

The Faculty Development Program

The Faculty Development Program supports faculty at Santa Clara University as teaching scholars. Programs and services promote two general goals:

- To enhance the professional development of Santa Clara University faculty.
- To explore how students learn and to support faculty in cultivating student learning.

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Teaching to Promote Learning: A “VITAL” Perspective

Diane Jonte-Pace, Associate Vice Provost for Faculty Development and Jane Curry, Professor of Political Science

Inspired by Fr. Locatelli’s call for an increase in Santa Clara’s national visibility, faculty participants in the VITAL (Vitality in Teaching and Learning) group have begun to formulate new pedagogical ideas and visions. The group proposes building upon the University’s reputation for excellent teaching and scholarship to more fully integrate faculty research into teaching and to more effectively create environments where engaged learning can occur. Central to the “VITAL vision” is a paradigm focused on student learning.

Faculty in the VITAL group believe that higher education is currently undergoing a significant paradigm shift and that Santa Clara is at the forefront of this shift. This shift involves a fundamental reorientation: an emphasis on how students learn is replacing an emphasis on what or how faculty teach. The “learning” framework offers a productive reformulation of strategies for engaging student interest, deepening student understanding, and enhancing student retention of knowledge.

How can the University support its teaching scholars in exploring the rich possibilities embodied in such a paradigm shift? The following six proposals outline ways of supporting the learning paradigm through concrete practices and policies.

1. Support flexible pedagogies. Encourage experimentation with active and collaborative learning strategies. Initiate research into when and why traditional pedagogies and alternate pedagogies are effective. Award experimentation and innovation promoting learning, even if course evaluation ratings temporarily decline. Consider adopting a course evaluation system like the “Student Assessment of Learning Gains” that measures how student understanding has deepened during a course.
2. Support flexible course structures and flexible scheduling options. Encourage students to do independent research under faculty

supervision or to participate in faculty research and publication projects. Encourage faculty to develop new courses with alternative scheduling. Encourage team teaching within disciplines or across disciplinary lines, and give full credit for team taught courses. Offer a few introductory courses for larger groups of students accompanied by smaller discussion sections led by individual faculty. Evaluate the effectiveness of flexible structures in producing student learning.

3. Respect diverse approaches to learning and teaching. Be attentive to the range of ways students learn and faculty teach. Be mindful of the “multiple intelligences” of Santa Clara students. Support an increased sensitivity to the dynamics of race, class, and gender in the classroom and the curriculum.
4. Model the life of the mind and the value of intellectual community by enhancing the learning that happens outside of the classroom. Incorporate students more fully into the Centers of Distinction and other extra curricular structures. Encourage students to be actively engaged in their fields. Invite more public intellectuals and civic leaders to campus. Provide funding for faculty to share meals or attend cultural events with students.
5. Facilitate the use of pedagogically effective technologies. Examine carefully when and how technology can help students learn. Ensure that technology is used productively within the disciplines to support teaching and research. Provide students with opportunities to develop the technological and “information” literacy they will need after they leave the university.
6. Develop resources and policies that enhance learning and research both off and on campus. Provide support for library acquisitions. Ensure that students can take the courses they need even if it requires travel to another institution. Design classroom spaces that promote learning. Encourage conference travel to disciplinary and

Teaching Diversity: Beyond the Zero-Sum Game?

Jack Ling, Executive Director of the Center for Multicultural Learning and Associate Dean, College of Arts & Sciences

Proponents of diversity education in the academy often encounter resistance. They often hear that

- Attention to curricular diversity will dilute both the quality and quantity of what gets taught;
- Taking time in class to reach a small group of diverse students is pedagogically unsound and unfair to the majority;
- Changing the subject matter to make some students feel more at home is not academically acceptable; and
- Students less prepared for the college classroom should receive help before enrolling at the university.

In each case, attention to diversity is framed as diverting energy and time away from normal classroom education. These arguments involve a Manichean thesis

that in all life situations, there can only be two possibilities, winning or losing (A or B/Not-A), and that a third possibility (a C that is *neither A nor B/Not-A*) does not exist. A win-win situation, from this perspective, is inconceivable. Ironically, this zero-sum philosophy has always been preached in military academies but has not traditionally been promoted in the academy. As teaching scholars, we have, as a rule, fostered critical thinking and creative problem-solving. How then can we demonstrate that successful diversity education has always been embodied in successful education, and that a successful teacher reaches all students? The beginning of an answer to this question here at Santa Clara may be found in how the institution defines successful education, and how it moves toward increasing its national visibility.

The core values of a Jesuit education suggest to me that excellence in student learning should be measured in terms of success in fostering an attitude of

openness to the values of different ways of life, divergent perspectives, and cultural realities, and in engendering a passion for service and social justice. Concomitantly, these core values evoke curricular and pedagogical questions:

- Is diversity education an integral part of this transformative vision?
- How does academic excellence *complement* the successful development of the whole student (*cura personalis*)?
- How can one teach critical and rigorous thinking while fostering openness to the intrinsic presence of goodness in all the differences around us?
- Can we be true to our disciplinary goals and still present a variety of social and cultural perspectives faithfully and in non-judgmental and non-reductionistic ways?

