Enhancing Landscape Design Skills Through the Use of Video Imaging Technology.

A successful landscape design exhibits basic principles of balance, contrast, rhythm, dominance, unity and order. These principles must be understood by students of design, but the concepts are often difficult to explain in a classroom situation. Video imaging software has proven to be a valuable tool in increasing student comprehension of the design principles. After scanning a site photograph, plant materials and other amenities are added, deleted or modified in order to produce and strengthen the design. Benefits of this method over traditional lecture or studio techniques include the ability to easily investigate a variety of sites and enhanced ability to observe the inter-dependency of design principles. As modifications are made to strengthen one principle, the others are also affected in either a positive or negative manner. Particpants will have an opportunity to use this technology, manipulating elements on a residential site that has previously been scanned.

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Faculty as Mentors for Students

One definition of mentor is "A wise and trusted counselor or teacher." Learning can be enhanced by strengthening personal relationships between teacher and students. This may occur in various ways including (1) offering greetings, (2) standing at the door and shaking hands with students as they enter class the first day, (3) calling students by name, (4) use of humor in teaching, (5) use of short real-world examples and personal experiences in the classroom, (6) offering students individualized help, and (7) conducting individualized student conferences with all students in class as a way to discover students' backgrounds, interests, and needs. These are certainly time consuming efforts, but ones which foster an excellent learning environment and help build rapport and credibility.

Over a year ago, a panel of students at The Ohio State University Agricultural Technical Institute were asked to discuss the topic entitled, "Learning Styles: What Works for Me." Key words or phrases expressed by the students were as follows: (1) Audiovisual, (2) Doing (hands on), (3) Applied, (4) Relationship with instructors, (5) Tutoring, (6) Note taking, (7) Repetition, (8) Overview, (9) Study skills, (10) Experiences, (11) Transparencies, (12) Caring, (13), Slides, (14) Learning by Association, (15) Touching, and (16) Field trips. It could be concluded that a significant number of students at this institution are visual, touch and feel learners. The "teaching road" during an instructor's life should be one of continual discovery, growth, and improvement while expecting to never fully arrive at the ultimate level of achievement as a teacher.

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From General Education to University Studies—Breaking Barriers For Innovative Curricular Building in Agriculture.

The literature is well documented with studies that suggest agriculture schools are out-of-step, that new frontiers should be opened in program development, and that curricular revitalization is a necessity for agriculture to contribute to broad institutional missions and goals that focus on how to best educate students for the future.

A revolutionary change from General Education to University Studies at Southeast Missouri State University opened doors and brought down barriers for the Department of Agriculture to become part of the total educational process and provide courses that contribute to the educational goals of all students enrolled at Southeast. Credit hours generated in agriculture classes increased from 2,608 in 1983 to 4,435 for academic year 1993-1994. While the number of majors declined from 232 to 162 during the same period, most of the enrollment increases are from non-agriculture majors taking University Studies courses titled World Food and Society, Plants and Humanity, Rural Sociology, History of American Agriculture, and Minorities in Rural America.

The purpose of this paper is to provide a model and describe a process for colleges to follow in comprehensive restructuring of core requirements in General Education. Key components include restructuring core requirements, emphasizing writing across the curriculum, identifying skills and knowledge areas, and organizing a process for outcomes measurement.

Every course in the program uses subject matter to provide the opportunity to develop proficiency in nine objectives to provide them with the information, ideas, and skills they need in order to live a happier and more intellectually rewarding life. "GS101 Creative and Critical Thinking," a freshman seminar introduces the objectives. The lower-level curriculum courses provide students with treatment of objectives from different perspectives (Individual Expression, Natural Systems, and Human Institutions), and the interdisciplinary curriculum provides ways to explore relationships within and among the perspectives. Hinni (1988) found that while

many institutions have senior seminars and upper-level components in their program, the interdisciplinary component at the upper-level in this program is unique.

