Think Systematically

Why do you teach as you do? Do you follow a set pattern? Is your template based on tested assumptions? Or, are your class sessions run by serendipity and intuition?

As you gain teaching experience and proficiency, no doubt you will move as experts do, from reliance on a model to a more intuitive approach.

However, if you teach part-time, assist veteran faculty or are beginning a teaching career, there are many advantages to thinking systematically about instruction. Good systems provide a structure upon which you can test your assumptions, try new approaches and evaluate the results.

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This system is based on work in accelerated learning by Colin Rose. In a nutshell, this is an active learning system anchored to research that shows retention is significantly increased as a function of combining four modes of learning: seeing, hearing, saying and doing.

Precomputerage modelsof teaching and learning relied heavily on seeing (reading the textbook and seeing lecture notes on a blackboard). In this model, class time was devoted largely to knowledge transmission from teacher to student. An old saying embodies this teaching philosophy: Tell them what you are going to tell them; tell them; then tell them what you told them. Do this today, and your students will revolt.

Today much of class time is dedicated to building application, analysis (taking apart), synthesis (putting together) and evaluation (value) skills in groups and teams. But to teach these advanced cognitive skills you need an improved instructional sequence. Better results occur when you consider teaching from the learner’s perspective. Learners need to:

- Prepare.
- Input.
- Explore.
- Retain.
- Reconfirm.
- Reflect.

Prepare means warm up; get ready; relax; see the learning goal as achieved.

Input speaks to organizing, structuring, defining, mapping and visualizing what is to be learned.

Explore refers to the act of immersing oneself in the new knowledge, skills and attitudes with as many senses and intelligences as possible to investigating the various knowledge branches and interconnects.

Retain describes activities designed to cement key informational elements in long-term memory.

Reconfirm expresses the need to demonstrate competency by practicing, solving problems and self-testing.

Lastly, reflect brings closure to the cycle by asking how can the learning process be improved next time. Follow the PIE R³ cycle and teach for success.
Assessment of student learning takes on a different dimension with distance learning classes. It becomes more challenging when instructors don’t get to see their students in a classroom situation.

Various assessment methods include online quizzes or tests, chat sessions, e-mail correspondence, bulletin boards and proctored tests or exams. These are good ways to assess student learning. Additionally, there is something that is easy and quick that can tell us whether students are learning or getting frustrated with the material.

I teach General Chemistry online using WebCT. I have used what I call a web folio assignment in this class. Once a week students are asked to give an outline of the content they learn after reading a unit, module or chapter in the textbook. They are asked to include two questions relating to the content of the material they read.

There is a target date for them to post the outline. I review their outlines and give them feedback including answers to their questions, if I can answer them! Sometimes their questions call for some research, in that case I may ask them to do an internet search for bonus points.

The weekly web folio exercise is worth two points and in a semester students can accumulate up to 30 points toward their final grade. This web folio assignment is similar to the one-minute paper at the end of a traditional lecture class.

The web folio assignment has the following advantages:

- It encourages students to read the assigned unit, module or chapter.
- You will know if students are keeping up with the required reading.
- It serves as a student self-assessment tool.
- The questions they create are fun; they clarify the thought process.
- You do not have to create questions or put together a test or a quiz.
- It’s an easy assessment tool that allows the instructor to monitor the progress of each student and to provide quick learner feedback.

This weekly feedback exercise will benefit your students and you in significant ways. Why not give it a try?
Are you as aware as I am of the never-ending need to help students improve their vocabulary? It seems that virtually all subjects require a lexicon to be learned, and the need for greater word specificity grows as a learner advances through the ranks.

As a composition teacher, I constantly bring to all my classes an ongoing effort to use new words and phrases to construct new ideas and analyze beliefs. An active focus on word acquisition and usage helps students become aware that learning new vocabulary promotes constant growth and development of reading, writing and thinking skills.

Variation of background and ability

In higher education today students are of all ages, ethnicities and experiences. Any given class may be composed of students with a broad spectrum of language ability. Even in a standard English 101 class, ages may range from 17 to 75. And although they have all placed in the English 101 skill range, some still do not have the expected word usage skills. Therefore, vocabulary growth is a vital instructional outcome.