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New Tools for Teaching

Tim Healy has introduced a new set of teaching strategies in his junior-level courses in Electrical Engineering. The approach makes use of a team-based learning process requiring careful pre-class reading of material. Tim has prepared the following note to assist students in discerning what's important in a text and in studying for comprehension and retention – what some have called “deep learning.”

See Angelo and Cross, Classroom Assessment Techniques (1993) for other strategies for challenging students to do their best and supporting them in meeting that challenge. See also Tim's Engineering Handbook: www.scu.edu/engineering/undergraduate/hb.cfm

How to Study Something New

Tim Healy, Professor of Electrical Engineering

It is a common experience in life that we need to learn something new. This note talks about how to learn from the written word, something we will be doing quite a bit of in this course. We start with a few words on how important it is to identify what is important, and then some thoughts on a study process that is far more effective than mere reading. Finally, a little trap that learning sets for us.

What is Important?

Suppose that you have some new material to study, such as a chapter in your textbook. Hopefully everything in the chapter is of value. But some things are just more important than others. Life is like that. How do you identify what is important? There are

many clues. Some are rather mechanical, others more subtle. Let's start with the former.

In a textbook an author may have been kind enough to try to help you out, perhaps by using one of these tricks.

- Bold letters
- Different colors
- Boxes around some material
- Review questions or chapter highlights

Let's look at your text and see if the author has used any of these. Try Page 14. Check

out the “principle of linear superposition.” It won't be hard to find. The title is bold, it's in italics and its blue. That must be important! And notice that Equation 1.8 is in a box, but 1.9 is not. Hmmm! For some review questions and chapter highlights see Page 20. But don't turn these hints into slavish rules. Life is more fun than that. Let's look at some more subtle ways to know what is important. You might ask:

- Have I seen this before?
- How general is this material?
- How often is this result used?
- What does my intuition say?

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Faculty Development Services and Programs

Teaching Support

- Confidential Classroom Visits
- Open Classrooms with the "Faculty Development Professor"

Research Support: Grants

- Internal University Grants
- Faculty Student Research Assistant Program

Groups and Teams

- Mentoring teams or partnerships
- Grant writing groups and research writing groups

Resources

- Website: www.scu.edu/facultydevelopment
- Small resource library of books, videotapes, and articles

Programs

- Pedagogy in Perspective brown bag discussions
- Teaching Scholar Symposia
- Research Colloquia
- New Faculty Orientation, Workshops, and Retreat

Contextual Learning and Regular Assessment: An Experiment in Course Redesign

Gloria Hofer, Technology Training Specialist and Diane Jonte-Pace, Associate Vice Provost for Faculty Development

Faculty today are faced with serious pedagogical challenges as they seek ways to help students learn complex material, apply knowledge to the solution of complex problems, and retain knowledge over the long term. UCLA Medical School professors Sally Krasne and Anju Relan, struggling with some of these challenges, recently undertook a radical curriculum redesign project. They focused on learning in context supported by regular assessment.

The primary goal of their project was to increase student learning by teaching content in the context of its application and use. Eliminating separate classes and creating an integrated curriculum they redesigned their courses: Anatomy and Physiology classes no longer exist. Instead, students learn contextually about anatomy, physiology, and pathology through a focus on particular organs or diseases. Krasne and Relan reorganized course content into two sequential blocks interwoven with thematic threads. Reiteration of central concepts in increasingly complex contexts led to a progressive and sophisticated development of understanding.

Assessment was built in as a regular feature of the course. Here the goal was to help focus student learning, to guide curricular content, and to facilitate appropriate interventions. Assessment

strategies were both formative (ungraded) and summative (graded). Students could take the weekly ungraded tests more than once. Graded tests were offered at the end of each of the ten week blocks. Both types of assessment included closed book questions designed to test recall and open book questions designed to promote in-depth understanding, critical thinking, and problem-solving.

How did Krasne and Relan handle all this assessment? They utilized "ANGEL" software to administer and respond to the tests. They found that they could easily administer multiple choice and matching questions, short and long essay questions, and questions focusing on application and problem solving. ANGEL quickly provided feedback on student performance. The instant feedback led to improvement in overall student performance, improvement in instruction, and rapid identification of students needing assistance. Performance on two and four year tests suggests that long-term retention of the material improved as well.

The team reported one surprising finding: good performance on closed book tests (memorization) did not necessarily foster understanding (problem-solving) or long-term retention. Krasne and Relan thus argue that learning in context, frequent assessment (both formative and

summative), and rapid feedback, serve to facilitate understanding and retention, but that memorization alone is less effective. Contextual learning, they suggest, creates "hooks to hang new learning on"; regular assessment and rapid feedback provide structured ways for students to evaluate, correct, and confirm their own knowledge.

Could course designs based on "learning in context" and regular assessment improve student learning at Santa Clara? Several faculty are experimenting with these strategies. Information Services staff can provide assistance and support. Two workshops are currently scheduled: in the fall, Santa Clara's Technology training staff will offer a workshop on ANGEL's assessment features; in the spring the Faculty Development Program will offer a Teaching Scholar Symposium on Testing to Promote Learning. Contact Gloria Hofer (ghofer@scu.edu or x5014) for more information on using ANGEL to build and grade tests.

