

Building an Even Better Center

by Steve Mickelson,
Director, CELT

Welcome to a new academic year and a new issue of Teaching at ISU. This is my first message as Director of CELT, and I am aware that I have some big shoes to fill, shoes previously worn by Corly Brooke. I am excited to be starting at CELT, having seen close-up the fine job its staff have been doing in fulfilling our vision and mission. I look forward, in my time as director, to helping CELT do an even better job of promoting effective teaching and learning at ISU.

One reason for my ambitions regarding CELT is the great extent to which its programs have benefited me over the past 15 years. I have received Miller Faculty Fellowships, CELT grants, and Learning Community support; these programs, as well as attending many CELT workshops, have helped me to transform teaching and learning within my own classes and also within my department. I have also benefited from working as a mentor in the Teaching Partners Program and participating in the Miller-funded Scholarship of Teaching and Learning program this past year, both organized by my colleague Steve Freeman.

With a history of being aided by CELT in my professional development, I am determined to keep extending these benefits to faculty in all our colleges. I'll do my best to provide local and national leadership in support of excellent teaching and learning at a research-intensive land grant university.

We'll keep on promoting teaching excellence in and out of the classroom and offering faculty opportunities for improving student learning and teaching practices. That means CELT will continue to support the university teaching community through workshops for

faculty and graduate students, emails, up-to-date web resources, and private or group consultations, as well as funding support for innovations in teaching and learning.

We'll also continue our emphasis on supporting innovative teaching practices for improving student learning. Many of those innovations are emerging via new teaching technologies that can spur student learning and help assess teaching effectiveness. For example, the use of personal response systems, or "clicker" technology, has increased enormously over the past few semesters (see page 8 for details). CELT staff will continue to assist instructors with this and other emerging technologies that improve teaching and engage student interest.

As director of CELT, I'd like to increase the emphasis on scholarly teaching and the scholarship of teaching and learning (SoTL) across the university. I'll also work to increase the number of teaching awards given out campus-wide, and to make these awards highly visible as a way to honor our great teachers and demonstrate ISU's support for scholarly teaching and SoTL.

Of course, part of the job of CELT Director is to be Learning Communities Co-Director. It will be an important part of my job to continue and expand Learning Communities at ISU, focusing especially on enhancing "community" for sophomores, juniors, seniors, and transfer students. And we'll continue the partnerships that CELT has forged with faculty and staff working on such initiatives as service learning, student leadership development, and promoting academic integrity.

It's quite an agenda. Come and join us!

Learn more about Steve, p.7.

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TEACH Grants Offered

CELT is once again offering TEACH Grants of up to \$1250 for faculty development related to learning and teaching issues at the departmental level. Faculty from any academic department (including interdisciplinary programs) can apply for these funds.

These grants are meant to assist with one-time faculty development initiatives such as retreats, reading groups, outside speakers, or assessment training. They cannot be used to purchase hardware or technology materials.

Grant requests must be submitted to CELT, 3024 Morrill Hall, on or before October 15. For questions, contact Jane Henning at 294-2906 or njhenni@iastate.edu

Speaker on Multiple-Choice Tests Visits Vet Med

by Susan Yager,
Associate Director, CELT

Long questions, short answers: That's one of the suggestions made by John Boyce, Executive Director of the National Board of Veterinary Medical Examiners (NBVME), at a faculty workshop, "Multiple Choice Item Writing," at the College of Veterinary Medicine in August.

In his presentation, Dr. Boyce explained that the NBVME exams, which are multiple-choice, assess professional competency in veterinary science and are evaluated on a pass-fail basis. Designed to certify or license entry-level professionals, these exams differ from classroom tests, which are graded rather than pass-fail, often cumulative, and part of a larger set of courses and curricula. Nonetheless, his suggestions for effective practice are applicable to multiple-choice exams in many disciplines.

Multiple-choice questions are attractive to faculty because they are easy to grade, but they are often difficult to write. By contrast, essay and short-answer questions are easy to write, but very difficult and time-consuming to grade. To make a multiple-choice exam effective, then, the questions need to be carefully crafted, and the writers must keep in mind the kind of knowledge which is being assessed.

True-false items test students' recall of memorized items, definitions, or essential elements or conditions. The difficulty in writing true-false items, according to Dr. Boyce, is that the items must be absolutely clear; terms such as *in most cases*, *mainly*, *adequately* (as well as *never* and *always*) may cause the student to think of extreme outliers. If a question can be



John Boyce, Executive Director of the NBVME, discusses how to write multiple-choice exam questions.