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Improving Teaching: A CQI Approach

University professors should consider implementing a CQI (Continuous Quality Improvement) approach to improving teaching. Industry had adapted the CQI approach to improving their products. Why shouldnít university professors do the same?

Improving teaching isnít just a one shot seminar, a special course, or an "after-the-semester" review of course evaluations. While these are useful tools for improving teaching, there are techniques that can be used regularly through out the semester that can result in continuous quality improvement in teaching. These techniques are easy to use and involve students. This presentation examines those techniques and the research basis for their use.

The first step in implementing a CQI teaching improvement program is to select 1-2 students in each class to be team leaders. The job of the team leader is to disseminate and collect the instruments used in the CQI process. The use of team leaders helps reduce any threat that might be involved in the process and allows the professor to concentrate on teaching instead of distributing and collecting instruments. After team leaders are selected the professor will need to spend about one hour orienting the team leaders to the process.

The basic process used in this CQI approach is to obtain continuous feedback from students. Before a class session starts, the team leader randomly selects five students and gives each an instrument the size of an index card. Brief instructions on what to do are printed on the back of the card. If any additional clarification is needed, the team leader will explain. At the end of the class the team leader collects the cards and gives them to the professor. The professor reviews the cards and then make adjustments in his/her teaching performance based upon this feedback.

Eight different cards are used. The cards can be used in a variety of way depending upon the feedback received and the structure of the class. The eight cards are:

Interest Graph
Question Digraph
Movement Diagram
Mannerisms
Learned Most
Donít Understand
Interaction Matrix
Cognition Level

During the presentation the use of each card will be described and master templates will be distributed.

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Learning Styles and Student Achievement: Bringing Psychology into the Agricultural Classroom

Recent research in the relatively new field of instructional psychology has provided useful, yet contentious, conclusions concerning the effect of learning styles on student achievement. The two major objectives of this paper are: (1) to discuss and summarize the recent literature in educational and cognitive psychology pertaining to the effects of environmental, emotional, sociological, physiological, and cognitive differences on student achievement, and (2) to provide an assessment and examples of how these research results can be usefully integrated into the agricultural classroom at the college and university level.

Learning styles are the biological and developmental characteristics that affect how students learn. There is a large and growing literature in educational psychology that provides evidence that students learn more in environments conducive to their individual learning style, including elements such as instructional environments, perceptual preferences, left/right brain hemisphericity, sociological preferences, and time-of-day preferences. If the major objective of our teaching effort is to promote and encourage student achievement, then taking learning styles into account could enhance our ability to achieve this goal. This is particularly true given the large and increasing diversity in agricultural student experiences, backgrounds, and career interests.

Some researchers have concluded that closer matches between student and teacher learning styles yield higher levels of student achievement; others suggest that students should learn to adapt to their teachers' styles. This controversy is discussed with regard to higher education classes in agricultural fields. Specific teaching methods, practices, and examples which take into account the diversity of learning styles are provided in an attempt to enhance learning in agricultural classrooms.

Andrew P. Barkley
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Reaching and Teaching Students With Different Learning Styles in a Large Class

Reaching and teaching students in large classes in large rooms has its challenges. A major challenge is to develop engaging, surprising, even unconventional methods to mee years of teaching, I am convinced that to effectively reachœstudents I must show them that I care. It has been said, "Students don't care whatÄyou knowœuntil they know that you care."

The following are a few of the successful ways I show the 190+ students in my Plant Life course that I care. I make a 35mm contact picture of each student and attach it to aœseating chart board that I place on my office desk. I learn every student's name before theœsemester is over and I call students by name in and out of class. I give birth day notes toœindividual students each lecture period. In the course syllabus I include a course contract andœprecise guidelines on requirements for grading, attendance, etc.