Reference:

Krasne, Sally, and Anju Relan, David Geffen School of Medicine, UCLA. "On-Line Assessment and Feedback Strategies for Dynamic Instructional Improvement and Student Learning," presented at UCLA on July 25th, 2005. ■

Teaching Diversity, continued As I reflect on these questions, I am aware that my own *attachment* to certain assumptions about liberal education can keep me from an unbiased inquiry. Value laden constructs like intellectual excellence, curricular integrity, and scientific objectivity may pull me away from “thinking outside the box.” It is difficult to suspend preconceptions when interrogation leads me away from clear

resolutions and answers. The desire for closure or security nudges me toward familiar theoretical positions. “Hard thinking” can turn into a comfortable inertia against creative exploration. More than once I have asked myself whether Dostoevsky’s anti-hero was correct when he said to the world above that the legitimate fruit of (hyper) consciousness is inertia, a sort of consciousness-with-the-hands-folded. Does this inertia come from a dim awareness that no *ultra solutions* exist?

I would like to learn from my new colleagues at Santa Clara how they have addressed these questions. For me, the fun is to have others help me break out of dogmatic slumber and self-sealing logic. I look forward to conversations about teaching diversity beyond the zero-sum game! ■

New Tools, continued

Equation 1.7 – in a box – is Coulomb’s Law.

We studied that in physics, and here it is again. Must be important. It may be difficult for you to know how general this law is but your author has gone out of his way to point out the similarity to Newton’s Law, one of the most important laws that science gives us. There are some very interesting similarities here, and some differences. They both have distance squared in the denominator. I wonder why. (If you have time to do a little extra searching, find out how many steradians there are in a sphere. Google knows. Hmmm!) Sometimes your intuition, or your “sixth sense,” just seems to tell you that some material is important.

Study Method

Suppose you have some new material to learn from a book. Let’s start with what doesn’t work.

- Reading doesn’t work
- Underlining doesn’t work
- Highlighting doesn’t work

They don’t work, that is, unless you combine them with some other important steps. Here is a study system that works. It’s called SQ3R.

S – skim or survey

Q – question what the material is about

R – read and answer your questions

R – recite and explain

R – review

The first step is to skim the material. Take a look at Chapter One. What’s it all about? What is the author doing in this chapter? Skim the pages. Look at the section headings. Read the review questions and the chapter highlights. This should not take too long. Next – and perhaps as you do the skimming – ask yourself specific questions about the material. What are the most important things in this chapter? Why are they important? Why is the historical material in the chapter? Why has the author compared Newton’s Law of Gravity with Coulomb’s Law? etc. If it helps, write these questions down. The third step is to read the chapter carefully. Now you can underline if that helps. Look for answers to the questions that you have asked yourself in the previous step. Go slowly over difficult areas. Make a note of issues that you would like to have discussed in class. The next step is to recite. Rephrase concepts – and say them out loud to yourself. Look at Equation 1.7. Recite it out loud. “The vector force between two charged particles is equal to”. Write it down on a piece of paper. Draw a sketch like Figure 1-4, but make it look different. Find a new way to demonstrate the concept. Finally, review. Spread this out over a few days if possible. The first day you might see if you can list the most important things in the chapter without looking. Then go back and see how you did. Work on the points that you forgot. Go back to your original questions.

Answer them again in your own words Also, take a look at: <http://www.studygs.net/texred2.htm>

The Learning Trap

Have you ever studied some material for a test, and had it down cold, or memorized a poem for a performance, or rehearsed a speech to your boss – only to have your mind go blank when the critical moment came? Learning has a way of playing a dirty trick on us. We study and study, but find that it isn’t there when we need it. Good news, there’s a remedy. It’s called “overlearning.” It means that you don’t stop studying when you “have it down cold.” You practice that poem another 20 times. You turn the circuit problem inside out, change it, find another way to solve it, find out how the new way is related to the old. Do whatever it takes to “own” that problem. So, how do you know when you need to overlearn? Here are two simple rules:

Rule 1: When in doubt, overlearn.

Rule 2: Always doubt. ■

Teaching to Promote Learning, continued

pedagogical conferences.

Recognized as one of the finest universities in the Western region, Santa Clara has a well established reputation for excellent teaching in the Jesuit tradition. Attention to the learning paradigm can further enhance Santa Clara’s successful teaching scholar model, bringing the university increased visibility as

an institution whose “characteristic way of proceeding” includes a commitment to excellence in both scholarship and teaching, a commitment to “solidarity” with the world, and a “VITAL” commitment to student learning. ■

Open Classrooms

We are delighted to announce that Eileen Elrod, English Department, will serve as the Faculty Development Professor for 2005-06. Well known for her skills in lecturing clearly, leading good discussions, and creating environments where deep learning can occur, Eileen invites SCU faculty from any department to visit her classes (with advance notice, please). Visitors are welcome to schedule coffee and conversation with Eileen afterwards. ■