How to involve your students

Since so many students are nontraditional students, I have found it crucial to the growth of their thought processes and self-esteem to begin the very first class with a conscientious awareness of words and their importance.

Throughout the years, I have used a variety of sources for specific words—student writings, vocabulary lists and textbook readings—but I have found the most successful approach comes from common media: magazines, newspapers, television ads and shows and movies. The media that students enjoy are rich with new vocabulary.

A great example

In the Saturday, August 24, 2002, issue of The New York Times, there appeared an article regarding a rash of wealthy people who were suffering from poor decision-making that created a temporary joy in “delighting in others’ misfortune,” a situation described as schadenfreude.

Delighting in this new word find, I immediately saved the article, made copies, and at the next meeting of my English 101 class, distributed it. We discussed the word, its roots, and additionally, its impact on our society. The discussion became lively because everyone had experienced this same reaction at one time or another and could relate to the meaning and evolution of the word. As a follow-up, each student was assigned to bring in a new word of similar complexity and unfamiliarity for a discussion during the next class meeting. I knew from the animated conversations that each student had been bitten by the vocabulary bug.

For the following class, each student presents a new word. The class often becomes competitive as each student tries to outdo their fellow classmates.

In addition, it’s important to write the new words on the board for visual learners. Then, as the new vocabulary is explained and discussed, ask each student to enter the words and their definitions in their notes. I devote the first minutes of each class to the acquisition of new words and phrases.

Word trends?

In an issue of Sports Illustrated, I found another reference and discussion of the word schadenfreude in connection with a basketball game and the joy of seeing a team lose who had spent too much time assuming it would win. I smugly made copies and brought it to class to prove the importance of reading and learning new words.

However, before I had the opportunity to share this wonderful information, three of my students used this article as their contribution of the week. By now, everyone saw examples of schadenfreude and could easily recall the word and use it in speaking and writing.

Final evaluation

As an assessment of the value of this exercise, I counted the occurrence of vocabulary words in the final essay assignment. There were 109 words submitted, and upon grading the final test, an essay, I found 32 words used correctly from the list. Thus 32 words had been learned as the result of this simple learning activity.

And what’s more, as the next term began, three students entering my classroom on the first day asked if we were going to work on the vocabulary list. It happens rarely for an English teacher, but I was momentarily speechless.
Would you teach a laboratory session without instructing students about the proper ways to handle chemicals or equipment? Hopefully, your answer is an emphatic “No!” Laboratory activities require a degree of awareness and a collection of skills called Best Practices. Best Practices ensure that data is collected accurately, consistently and safely. These controls provide the reliable information needed to precisely answer hypotheses and build truthful theories.

Teaching has a proven set of Best Practices backed by years of research in college classrooms. Best Practices in teaching provide the proper environment for consistent and effective learning. Plus, they make available a benchmark for measuring how well students are actively participating in their education.

Best Practices in action

Learning is not merely the accumulation of information by students. Learners need to become an active part of a vital and invigorating classroom experience. They must be given opportunities to gather and use the information pertinent to the discipline and topics being taught. Best Practices in teaching make students responsible for their learning. This alone is an essential skill for the future success of science students in upper-level classes and in their career fields.

The Johnson Foundation in Wisconsin became the authority on Best Practices in undergraduate education with the 1987 publication of Seven Principles for Good Practice in Undergraduate Education. The principles stress that successful education of undergraduates is not a passive activity directed solely by faculty. It involves the cooperation of students who are vigorously taking charge of their learning potential.

Cooperation is key

The first two principles are fundamental to getting along in everyday life. Educational studies show that cooperative faculty-student and student-student interactions are needed for effective learning. Cooperation means working together to come up with ways to motivate learning.

Faculty-student cooperation entails faculty-led teaching strategies that encourage students to use the information as it’s being taught. This can be achieved by assigning short application activities such as “Let’s look at a way to use the first law of thermodynamics.” Then provide a quick problem that can be solved very simply.