Another Good Item (NAVLE Practice Item)

A 2-year old Quarter horse is being evaluated because of pyrexia, anorexia, and depression. Clinical examination shows a bilateral nasal discharge and retropharyngeal swelling. Which of the following is the most likely diagnosis?

- (A) Esophagitis
(B) Esophagospasm
(C) Esophageal stricture
(D) Esophageal diverticulitis
(E) Esophageal obstruction

This slide shows the value of checking a multiple-choice question through the "cover the options" method.

debated (e.g., "How do you define *adequately*?"), it is flawed. Best-answer items can also test students' recall of memorized items, but in addition can be written in a format that assesses how well students apply their knowledge. For clinical fields and other disciplines where case-specific questions are appropriate, multiple-choice questions should include a long "stem," or question, made up of a "vignette," or case information, and "lead-in." Details in the stem allow the test writer to use very short, data-specific answers. Other answers may be plausible, but there should clearly be one most correct, or best, answer.

Optimally written best-answer items can be answered correctly if the test-taker "covers the options" as in the example below. The student should be able to answer or narrow options based on the stem, and the answers should be consistent and on the same dimension (that is, all dates; all theories; all diagnoses, etc.). A question such as "Which of the following is NOT true?" does not meet the "cover the options" criterion.

Drawing on S. M. Case and D. B. Swanson's *Constructing Written Test Questions For the Basic and Clinical Sciences* (National Board of Medical Examiners, <http://www.nbme.org/publications/item-writing-manual.html>), Dr. Boyce also recommended these effective practices:

- Make use of all the possible answers – the right answer and the wrong ones, called "distractors" – and make them plausible. Don't include a funny or absurd "throw-away" answer.
- Be sure the items are mutually exclusive (for example, if a correct answer is 75%, then a possible answer of "greater than 50%" would also be correct).

(continued on page 7)

Faculty Member Recognized for Online Teaching

Blackboard, Inc. the company that has acquired WebCT, Iowa State's online course management system, recognizes outstanding faculty who model effective practices in course design and instruction. Dr. Shu-Hui (Susan) Chang, Lecturer and Director of Distance Education in the Department of Computer Science, recently received Blackboard's Greenhouse Exemplary Course Program (ECP) award for her work in Computer Science 103, Computer Literacy and Applications.



Shu-Hui (Susan) Chang

Susan has designed and taught courses entirely online since 2003. Before that, she taught face-to-face computer courses for many years, in addition to doing her doctoral research in this field. She has been recognized by Blackboard not only because of the size of Computer Science 103 course – 1000 students – but also because of the course's success. According to her research, 94 percent of students were satisfied with the course. In another research project, course

evaluations (1996-2005) were analyzed to determine the effects of transforming Com Sci 103 from a large, traditionally taught course to one taught partially and then entirely online. In general, students reported being more satisfied with the instructor and the overall course as it moved online. They felt that they were more stimulated to learn, that course materials were more clearly explained in the virtual environment, and that they were significantly more satisfied with the amount that they learned. Students also reported spending significantly less time in the entirely online class than in the face-to-face classes.

According to Susan, the many advantages of teaching online courses outweigh the disadvantages. One great advantage is that distance education “provides flexibility and convenience for learners because students have control over schedules and the pace at which they learn.” The learner-centered model, using sound pedagogy and modern technology, has become a key component for successful distance education, she adds.

Another advantage that Susan sees concerns course design: “I use systematic course design to help students navigate the course material and achieve in-depth learning.” The different applications and tools allow students to get to know one another and the course, allow students to work with partners in real-world case study projects, and encourage students to evaluate each other's research projects and provide constructive comments. “In addition,” she says, “I use different kinds of technology to accommodate different learning styles and students with disabilities.”

Online courses are also more efficient, since students can view course material 24 hours a day, 7 days a week, and can replay the lectures if needed. There are also online student resource materials and help desk sessions which provide support to learners. “In addition to the fact that online courses allow us to enroll more students than the traditional face-to-face class, they offer more opportunities for students, especially students who are shy, to interact with each other than does the traditional classroom setting.”

The disadvantage? “Teaching online courses is a seven-day, 24-hour job. However, I do enjoy my teaching very much. I appreciate all of the support I have received from the department, college and ISU distance education support team.”

