

# ***Chapter 1***

## ***Learning First***

Learning should be at the forefront of every teacher's mind. While this seems obvious, it is not always the case. Following the lesson plans in elementary schools, covering the material in secondary schools, giving required tests, maintaining discipline, and taking care of the administration of teaching all interfere with learning. In colleges and universities, professors may be more concerned with delivering information by lecturing than with the active participation of students in their learning. It is easy for educators to focus on "doing" teaching rather than on the product of effective teaching, which is learning. What students are learning is more important than what the teacher is teaching! When learning is the primary goal in a classroom, the benefits to both the students and the teacher far outweigh the benefits of simply covering the material.

### ***LEARNING IS NATURAL AND FUN!***

Learning is natural. "*Learning is as natural as growing*" (Warner and Rosenberg 1976). Babies learn to cry, smile, kick, crawl, walk, run, and talk without formal instruction. Babies are curious; they look at bright objects, touch things, and put things in their mouth to experience them. "*Healthy humans are born ready to learn...*" (Perelman 1992).

It is fun to explore and discover! When babies find something new to play with, parents play with them. When they learn a new word, parents use it with them. When they

learn to do something new, parents praise them. We make learning fun for our littlest ones and we promote curiosity.

Curious minds generate ideas from experiences. Anything that changes perspectives can help generate new ideas (Hamm and Adams 1992). Professors can help make learning more natural and more fun for college students by promoting curiosity, exploration, and knowledge-sharing among the students rather than lining them up in rows and challenging them to remember what was said in lectures.

Why do students learn more when they share what they learn with others? Because sharing is so enjoyable that students want to learn more in order to share more. Sharing provides a meaningful context for learning, and learning is more enjoyable when it is relevant and talents are recognized.

College teachers, with a strong tradition for lecturing, miss opportunities to capitalize on this natural desire for learning and sharing in classroom environments because learning is usually competitive and sharing is discouraged. Yet, we all go through life living and working with others rather than by ourselves. Communicating with others, speaking to groups, making connections between groups, and working together on larger tasks are examples of life-long activities that require life-long skills. *College students experience more life-long skills in learning environments that are cooperative and social than they do in those that are competitive and antisocial.*

### ***SOME BARRIERS TO LEARNING***

A barrier to learning may be thought of as anything that prevents learners from reaching their full potential for learning. Many common barriers to learning can be identified in classrooms, laboratories, and in everyday life.

Some are mechanical, some are administrative, and some are psychological.

### ***Mechanical Barriers to Learning***

Common items can become mechanical barriers to learning. For example:

- ***Clocks...the bell rang just when the students were discussing a great idea.***
- ***Calendars...the semester ended just when the students started to learn in-depth about the subject.***
- ***Deadlines...the assignment will be turned in on...but some students would like to turn theirs in earlier!***

While clocks, calendars, and deadlines may be necessary, they become mechanical barriers to learning by controlling student's time. Some thoughts about minimizing the effects of such barriers are shared in later chapters.

### ***Administrative Barriers to Learning***

All educational institutions require some kind of administrative framework. Is it possible that the traditional organization of colleges and universities may include some administrative barriers to learning? Consider the following:

- ***Departments...colleges are usually divided into departments, and they can become little empires with their own leaders, workers, students, and resources, discouraging cooperation and integration of subjects.***

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- ***Majors...***college students usually choose “majors” in larger subject areas in order to have depth, but it may limit breadth if learning in related areas is inhibited.
- ***Courses...***college students enroll in several courses each semester, and spend their days jumping from one subject to another with little opportunity for making connections between them.
- ***Prerequisites...***“Take statistics when you are a junior” is a barrier to learning if students should use statistics in their research project in a freshmen course. Why wait? Students should learn because they need to know rather than wait until they take “the course.”

How can departments exist as administrative units and still enable professors to recognize the connections of knowledge across departmental lines? How can courses in majors be integrated so students make connections between courses and gain the knowledge they need when they need it? More on that later, especially in Chapter 9.

### ***Psychological Barriers to Learning***

Teachers work with the most important resource that students possess—their mind. What are some of the psychological barriers to learning that may be unwittingly imposed on students?

- ***Tradition...***it is traditional to tell students to “do your own work,” but isolating students from each other is a barrier to learning because, in life, people almost always have to work with other people.

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- ***Assignments...****are barriers to learning if they are without context because students lose interest when they do not see relevance in their assignments.*
- ***Grades...****grades are subjective, though they appear to be objective, and can become barriers to learning when they do not accurately represent what students have learned.*
- ***Low self-esteem...****is a powerful psychological barrier to learning; creating a learning environment where teachers, parents, and peers enhance self-esteem is one of the best ways to eliminate barriers to learning.*

How can psychological barriers to learning be removed from college classrooms when there are such strong traditions for lecturing, individual note-taking and competitive testing?

### ***The Barrier of Fear***

College professors can create fear in the minds of college students just because they are knowledgeable and in positions of power over student grades. Professors should try to recognize the potential for such fear and try to create learning environments that promote respect and success instead. What are some potential fears that may exist in the minds of college students?

- ***Fear of failure...****a student who feels inadequate is almost certain to have strong fears of failure. Teachers should promote small successes in order to help students overcome the fear of larger failures.*
- ***Fear of embarrassment...****students who fear failure also fear being embarrassed by having their failures revealed.*

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*Teachers should provide opportunities for students to succeed where they expect them to succeed.*

- ***Fear of not being the best...****students can be so competitive that they always want to be at the top of the class. Teachers should encourage and recognize the contributions of all the students.*

Fear should be removed from learning and there should be no fear of learning because learning is natural and fun. It is so easy for teachers to tell students what they did wrong, increasing their embarrassment and fear of failure. Mistakes and failures are part of learning, and college professors should lessen student's fears by creating learning environments that emphasize the positive impacts that meaningful learning has on each student.