Incorporating learner ownership into lessons provides a way to involve students to a greater degree. Why not acknowledge student contributions by attaching the student’s name to an idea, concept or rule?

For example, if a student named Jones correctly describes how to move the decimal point when changing a percent into a decimal, I will then refer to this as “The Jones Technique.” If a student named Brown accurately states a grammar rule, it can be dubbed “The Brown Rule,” and so on.

Such a practice can blend a little levity into what can be otherwise vapid learning, and it provides another way to motivate and recognize learners. In addition, it reinforces the idea that learners have something of value to offer in class. Too often, students believe knowledge emanates solely from books and teachers. They overlook and underestimate their own capabilities and the worth of their experiences.

By incorporating learner ownership into your lessons, you instill personal pride. Just look for opportunities in your class to acknowledge student contributions by attaching a student’s name to an idea, concept or rule.
Student-student cooperation takes into account that students will be placed into situations that encourage supportive learning. You can accomplish this by giving your students complex problems that apply recently-learned knowledge. Use activities that require students to look up factual information needed to solve a problem. For example, “What information is needed to investigate the benefits and risks of fats in the diet?”

Active learning

Keeping students on task with active learning combines two fundamental Best Practice principles. Active learning translates into the critical thinking activities, as mentioned earlier, that enable students to apply and analyze scientific theories. These activities should follow a sequence of facts presented in class that are then used in problem solving. It’s vital to alternate individual and group projects to encourage critical thinking in all students.

Making sure students are on task is best achieved by regularly monitoring student learning through informal evaluations. On task means that students are taking in the new information as it’s being presented. Short quizzes that test factual knowledge and higher-order thinking are helpful. This is especially important to do before proceeding with a new topic or series of concepts. It’s important to use the quizzes as gauges of learning. They should count toward very little of the students’ final grades. Students need to use these quizzes as indicators of what they need to review or study.

Feedback

Another very important principle is providing quick feedback for assignments, projects, student queries and tests. Accomplishing this simple teaching task enhances learning and is a courtesy that improves student morale. E-mail is a great mechanism for rapidly answering students’ concerns and questions. All feedback should be instructive, helping students learn from misconceptions or mistakes.

Along with quick feedback, respect for individual ways students learn is essential. Each student has a different way of learning and processing information. These differences should be respected as long as the student comprehends the information and forms correct conclusions using proper assumptions. Students perform better when they are using comfortable modes of learning. Their use of a particular mode of learning is acceptable as long as it leads to substantiated learning and does not hinder academic performance.

Set high standards

Last, but not least, science faculty must hold students to high educational standards. This should not be interpreted as making the material burdensome and complex. It means putting the students in situations where they must use advanced thinking skills with the new material being learned. Maintaining high standards also includes boosting the ability of under-prepared students up to comprehend scientific findings. All students should be able to apply the scientific method to solve problems based on facts learned in class. Plus, all science students should be able to analyze scientific information for accuracy and credibility.

Best Practices work!

The Best Practices presented here are not an educational fad. They are adopted as workforce skills by medical schools, graduate programs and science-based industries. Trainers use these Best Practices in their jobs, and it’s a standard curriculum component in continuing education programs. Best Practices are more effective in the classroom when communicated to the students through the syllabus and regular announcements before assignments and tests.

References:


Seven Principles for Good Practice in Undergraduate Education: Faculty Inventory. Racine, WI: The Johnson Foundation. 1987.

Important Update—Internet Copyright Law and You

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A new and critically important Federal proposal was signed into law in November 2002, directing colleges and universities in their distance education copyright performance. It’s located within the larger legislation of H.R. 2215, and has been nicknamed the ‘TEACH Act,’ which stands for The Technology, Education and Copyright Harmonization Act.

The final format and language of the legislation is now available on-line through the Library of Congress “THOMAS” locator and search service at: http://thomas.loc.gov/cgi-bin/query/z?c107:H.R.2215.ENR: You will see the Table of Contents in Section 1, and the provisions of the TEACH Act under Subtitle B of the law.

