What would you say is the most important secret of success? After 15 years of teaching in higher education and another 15 years writing, reading and studying success, here's my pick: first understand and appreciate the point of view of others and then adapt words and deeds to fit their needs.

This means that in the traditional or cyber classroom success is directly proportional to your ability to understand teaching and learning from both the students’ point of view and your point of view as an instructor. For example, do you know what it’s like to enter or log on to your class? Stop; think like a student. Imagine you take a seat; you view the welcome screen on your computer or look to the front of the room. What happens next? What do you see, hear, sense? What is the first learning activity?

Do you keep in mind that your students may have just come from one or more classes in a row and are still thinking about learning activities and homework assignments from these classes or how they can prepare meals, get the kids to sports practice and still find time to study for that looming test? Or evening class instructors will most certainly have students coming directly to class from a hectic day at their workplace and stressful after-work commute to the college or university.

What students don’t see is the pressure on instructors to fit more and more content into each class, the requirement to take roll, start on time and produce a set of learning outcomes. The instructor has very different concerns regarding what needs to happen in the first few minutes of each class session.

This example covers only one small aspect of the complex process of teaching and learning seen from the instructors’ and the students’ point of view. Is there a way to make sense of it all? Yes, the instructors’ point of view is encompassed by five Critical Success Factors:

- Leadership
- Classroom management
- Instructional design
- Communication
- Evaluation and testing

On the other hand, the students frame of reference is described by the following learning model steps:

- Preparation (page 3)
- Input (page 4)
- Exploration (page 5)
- Recall (page 6)
- Retention (page 7)
- Reflection (page 8)

When you combine both models and put them to use you will better understand how to teach for success and continuously improve your efforts.
You can achieve professional mastery in the classroom; it requires time; it requires work. But the payoff for your effort is a terrific surge of creative energy, enjoyment and a heightened sense of self-satisfaction.

Sounds wonderful, you agree, but let’s get real here. How can I achieve mastery and teach for success when I have so little time to devote to self-betterment? You can, if you possess four attributes:

- Desire for change.
- Goals.
- Model-based plans or action steps.
- Progress evaluations.

Why are these traits so crucial? When you feel dissatisfied with the outcomes of your teaching, the desire for progress fuels action and change. Without a desire to improve, to do the job better than you have ever done it in the past, nothing happens.

Goals are also indispensable, because they keep you focused and detail what you want to change and when you want the changes to take effect.

However, desire and goals are not enough, you must commit to a plan, a series of action steps. Finally, you achieve ongoing instructional improvement by honestly and objectively reflecting on and evaluating your work as you progress. You must evaluate to understand what went right and what is not working and must be abandoned or modified.

In the end, developing the right action steps will make or break your improvement attempt. The secret to creating effective action steps is to base them on good models that accurately portray the teaching learning process.

This issue is devoted to helping you learn the details of two extremely effective models that can help you create workable and effective teaching and learning strategies for you and your students.

The CSF model

The first model to consider is the Critical Success Factors (CSFs) of good teaching. These CSFs describe a specific set of knowledge, skills and attitudes that are essential for teaching success. They are called CSFs because if you fail to master even one of these factors, you will fail to succeed in teaching. The five CSFs are:

- Leadership—Envisioning and articulating the benefits of higher education, outcomes from specific courses, life-long learning and continuous career development. Knowing why you are teaching.
- Management—Creating an efficient, barrier-free process to teaching and learning. Optimizing the classroom environment for learning.
- Instructional Design—Using sound learning principles to create appropriate learning activities and becoming a learning-problem diagnostician. Matching teaching strategies to a learning model.
- Communication—Selecting the most appropriate communication modes for rapid knowledge development and intrapersonal understanding and growth. Posing intriguing questions for debate.

Is there a core CSF? Yes, in most teaching situations Instructional Design is the core CSF around which all the others revolve. This design must take into account the way students learn, your teaching skills and the scope of the course content and the learning environment.

The PIE-R3 model

The Instructional Design CSF subdivides into the PIE-R3 Learning Process model (see page 3). Knowledge of both these models is essential for understanding the teaching learning process and improving it.
Preparing to learn is the natural, common sense starting point of learning, and therefore should be the first teaching activity. But it's a step too often ignored in the hurry to cover as much material as possible in each class meeting.

The teaching and learning process model, PIE-R³ begins with the preparation phase because it's crucial for good teaching and optimized learning.

