

To enhance effective civility, this workbook asks you to develop a habit of talking with a specific intent of deliberative democracy. Unlike traditional discussion groups, during deliberative democracy, participants work to hear from all people, gathering diverse points of view and setting aside disagreement, argument, or debate. Learners are asked to reflect and reconsider their own ideas in the context of other perspectives as the group considers a topic or event. Often called seminar, deliberative democracy seeks to be inclusive of all ideas, expansive in thoughtful questioning and directive toward solutions effective for improving society at large and balancing individual freedoms with civil responsibilities.

If your instructor or institution does not create this setting for you, create it yourself. Work to connect what you are learning in your courses to real-world information in the news, to professional-world expectations in career development, and to civil discussion in small groups. Using material from courses or elsewhere, agree to meet regularly with your colleagues to:

1. Allow time and space to develop habits in conversing about academic or social topics.
2. Prime your mind for active, authentic learning.
3. Practice and enhance collaborative learning.
4. Speak assertively to practice wellness and reasonable civility.
5. Consider the value of effective questions for nurturing discussion.
6. Sense how the question and answer are one.
7. Seek connections between seemingly unrelated information.
8. Ensure that everyone is heard to seek diverse and substantive ideas for decision making.
9. Consider the value of conversation in forming neural connections.
10. Realize the habits of democratic societies.
11. Realize the personal responsibilities when aspiring to *life, liberty, and the pursuit of happiness*.



## What's in Your Library? 2

### Value General Education to Build an Interdisciplinary Mind

#### **Freshman softball player who doubted the value of *Expanding Intelligence***

“At the beginning of this class, my study habits and attitudes were typical of the average freshman. I would wait until the last possible moment to complete an assignment. The notes I took during lecture were often unorganized and unclear. I would never read ahead in the text or review the material. At test time, I would stay up the night before and cram.

“While in class, if the subject was not interesting to me, I would daydream or fall asleep. Unless the class was in my major, I would be close-minded and make a pre-conceived notion about why I would not like the class. I usually possessed a specific attitude without actually knowing what the class would be like. At the beginning of this class, I was very skeptical as to whether this would be beneficial. I thought it would be full of busy work and use-less assignments.

“During the semester, I made a variety of simple changes in my study habits and simple, but huge, changes in my overall attitude. I did the assignments suggested in class and started to communicate with my professors, and I started to keep a more accurate account of my grades in each class. I worked to find something interesting about

each class, so I had some incentive to go. I read ahead in the text, so when the teacher gave the lecture I would have questions or comments in mind. I began to use a day planner and balance my time between school, softball, and fun.

“I also used a variety of other tools. Cornell works best for me and green is my color. I now take breaks when I study and actually study, not cram! I am sure to avoid studying when I am hungry, tired or distracted so I can retain the information and get more accomplished in less time. I participated in study groups and found I learn much better than when I study alone. I also realized I could not depend on the group. I also have to do my own studying.

“In completing this workbook and working to apply the ideas I had to realize that my attitude and preconceived beliefs often did make me learn how to avoid learning. The ideas for success have helped my attitude, my life and my grades which have to be good for softball. I actually enjoyed classes that are not in my major and learned not to take things so seriously. I've had a great first semester and this book helped to make that happen.”

## Input: Direct for Knowledge-Age Habits

### Know That Knowledge Is Limitless and Changing

---

*We do not know one, one-millionth of one percent of anything.*

—Albert Einstein

We are not able to know everything because a lifetime is too short and knowledge changes constantly! Industrial school designs have become cumbersome and unwieldy because they start with the belief that a centralized curriculum can teach it, or even know it, all. It disregards the effects of time, space, and human intention on outcomes. A knowledge-age belief system acknowledges, designs for, and celebrates the unbounded nature of learning. Such openness is essential.

Consider the story of ulcers. What do you think causes them?

Most people say stress or anxiety. If you did, consider this story. About fifteen years ago an Australian medical doctor discovered that bacterial infections cause ulcers. (Yes, a relationship between bacteria and stress exists.) He told his well-educated colleagues about the discovery, but they doubted him and discouraged his insistence. Finally, to prove his point, he mixed himself a bacterial milkshake, drank it, gave himself an ulcer, treated it with antibiotics and changed the protocol for treating ulcers.

What went on in the other doctors' minds and their professional training that limited their ability to really understand ulcers? What stopped their thinking and set up their resistances? Belief preservation. The ulcer story is not an isolated event in history. Great minds do indeed meet with great opposition, and disequilibrium seems to be at the root of it! I'd also suggest that too much emphasis on Aristotelian thinking and sequential processing, and not enough folklore doctoring, causes a dependence on memorization and discourages simply thinking.

Perhaps understanding that knowledge is endless and ever changing will encourage you to look beyond habits of frantic memorization and pure obedience. Higher education seeks to encourage an appreciation for learning all knowledge in the life around you. Be patient with yourself as you work to think in a deep and compassionate manner.