This law much more clearly defines and delegates the responsibilities and requirements of colleges and universities within the United States offering distance learning modalities. It enables institutions in compliance on the three levels of responsibility outlined within the act to use copyright protected items, even from the Web, without the permission of the original proprietor or authors. Monetary payment to original copyright owners is also exempted.

Digitization and distribution of protected materials used within the cyber classroom is also well outlined and covers the previously neglected fair use areas of imaging and cataloging, especially as used during distance learning class presentation. The three levels of responsibility are: university policy makers, instructional faculty and information technology staff, most importantly librarians and distance learning facilitators.

An easily readable and detailed interpretive summary of the TEACH Act is currently available through the American Library Association, authored by Kenneth D. Crews, Professor of Law at Indiana University, and is online at: http://www.ala.org/washoff/teach.html. Professor Crews is also the Director of the Copyright Management Center at the University, and offers a handy and useful ‘Checklist for Fair Use,’ to assist when in doubt of usage procedure and linked at http://www.copyright.iupui.edu/checklist.htm.

This is good news to report in the realm of distance education. The TEACH Act represents a giant step in enhancing the variety of materials that can be used in distance education.

[Editor’s Note: The purpose of this article and information therein is solely to share information with our readers, not to give legal advice. This article is an information update to the copyright articles previously published in the November 2002 issue of Teaching For Success.]

Seven Days to Better Writing

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Can any student really improve his or her writing in seven days? I guarantee it! Here’s a dynamite technique that often produces lightning-fast changes. Moreover, this is the perfect strategy for those of us who do not teach English composition, journalism or report writing.

I have borrowed this strategy from top copywriters who use it to teach neophyte ad writers how to succeed. Here is how it works. You first ascertain what type of writing the student wishes to become proficient in (e.g., social science journal articles or book reviews). Next, help the student pick a stellar example or two of this type of writing. Then, for the next seven days, the student copies the article in his or her handwriting for about 20 minutes per day.

By approximately the fourth or fifth day the student will often remark that he or she knows what the author of the article will say next. The student also becomes adept at picking up the writer’s style, grammar, syntax and choice of words. Students engaging in this process often remark, “I knew she would use a semi-colon next,” or “I figured he would start a new paragraph and I was correct.”

One word of caution: This strategy is intended to supplement the training provided by courses in composition, report writing, and journalism. It should never be used in place of such courses.
Make It Real—Think Outside the Lecture Box

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People learn differently. Some are visual, others prefer verbal; still others need hands-on opportunities. So how can you cope? How can you spice things up for all three learning types? How can you regain your students’ attention when interest wanes? Is there something different you can do now?

Yes! Consider taking students outside the classroom for a session, or even a day. No, not to just sit and pretend to study on benches in the beautiful sunshine, but to engage in some unique and relevant learning experience.

The obvious

Teachers of environmental or physical sciences have nearly unlimited creative choices, like soil and water sampling, a visit to a hatchery or a working lab. Biology students at our college always test bacteria on faucets and drinking fountains at least once per semester and those in meteorology are regularly checking weather elements. Horticulture students move from classrooms to the greenhouse to outside planter beds on a regular basis.

The challenge

But what about your situation? With a little imagination and some planning, you will discover many options. Art students could spend a class period in a pottery studio or gallery, or take a full-day trip to a large, nearby museum. Musicians could benefit by visiting specific museums, rescheduling a special class at a local performance, or witnessing the benefits of certain musical styles on children, the elderly or disabled individuals wherever music therapy is used. Field trips of all kinds could apply to business, agriculture, industrial maintenance or psychology students.

You can keep track of visiting speakers or artists at local schools, special cultural programs at nearby universities, business or hospital seminars (strive for the free ones), or upcoming art exhibits and author visits at local galleries, bookstores or the public library. Tap into these community opportunities. Many times, sponsors or hosting agencies welcome college classes as they help to pack the place.