* * *

Susan has four suggestions for faculty considering creating a distance education or computer-based course:

- Focus on learning, not on technology. Technology is only a tool in distance education. In addition, online course instructors are challenged to become not only content experts but also pedagogical experts; they need to shift from traditional teacher-centered approaches to the learner-centered paradigm.
- Recognize interaction and collaboration as the centers of distance education. Increased student to instructor, student to student, and student to content interactions will enhance student's in-depth learning and promote student's course satisfaction. For example, the orientation sessions at the beginning of the semester help students become familiar with the course structure and promote interaction. Students evaluate each other's research projects and provide constructive comments to build a strong learning community. Chat activities engage students to contribute their viewpoints, present research findings, and interact with others.
- Assessment is key. Carefully constructed and various kinds of assessment can best ensure in-depth learning. Tests should be facilitated in a proctored environment. Assignments should allow students to use external resources effectively and encourage critical thinking skills. Instructors should provide evaluation rubrics and give students opportunities to practice and apply skills and concepts.
- Student support information should be available within or external to the online course environment. Tutorials, learner orientation, FAQ pages, and the like are needed to provide support, and should be available in a variety of formats to accommodate students with different learning styles and disabilities.

Professors on the Presidential Election as Teaching Tool

by Susan Yager,
Associate Director, CELT

College students often learn and retain more when their classroom experiences connect with real-life applications and examples. The real-life example of a presidential election provides a once-in-four-years opportunity to apply current events to learning in virtually every field. Whether you teach graphics design or sustainable agriculture, history or horticulture, you may find ideas here to inspire you this semester.

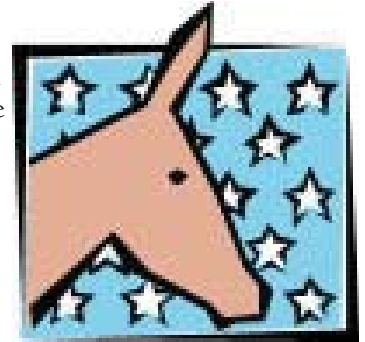
Some ISU professors' classes are very closely tied to the election. Last fall, for example, **Steffen Schmidt**, University Professor of Political Science, taught an online course in the Iowa political caucuses to some 300 students. "Dr. Politics," who makes many media appearances in election season, thinks that this election will be "one of the most important elections in US history. It is a perfect teaching moment" for many issues, including gender, race, energy policy, gerontology and generational issues, foreign policy, and religion and ethnicity, among others. "The John Edwards incident is a teaching moment about personal relationships in American society," he adds.

Mack Shelley, University Professor of Statistics and Political Science, is teaching a graduate course in political science, Policy and Program Evaluation, which addresses ways the November 4 elections will affect the shape and direction of U. S. public policy. "Policy and budget priorities can change abruptly with election outcomes," he explains. "A good example is the 'No Child Left Behind' (NCLB) legislation and the 'Education Science Reform Act', which redefined national education policy after the 2000 elections; many Democrats have said they would push for major changes (or outright repeal) of NCLB if Obama is elected."

Jim Hutter, Associate Professor of Political Science, teaches a 3-credit course, Campaigns and Elections, in fall semester of even-numbered years. This course combines lectures (including guest lectures by professional political activists in both parties), reading assignments, and campaigning for the political party and candidates of the student's choice. And while some learning experiences are tailor-made for election years, **Alex Tuckness**, also an Associate Professor in Political Science, discusses the "ethics of literally true but intentionally misleading campaign rhetoric" every year.

Rhetoric is of course an important topic in courses in speech and English as well. In Associate Professor of English **Jean Goodwin's** argumentation and debate class, students may watch one of the debates, watch Jon Stewart's denunciation of

contemporary "debate shows" (taped from *Crossfire* a few years back), and then "design a televised forum that would give the American public the kind of debate it really needs." In a special course on rhetoric and Shakespeare she is co-teaching with **Linda Shenk**, Assistant Professor of English, theatrical design of campaign events may be compared with the staging of persuasive events by Shakespeare's characters "Iago in *Othello*, the king in *Henry V*, Don Juan in *Much Ado About Nothing*."

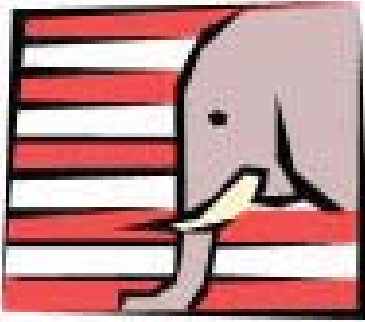


In a 200-level class, Popular Culture Analysis, Associate Professor of English **Barb Blakely** is using films, including the candidates' video biographies, and political cartoons from both the textbook and the Internet to help students critically analyze visual texts and improve their skills in rhetorical analysis. And **Jenny Aune**, Senior Lecturer in English and English Liaison for Learning Communities, suggests that election campaigns "provide very effective written, visual, oral, and electronic texts for rhetorical analysis" in areas outside of English. For example, "Ag Business instructors could look at how candidates present their subsidy plans to farmers, agribusiness, and the everyday voter. Biology instructors could look at how candidates discuss science in the classroom, and language instructors could discuss how the candidates approach other cultures within the U.S."