Accelerated learning experts contend that taking time to prepare to learn increases the rate of learning by two to three times. Skipping this vital step only slows and hampers learning in the long run and is very expensive in terms of increased time to learn and lowering LROE (Learning Return On Energy).

Instructor concerns

An instructor, thinking about how best to begin a class session, may ponder: How can I get students to arrive on time to class? I need to take roll, return assignments, handout new study sheets, announce the date of the next unit test and remind students there will be no class meeting next Monday because of a holiday. Also, I need to motivate students to study harder and find a way to engage students in the back rows.

Consulting the CSF model, this instructor might try the following Course Management strategy:

- Assign seats—take roll during group learning activity and return papers at the end of class.
- Motivate students with a preparation activity from the list below.

Students concerns

According to learning experts Colin Rose and Brian Tracy, the following help students prepare to learn:

- Create a positive expectant attitude of successful learning and learning outcomes.
- Form and maintain a creative, relaxed, resourceful mindset with meditation, imaging, or breathing exercise breaks.
- Write daily, weekly and course learning goals and review these before each study session.
- Repeat confidence-building assertions before starting a study session, such as, “I’m a terrific learner.” It works wonders in keeping energy high.
- Adopt strict time-management practices—such as working on the most difficult learning task first.
- Maintain peak levels of self-motivation by setting rewards such as coffee break, e-mail a friend or shop for music on-line.

Instructor action step

Write a list of unique ways you can begin your class session that will prepare your students to learn. Modify your syllabus to include a brief discussion with students about the value of learning preparation and practical ideas they can implement.

A Learning Process Model—PIE-R³

An easy way to remember the components of this model is to remember the mnemonic for this instructional success system plays off the common equation used to calculate the area of circle: Success in learning equals PIE-R³. This system is built on the learners’ needs, and the steps are:

- Prepare.
- Input.
- Examine.
- Retain.
- Reconfirm.
- Reflect.
A
fter you’ve helped students prepare to learn, move up to the second rung in the TFS learning ladder, INPUT, represented by the I in the formula, PIE-R³.

Multisensory Input is a crucial component of good instruction. A fundamental precept of learning is this: The more senses that are involved in the learning the more rapid and memorable will be the outcome.

Think about a student who completes several of the recommended Preparation steps. The student is now more relaxed, focused and ready to learn.

But, now what? Sure, it might be easiest from your point of view to present a lecture for the entire class period, but how many senses will this engage.

Instructor INPUT stage POV

To achieve multisensory input, a good instructional design should:

- Connect the subject to the learner in terms of the students’ prior experience, current academic skills and learning goals.
- Pose tough questions, point up debates, dilemmas and dichotomies inherent within your subject area.
- Provide applications, applications, applications—overcome the ‘I’ll-never-use-that’ syndrome—make learning concrete, practical, useful.
- Picture the problem or concept; challenge students to portray the idea visually—use metaphors—ask, “If this concept was a famous painting, which one would it be and why?”
- Convert the concept or problem to one of the other senses: ask students, “What would this feel, taste or sound like?
- Take a kinesthetic learning break—ask an A,B,C,D, etc. multiple-choice survey question—one that you know students will have a range of opinions; then ask students to quickly get up from their seats and stand in a line by the choice they prefer; a human chart results.
- Websites and commercial media outlets provide a wealth of audio and video material, plus today you can burn your own audio CD-ROM and even produce excellent amateur video presentations—Apple’s iDVD program makes producing videos an enjoyable task.

Student INPUT stage POV

Students need structure, variety, challenge, application and activity.

There are five common ways to structure knowledge for students:

- Complexity—simple to intricate.
- Age—forward or reverse chronological order.
- Distance—near to far.
- Solidity—concrete to abstract.
- View—big picture to details.

Use one or more of these structures to make multisensory input follow a meaningful pattern. Too many instructors use a shotgun approach that results in their students complaining about the lack of organization in their course or in a particular class meeting.

To help all your students learn more quickly and retain more course content, shape your teaching so that students have the opportunity to see, hear and use the core facts, principles and concepts central to your course.

Meaningful assignments and activities

It’s crucial for success in teaching to build an option pool of multisensory learning activities designed to put the course content to work. Students are challenged and motivated when given the opportunity to produce real, useful products (informational as well as physical) with the knowledge they gain.

Chunking

Chunking is an important concept in designing effective learning input. For example, if you limit lectures to 15 to 20 minutes, you will create more class time to involve students in physical, auditory and visual learning experiences.
L earning becomes accelerated, fun, authentic and effective when you help your students personally explore the landscape of new material through their intelligence sets rather than in lock-step, mono-mode, one-to-many learning activities.