### ***Other Common Barriers to Learning***

Just as bacteria that have the potential to become barriers to health surround people, people are surrounded by common educational practices that can become barriers to learning. Consider the following possibilities:

- ***Student ID numbers...****students are people with names, and not knowing student's names can be a barrier to learning when students feel a lack of personal identity.*
- ***Too little teaching...****too little teaching is a barrier to learning when students receive too little orientation and encouragement from their teachers.*
- ***Too much teaching...****is a barrier when teachers do too much of the thinking and working, because students who are passively involved are missing opportunities to be active learners.*

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- ***Common phrases...*** “listen to the instructions”... “read pages 10-20 for tomorrow”... “the assignment is due Friday” can be barriers to learning if the teacher dominates the learning environment.
- ***Developed resources...*** the printing press is a marvelous invention, but too many reading assignments can be barriers to learning if there is too little time for creative thinking and problem-solving.
- ***Grades assigned too soon...*** receiving a poor grade before a learning cycle is complete can be a barrier to learning because being graded too soon in the learning process can discourage students.
- ***Grades assigned too late...*** receiving a poor grade after a learning cycle has been completed can be a barrier to learning because students were not motivated to work harder earlier in the learning process.

Even tests can be barriers to learning. Test taking is a valuable learning experience when a test stimulates thinking and provides opportunities for follow-up learning. Testing procedures that cause students to react negatively create barriers to learning.

- ***Tests that “screen out” students are barriers to learning for those who have been screened out.***
- ***Tests that fail to measure the meaningful knowledge students have are barriers to learning because the test scores do not represent actual student achievement.***
- ***Test questions that are not well understood are barriers to learning because students feel insecure and frustrated.***

Teachers work with complex and dynamic systems. Working with individual students is complex, and it is many

times more complex to work with groups of students. Barriers to learning are inevitable because teachers and students are imperfect human beings, but *reducing the number of barriers to learning is a worthy and realistic goal of every teacher.*

### ***LEARNING WITH FEWER BARRIERS***

A barrier-free learning environment is an ideal but unrealistic goal. Recognizing some of the fears that students may have and then identifying opportunities that are created by removing some of the fears is a step in the right direction.

### ***Learning in Advance***

Learning in advance means that students learn without waiting for specific assignments. Since learning is natural, learning in advance is the fulfillment of a natural tendency. Opportunities for learning in advance encourage students to take responsibility for their own learning, just as one has to do as a life-long learner. *Students should learn because they need to know rather than wait until it is taught in a course.*

Are professors uncomfortable if students learn before they have been taught, getting ahead of the professor perhaps? Some might be, because professors fear failure and embarrassment just as students do, but a learning environment in which professors and students are comfortable learning together should alleviate such fears. *What professors do about not knowing is important; students respect a professor for learning with them.*

Whether one learns in advance or waits to enroll in a course is up to the individual, but the increasing availability of information and complexity of learning suggest that the shift is logically toward learning in advance. As teachers



prepare students for learning in this new century when so much information is so readily available electronically, students should be *learning how to learn*. Not having the enabling skills for learning in advance will be a major barrier to life-long learning. *Assuming responsibility for our own learning is a compelling goal for both teachers and students.*

***Promote learning!***

What are some general principles that promote learning? Here are some, based on ideas in Cohen (1994), Hamm and Adams (1992), Johnson and Johnson (1994), Perelman (1992) and my own experiences in 40 years of professional involvement in education from the elementary school level to graduate study at major universities.

***Learning . . .***

- *Is an ongoing process from birth to death.*
- *Always occurs when interacting with others.*
- *In context is essential for problem solving.*

***Students . . .***

- *Can learn from each other.*
- *Can teach others effectively.*
- *Enjoy learning more when learning together.*

***Cooperative learning groups . . .***

- *Enhance the development of thinking skills.*
- *Promote responsibility; peer pressure motivates.*
- *Improve oral and written communication skills.*

- *Increase interest when focusing on discovery.*
- *Prepare students for personal and professional life by giving them opportunities and responsibilities for participation and decision-making.*

### ***Learning Curves***

The amount of information available and opportunities for learning have all increased greatly in recent years. Current learners need to learn how to separate useful from irrelevant information and how to synthesize new knowledge from previously existing knowledge. An ever-expanding three-dimensional knowledge domain should replace a step-like learning curve to better represent the learning needs of today's students as they prepare for the future.

### ***CONCLUDING REMARKS***

Institutions of higher learning have very strong traditions in providing instruction, and specific institutions are often known for their specific strengths. Instruction is grouped into discrete subject areas such as the arts, humanities, and science. Science is divided into natural science, physical science, and social science. Natural science is divided into subjects taught by teachers who divide the contents of their courses up further. There is a great need to make connections between subjects, however, for we all know that knowledge is connected, and many subject areas are truly related in the natural world.

*“Interdisciplinary”* is a current buzzword, but meaningful integration of subject areas is difficult for students. Interdisciplinary is much more than “team teaching. Interdisciplinary should mean integration of

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knowledge from different subject areas, a dynamic educational endeavor that is more possible now than ever before because of the efficiency with which we can access, process, and creatively integrate information from many subject areas.

It is difficult to depart from traditions, and it is not necessary to reject all of them when creating more cooperative, experiential, and interactive learning environments for students preparing for life and careers in this new century. *Now is the time to think about some new approaches to college and university teaching because an information revolution has begun, and an education revolution will take place soon.*

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