Some instructors in World Languages and Cultures are doing precisely that. For example, **Beth Martin**, Senior Lecturer of German, will have her German 201 students discuss the election using future tense and expressions such as "I am convinced..." "I see a lot of potential to have students use this vocabulary to discuss the probable outcome of the elections and what each candidate will do as president," she comments.

While not using the U.S. presidential elections directly, **Rachel Haywood Ferreira**, Assistant Professor of World Languages and Cultures, will use the Latin American elections in her Spanish 314, Introduction to Reading Hispanic Texts. "I'm interested in using political campaign ads (many available on YouTube) to explore issues of narration, tone, spin... a recent Guatemalan presidential election has some fascinating official and unofficial (YouTube only) ads that are quite different from what we'd see here."

Advertising and journalism offer another natural venue for thinking about the election. **Jay Newell**, Assistant Professor, Greenlee School of Journalism and Communication, is teaching



an Advertising Principles class and feels “fortunate to have Liz Geske, a graduate student whose thesis is a framing analysis of political advertising, as my research assistant. In a discussion of political advertising, she’ll guide the students through the rationales for negative and positive political ads. In

a time in which most product advertising is entertaining and upbeat, why are political ads the way they are?”

Dennis Chamberlin, also an Assistant Professor in the Greenlee School, will incorporate a campaign related-unit into a Fundamentals of Photojournalism course. “I’ll work with students as they research and organize a series of topics to be photographed in the run-up to the election.” The two-week unit will be organized to mimic a newspaper’s photo department. “My goal is to provide them with a real-world situation that will give them an opportunity to learn about the importance of planning and anticipating newsworthy situations.”

The possibilities offered by the presidential election extend far beyond the fields of political science and communication, however. In his economics classes, University Professor **Peter Orazem** asks election-related material on exams. “I use candidates’ positions on tax policy as the background for questions regarding the likely impact of taxes on the price of oil, labor supply, and capital investment.” He also asks about the potential “impact of trade agreements on aggregate employment.”

In **Howard Van Auken’s** course, Entrepreneurship and Innovation, “we will use this election time to talk about how differences in candidate’s policies might affect the business environment and thus business start-up opportunities” One important element to assess is how “differences in possible economic environments might be created by the candidates. The economic environment,

in turn, can affect opportunities for new businesses.”

Susan Maude, Associate Professor of Human Development and Family Studies, would like her students to explore the candidates’ positions on early childhood and disability. She may use materials from candidate surveys conducted by the National Association for the Education of Young Children and the Council for Exceptional Children.

A social scientist, **Teresa Downing-Matibag**, Assistant Professor of Sociology, had students explore the candidates’ positions on issues related to the well-being of youth and families in last spring’s Sociology of Families course. “The students gathered articles from the Internet, newspapers, popular press, and think-tanks (such as the Economic Policy Institute), summarized what they learned in writing, and then came to class prepared to discuss the issues,” she explains. The students also incorporated the material they found “into newsletters, PowerPoint presentations, essays, and even ‘stories’ that demonstrated the impact of various policies on real families.”

In her history of European and American Dress course, **Sara Marcketti**, Assistant Professor of Textiles and Clothing, guides her students in a discussion of dress revivals. “Michelle Obama’s looks are very reminiscent of Jackie Kennedy Onassis, and her dress designer, Maria Pinto of Chicago, is expected to become nationally and internationally known, particularly if Obama wins,” she says. Discussion of dress design and dress revivals may lead students to complete an “inspired by history” portfolio comparing present to past designs.



Political cartoons, whether from the past or present, can be analyzed in fields as diverse as English, Political Science, History, and Design.

University Teaching Seminar is a Great Success



More than 350 new faculty and teaching assistants registered for this year's University Teaching Seminar and orientations, held last month in the Scheman Building. More than two dozen faculty, staff, and graduate students were presenters at the two-day event. Above left, Don Payne, Assistant Director of CELT and Director of ISUComm, described how ISUComm practices can be integrated across the curriculum. UTS participants, above right, also took advantage of opportunities to learn more about campus resources at the Resource Fair. Representatives from departmental offices such as the Academic Success Center, Leadership and Service, Child Care Resources, Public Safety, Human Resource Services, Margaret Sloss Women's Center, Employee and Labor Relations and Diversity and Learning Communities were on hand to answer questions.