**Student POV**

Explorers of all types usually have a say in how they plan to reach their destination and so should learners in the exploration stage. Students need coaching and their learning problems need diagnosing rather than a content expert telling them everything they need to know. They need choices; not everyone will take the same learning path. Thus, students feel put off and alienated by instructors who present material in only one intelligence mode such as linguistic or one sensory mode such as audio. Traditional teaching assumed everyone learned the same way and pure lecture was good enough for everyone.

If the multiple intelligences theory championed by Dr. Howard Gardner of Harvard University, *Frames of Mind: The Theory of Multiple Intelligences*, 1985, is correct, then students learn better when they explore using multiple intelligences.

**Instructor POV**

With physical development, one cannot rapidly develop without learning the best exercises to use to build specific physical skills. A skilled coach will analyze the current physical skill level and create a program to move the person to a new level of adroitness. The same process works in learning. The teacher as coach assesses the current level of academic skill and then creates and tailors a learning program that works with each student and helps them optimize their learning.

*Explorers thrive on choices and the ability to apply knowledge to new situations. The exploration phase of learning should be customized to each student’s cognitive preferences and strengths. This strategy energizes learning.*

Therefore, in addition to teaching content you should design a range of challenging assignments and exercises that will help learners explore the material in a manner consistent with their special weave of intelligences. You can use Dr. Gardner’s intelligence categories as a guide. They are:

- Linguistic.
- Mathematical/Logical.
- Visual/Spatial.
- Musical.
- Interpersonal.
- Intrapersonal.
- Bodily/Physical.

Besides recognizing multiple intelligences, you can improve the Exploration phase of learning by helping your students:

- Identify assumptions.
- Discern the evidence of credibility.
- Create metaphorical visuals and examples.
- Focus on what’s important.
- Select and solve key problems.

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Modern brain research confirms what outstanding teachers have known all along. Recallable learning takes place when the material is relevant and meaningful, processed by many senses and is emotionally stirring.

All these factors combine to provide an answer to one of the most vexing teacher questions: How can I ensure that students recall the material in the long-term?

Student POV
Study is work; therefore it must be as meaningful, concise and success oriented as possible. Students intensely dislike homework or in-class activities that require them to try without accomplishment. Students need:

- Practice with improvement feedback; for example, have homework assignments evaluated and returned with improvement suggestions.
- Personalization of the content—take knowledge apart, reassemble it and then express it personally.
- An opportunity to express doubt, and direct questions to learning peers, the instructor and practitioners.
- To visualize—create charts, graphs and symbols.
- To emotionalize—express learning using the elements of basic theater.
- To accomplish.

Instructor POV
Homework is essential to learning, and I’m expected to give a certain amount. But how much is optimal?

- Length—the time an average student is expected to spend to complete the assignment; don’t give more practice problems than needed.

No man will work for your interests unless they are his.
—David Seabury
Here are some specific, active retention strategies that will help your A students learn faster, your B students become A students and your C, D and F students improve.

**Students POV**

Studying for retention requires discipline and effective study skills that some students master early in their academic career and some struggle into their college years before it all comes together for them. The goal of study for many students is to complete the assigned work as soon as possible.

However, just completing the work does not necessarily lead to retention. The most important retention technique for underachieving students to learn is adopting a regular review schedule. Most poor students fail to review often enough. Here’s a very effective pattern that will produce terrific results. For maximum retention, students should review after:

- One hour.
- One day.
- One week.
- One month.
- End of course.

Knowing how to review is as important as knowing when to review. One of the most simple yet powerful strategies is to verbalize learning in your own words. Even better, record these explanations on audio tape or digitally as a computer sound file.

Then add music (preferably classical) to the other track. Finally, play this voice-music recording when relaxed before sleeping or upon arising. This review involves both sides of the brain and accelerates learning.

Students can list comparisons—another dynamic active review. They first make a list of the main points, writing them in their own words. Then, they study them for a short time, put the list away and attempt to recreate this list from memory. A comparison of the two lists will quickly reveal what they’ve missed. This list comparison process continues until the original and final lists match perfectly.

**Instructor POV**

The purpose of Retention for the instructor is to Show-You-Know and to validate mastery of skills, knowledge and attitudes, to substantiate learning and close the feedback loop, to arrive at a grade and to be sure course goals are achieved. To this end, instructors provide test reviews and practice tests to prepare students for a graded exam.