Philosophy students can be sent out in teams and assigned to poll students and faculty in the student center or food service area about their views on certain theories. Those in foreign language classes could also be sent somewhere public on campus to listen to common conversational phrases. Their assignment would be to translate those phrases correctly from English to the target language. English composition classes could even be sent to a specific part of campus to write descriptive essays on what they encounter. Another idea for writers would be to partner with a video production class, if you have one, and create an essay video. These are similar to music videos—photographed in appropriate settings while the author (or other chosen speaker) interpretively reads the essay. You can see where a little imagination could work wonders in spicing up your lesson plans!

It’s all about energy

Even just one outside event per semester can refresh the energy level of your class. Ideally, you will plan a couple of these sessions in advance.

Great leaders are never satisfied with current levels of performance. They are restlessly driven by possibilities and potential achievements.

—Donna Harrison
**TFS Web Review—**
**www.servicelearning.org**

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Does your college have a service-learning program? If so, you have plenty of company. The National Center for Education Statistics (NCES, 2001) has widely reported that about ten percent of colleges and universities around America offer for-credit service-learning programs. Some even grant as much as 25 percent of credit toward graduation for experiential learning!

The National Service-Learning Clearinghouse, at www.servicelearning.org, is the perfect place to go for information about all phases of service-learning.

Service-learning makes the perfect couple out of the community college student and life beyond the classroom. Funding is provided by the Corporation for National and Community Service (CNCS) and managed by their commercial contractor, ETR Associates. CNCS is a non-profit public agency that provides opportunities and ideas for all Americans to employ in their own lifelong community involvement via such programs as Senior Corps, AmeriCorps and Learn and Serve. One of the CNCS’s most critical offerings is a 1.5 megabyte PDF [Adobe Acrobat] copy of the Presidential guidebook titled, “Students In Service to America.”

**Benefits**

The NSLC homepage introduces visitors to a lively and colorful menu, previewing a fantastic wealth of service-learning information, coming in the form of position papers, governmental announcements, university publications and on-line available print media. The Web site is fun to explore, as it’s vast, interesting, efficient and wildly progressive.

The NSLC Library is sure to be a favorite part of the site. It has a link to the “Service-Learning and Assessment: A field Guide for Teachers,” as well as online links to service-learning documents, fact sheets, bibliographies, journals and periodicals.

Hot Topics include current and informative articles and position papers regarding the subtopics of Civic Engagement, Civics and History, Curriculum Ideas, Evaluation and Assessment, Funding, Getting Started and more!

**Design**

The NSLC homepage downloads effortlessly. There you will find both left-hand and top toolbars, as well as an advanced internal search function that can be expanded to include all of the information in the secondary site links, when necessary. Using the browser toolbar buttons and pull-down menus, site content is clearly designated. Navigation is easy, too, via the expansion of the six left-side titles, and all links are operational and browser friendly with full and comprehensive definitions, statistics and methodologies of service-learning.

From the history and definition discussion at the Welcome to Service-Learning button to the Online Resource Links from the University of Colorado and the CNCS, all users will be able to clarify their service-learning goals and aspirations, and then move on to other more practical resources. Links to expansive print resources are offered at the end of this section.

Students will benefit exponentially from accessing the NSLC Library pages. They may also enjoy participating in the Service-Learning Listserv, as well.

**Why revisit?**

This is an awesome Web site that regularly adds new information and the most up-to-date resources, data, statistics and publications in service-learning to its forum. Theory and experience are joined in the end and speak forcefully about the benefits accrued by learning as one provides service to others. Such learning improves the future for all.

**Two Great Lecture Tips**

Jack H. Shrawder
Editor and Publisher *Teaching For Success*

I’m learning calculus for fun and doing so from a videotape course taught by Professor Michael Starbird of the University of Texas at Austin. He employs two great teaching strategies: introduce new content in the context of a story and keep examples simple. He teaches the concept of derivatives while solving the crime of the century, running a stop sign. The quantities he uses are minutes, miles and miles per minute so there is no need to convert units. Also, he picks examples with whole integers that are easy to multiply or divide mentally. Thus, he keeps the arithmetic operations from getting in the way of learning the concepts. With these simple strategies he teaches for success.