Holly Bender, Professor of Veterinary Pathology, shares with participants her tips for creating and working with student teams. Holly was a presenter at the CELT University Teaching Seminar on August 19.

New CELT Staffers Move Into Morrill Hall

CELT has added two new staff for this year who look forward to working with faculty across the university and who are focused on promoting excellence in learning and teaching.

Steve Mickelson, Associate Professor in Agricultural and Biosystems Engineering, replaces Corly Brooke as Director of CELT and Co-Director of Learning Communities. Steve is also associate chair of his department and last year served as chair of the CELT Advisory Board. Despite all these activities, Steve maintains an active research program in the areas of scholarship of teaching and learning and assessment of effective agricultural management practices for protecting water resources.

In addition, Steve has an outstanding record of teaching, including courses in engineering design, engineering computer graphics, engineering problem solving, and soil and water conservation engineering. Steve was a finalist for the Sesquicentennial Hubbard Award in 2007, received the ISU Foundation Award for Academic Advising in 2003, and was a Wakonse Fellow in 2002. His interest in spreading sound teaching practices extends internationally, as Steve has been working to establish a cost-effective two-year college program in the Georgian Republic over the past two years.

Steve's degrees, all in Agricultural Engineering, were received from Iowa State. He met his wife in Morrill Hall in the days when it housed the music program (she was the cute alto).

Don Payne, Associate Professor in English, has joined the CELT staff as assistant director. Don directs ISUComm, the university's communication-across-the-curriculum initiative. ISUComm, now in its second full year, is designed to increase students' communication and critical thinking skills as well as their ability to work in written, oral, visual,

and electronic environments. This new curriculum has gathered national attention for its innovation in integrating the teaching of writing and visual communication. With the new foundation courses, English 150 and 250, now in place, Don will concentrate on helping faculty and departments to develop upper-level courses in communication, tailoring communication education within specific disciplines.

Don's research interests include new media theory, computer-based pedagogy, and web design, as well as classical rhetoric. After receiving a B.A. in German from the University of Louisville, he earned an A.M. and Ph.D. in English from the University of Illinois before joining the ISU faculty in 1978.



Don Payne is a new Assistant Director of CELT.



Steve Mickelson is the new Director of CELT.

Multiple Choice Exams

(continued from page 2)

- Keep the stem information as clear as possible.
- Keep the option answers short, simple, and unambiguous. They need also to be grammatically consistent with one another and with the lead-in.
- Keep the option answers the same length – sometimes a long, specific answer is a giveaway.
- Testing time devoted to each topic should reflect the topic's importance to the course (the NBVME exams, which involve complex stems, allot about one minute per question).
- Avoid giving away the answer by putting the same term in the question as appears in the right answer, or by providing a clear path to a correct guess.
- Be aware that answering one question may “cue” the test-taker to other right answers. This technique might be useful in the classroom, but the NBVME avoids “cuing” in its exams.

Clicker Use Increases Rapidly in Recent Semesters

In the Fall 2006 semester, Iowa State began to support TurningPoint personal response systems, or “clickers.” Standardizing on one kind of personal response system has made it easier for students to buy and use the clickers (which are purchased at the University Bookstore and can be sold back, if desired, like a used book). It has also made it easier for faculty to learn to use the technology, as well as helping CELT Learning Technologies staff who support faculty in their use of the system.

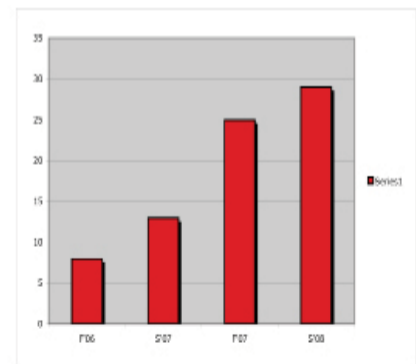
Clickers can be used to shrink the psychological size of a class, to collect demographic information or opinions from students, and to check on understanding, among many other applications. The system operates on a radio frequency and works in conjunction with PowerPoint.

These graphs show the growth in the use of clickers over the past few semesters. The graph on the top right shows the increase in the number of instructors using clickers, from eight in the Fall 2006 term to 29 last spring. The bottom graph indicates an increase in students’ use of clickers of more than 250 percent (this shows total enrollment, not unique users).

For more information on using clickers, see www.celt.iastate.edu/TurningPoint.

Increase in number of instructors

F'06	8
S'07	13
F'07	25
S'08	29



Increase in number of students

F'06	1710
S'07	2741
F'07	4114
S'08	6255