Outstanding students achieve more because they continually confirm their subject mastery. Struggling students, on the other hand, may fail because they haven’t developed self-test skills. To assist your students, help them make self-testing during learning an unbreakable habit.

One of the most common mistakes students can make is to wait too long to confirm progress. Research shows that waiting more than 24 hours to review and test oneself reduces retention markedly. Practiced faithfully, a learn, check, sleep, check pattern noticeably boosts learning. Brainstorm a list of out-of-class, self-check activities and their application. Some examples are:

- Create a set of flash cards—useful for language or definition learning.
- Make a mistake analysis chart—good for pinpointing habitual mistakes in mathematics or English grammar.
- Form a testing partnership with a study buddy.
- Draw a flow chart—helpful when learning processes.
- Write an outline from memory—an excellent check for mastery of textbook reading assignments.
- Create a theory/application chart.
- Keep a daily learning log—check off learning when confirmed by self test or completing of practical exercise.
- Use imagination to practice a new skill.

As an instructor you want proof of learning confirmed by a written test, oral exam, evaluation of a practical demonstration, log, journal, paper, project or learning summary. You want students to show they know. You can help your students learn more in less time by leading a discussion on practical ways for them to show they know, and learning how to select and construct reliable tests. (See the Teaching For Success QuickCourse, “Ensure Quality Testing” for more information.)
At TFS, we modify the adage, “If you can’t measure it, you can’t manage it,” to read, “If you don’t reflect on it, you won’t improve it.” Reflection is the sixth, last, and most crucial phase of the PIE-R³ model. Unfortunately, the REFLECT step in teaching and learning is often just as neglected as PREPARATION.

Students and instructors alike feel the pressure of demanding schedules and decide this is a step that can be left for the odd moment or a once-a-year life evaluation.

However, for you to improve your teaching and your students to improve their learning skills, it’s imperative that you and your students reflect on what has or has not been accomplished in the last unit, chapter, class meeting or learning activity.

You and your students should complete this thought exercise at least once a week. Using a computer or pad of paper, prepare a two-column sheet. Head the columns with the following questions:

- What went well? (Reflect).
- What could I have done better? (Correct).

A contract for students and faculty

The next REFLECTION step is to create an ongoing Success Contract. Such a contract results from answering the following questions:

- The most important thing I learned about teaching or learning is____.
- I will apply what I have discovered to my next learning activity, class meeting, unit or course by____.
- When I encounter obstacles, I will overcome them by____.
- I will track my results by____.
- If I need assistance to reach my goals, I will seek assistance from (person) or consult this reference.
- I will reward myself by____ when I reach my goal!

As Arturo Toscanini, noted Italian symphonic and operatic conductor, once wrote, “Nobody knows what is the best he can do.” When you regularly stop to reflect and generate a new success plan, you teach for success, and anything is possible.

Recall and reflect

Am I saying that CSFs and the PIE-R³ model are the only way to teach and learn? Absolutely not; there are many good approaches that can help improve teaching and learning. However, the CSF and PIE-R³ models most clearly marry concerns and needs held by both instructors and students.

Finally, you should be able to recall this model for use at any time while planning your teaching strategies. Why not jot down the formula’s mnemonic and create your key-word descriptors for each of the six components right now?

The PIE-R³ model summary:

- Prepare—Begin course planning with the end in mind, and devote time to learning warm ups—this will save you and your students time.
- Input—Present the content in visual, auditory and hands-on learning experiences—teaching genius is knowing how to reduce the complex to a simple yet accurate expression of the same knowledge—for example, E=MC². Be sure students formulate questions they are interested in answering.
- Explore—Your students learn the most in the least time when they are allowed and encouraged to explore the material using their preferred learning styles, intelligence sets and modes of expression.
- Recall—Learning retention is significantly increased when students personalize and emotionalize the material; therefore, design engaging learning activities to facilitate this.
- Retain—Teach self-testing—the best students know the value of reviewing early and often and self-testing their knowledge and skill acquisitions.
- Reflect—Both instructor and learner must constantly gather performance observations, and then reflect on improvement action steps.

As Peter Senge commented in The Fifth Discipline, “Why are mental models so powerful in affecting what we do? In part, because they affect what we see.” The CSFs of good teaching and the PIE-R³ models will help you see teaching and learning more clearly so that continuous improvement become a reality for you and your students.