### Move Beyond Obedience and Memorization

---

*Half a student's day must be spent following personal interest, and the other half learning social expectations.*

—John Dewey

Because America's public K–12 system is industrial, it generally directs student thinking toward obedience and memorization and does little to encourage spirited learning, creativity, or habits of inquiry. Schools download information into learners' heads without a context for it and with little time for self-directed, deep-structure, authentic learning. Expected to passively ride along on the assembly line, when learners are not ready for the

prescribed steering wheel or drive train, we send them off to the repair, recall, or reject department!

Do not misunderstand. I know the value of obedience and memorization, but they must be balanced with active, self-directed learning. Hopefully, with our undeniable evidence of neural plasticity, the near future will allow institutions and educational leaders to focus students' attention on how to learn, how to self-discipline, how to practice civility and thoughtfulness so we can get on with fine tuning and continuously improving our young democracy.

Until the system changes, direct your own learning. You are the only one who holds yourself back from anything, not a teacher, school design, test, personal past, or hierarchy of corporate or governmental control. You are the only one who can find the value of higher education curriculum. Work consciously to move past memorization and obedience to become a spirited learner, eager to question and seek connections, relationships, and patterns.

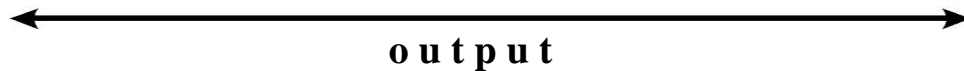
### Use New Basic Skills: Access, Process, Present

---

*A disciple once said to his master, "Master, why do you tell us stories but never reveal their meaning to us?" The master said, "How would you like it if someone offered you fruit, but chewed it up before giving it to you?" No one can find your meaning for you, not even a master.*

—Unknown

The transition into the knowledge age necessitates many changes. Perhaps the most rudimentary change is needed in the way our designs unwittingly limit basic skill development by defining it as reading, writing, and arithmetic. Our definitions need to expand to capture what a successful human requires in any learning situation. Consider *Access, Process, and Present* as possibilities for the knowledge-age learning basics.



### Use Access, Process, Present

Think of something you recently learned. The more dramatically the learning changed your life, the more visible the process will be in this activity. Something as simple as learning to drive a car could be used.

As you read through each of the new basic skills, consider the questions you would have asked and the various activities and thoughts you may have had in working toward learning.

*Access*

In the first knowledge-age basic skill, learners have to want something enough to be asking: What do I want? How do I get it? What resources do I need? Consider some of the actions required for the first new basic skill, and add any you can think of.

- Discover and identify personal wants.
- Name intended expectations or standards.
- Develop self-knowledge and redirect disequilibrium.
- Identify and pursue necessary societal, fiscal, human, physical, informational resources.
- Generate and self-renew intrinsic motivation.
- Others:

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*Process*

In the second basic skill, learners have to process something to make it theirs, to have it fit and connect in their present neural library. As unique and diverse as every individual, processing will have learners working to think about their thinking, to notice how they learn and direct thoughts, feelings, and actions for intended outcomes. Once you master processing abilities unique to your mind, work to develop diverse methods, beyond your preferred style. The learning disability movement and discussion of learning styles tend to limit students by encouraging them to go only for what works easily and comfortably.

The second skill will have learners asking:

What do I need to understand?

How do I best receive and recall information?

How developed are my skills in reading, writing, and arithmetic?

How do I build deep neural pathways and connected neural networks?

What emotional associations do I connect to the information?

Consider these aspects of human processing and add any you find missing.

- Methods for attending, concentrating, reading, writing, listening, computing, and calculating.
  - Abilities in attending, concentrating, reading, writing, listening, computing, and calculating.
  - Recognition of emotional associations.
  - Use of each of the four modes of building brain.
  - Use of Gardner's Multiple Intelligences.
  - Recognition of Piaget's hierarchy of learning.
  - Identification and use of habits in varying communities of practice.
  - Abilities to process skill-specific and diverse languages.
  - Use of brain-based learning plans.
  - Ability to direct intention, to monitor and adjust or to reflect and project.
  - Others: \_\_\_\_\_
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*Present*

The third basic skill defines how and what a learner or person does to demonstrate readiness, expanded intelligence, or achievement of a recognized standard. In most schools, students are measured against each other in achieving a recognized standard determined by governing and accrediting boards. The methods of presentation include tests; papers; speeches; or in the arts, performance or shows.

With definitions of intelligence expanding in the knowledge-age, we will begin to measure learning in more diverse ways and place more emphasis on individual growth. Learners and leaders will work as team players to note starting and stopping points and how they correlate to a recognized standard.

At this stage learners ask:

How will I demonstrate learning or the standards I have reached?

What recognized standards can I go for next?

How and to whom will I present to finish the goal or gain support to continue creating what I want?

Consider the actions that might take place in the final basic skill and add others you might have experienced.

- Determine standards/measures.
  - Identify an objective assessor.
  - Write about what's been learned or pass a test to demonstrate learning.
  - Create visual presentations and/or present using public speaking.
  - Present using any performance method.
  - Submit a proposal to receive an intended outcome.
  - Others:
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