I have several methods of presenting Botany that address students' learning styles. I prepare a detailed lecture outline "course pak" that students purchase and I follow it closely in lecture. I have a unique video I use to explain different leaf parts. I have developed models to explain the plant parts that are often difficult for students to understand. I use various props to demonstrate certain concepts like diffusion, respiration, etc. Some presentations involve costumes and animated staging. These and other methods have been judged effective by the students. I will demonstrate some of my methods. including how I engage senses other than sight and sound.

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Strategies to Integrate Students, Textbooks, Test-Taking and Learning

Requiring a textbook for a class does not guarantee that students read the textbook. Several strategies have been developed to encourage students to read the textbook and in some cases help in the preparation of the test. Ultimately, the goal is a greater involvement of students in the learning process.

The first strategy is to indicate that a certain percentage (10%) of the exam will come from information in the textbook not previously discussed in lecture. This approach, however. seems to overwhelm students because of the "vastness" of the reading material involved.

The second strategy is to prepare a worksheet of questions that are answered by reading the textbook. The questions cover m aterial that is not discussed during lecture. Students are required to turn in the completed worksheet. The worksheet is not grade d but checked and incorrect answers are marked and the worksheet returned to students. Students may check the textbook, ask classma tes or approach the instructor for the correct answer. Questions from the worksheet appear on the next test. Students consider thi s busywork since the worksheet is not graded.

The third strategy involves students in the preparation of a portion (10%) of the test. Prior to the test, students submit questions from the assigned reading. Depending on class size, students submit two or three questions each so a sufficiently large p ool of questions is available. The questions cover information not previously discussed in the course. The submitted questions als o include the answer as well as the page number from the textbook. Questions may be in any format but true or false and multiple ch oice are the most popular. Students are even encouraged to share questions with other classmates. To ensure participation by ever student in the class, students that do not submit questions are penalized five points on the exam and usually do not receive copies of questions submitted by other classmates. This strategy has been well received by students. Students gain an appreciation of the difficulty in writing test questions as well as a greater involvement in the learning process.

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Using Multimedia in Introductory Crop Scienses Courses

Since 1987, enrollment in Crop and Soil Environmental Sciences (CSES) at Virginia Tech has increased from 38 to 438 students. Yearly budget shortfalls have reduced the faculty and resources in the department. These conditions have brought about larger classes and more sections of classes in CSES.

I divided my agronomic crops class into 75 and 35 student sections and found the smaller groups more interactive, had better attendance, and performance on exams.

This encouraged me to consider further dividing the large class into a third section. One solution was to use multimedia technology to take the place of one hour of class per week. A grant was written for hardware and software and a room was provided by the Dean for a "CSES Supplemental Learning Center." This center contains eight student corrals with Mac 640 machines capable of holding three 40 minute multimedia programs. A developmental machine, a Mac 840, has memory enough to hold all the units and acts as a server. There are also benches for supplemental displays. At present there are 12 multimedia programs using Authorware and Photoshop software, running the gambit from soils of Virginia to hay and haylage. All of Virginia's major row crops are featured plus units on planters and tillage tools, fertilizers, and lime. These programs accompany the lecture material and teach agriculture literacy. Each is about 40 minutes in length with 30-40 frames with voice and interactive questions every 2 or 3 segments. At the completion is a 20-question quiz that reviews the program. The computer grades the

quiz, and with the print command, sends the score to the server computer and provides them with a hard copy. The Mac 840 averages all grades in lab for semester and reports them by class section and social security number. The Supplemental Learning Center is operated 20 hours/week by my teaching assistant. Similar programs are being produced for the world crops and systems course.

Student acceptance has been very positive. From a teacher's point of view, the addition of the multimedia technology allows for more interactive classes, assists with grading, offsets poorly appointed classrooms, and with the supplemental material, partly compensates for the lack of a laboratory.

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Weed ID Program for the Macintosh Using Hypercard

A weed identification program has been developed by the Macintosh using the software program Hypercard. This weed ID Program is being used to supplement the teaching of weed identification in a weed identification and control course at Penn State and will also be made available to any other interested parties.

It is hoped that county agents, commercial pest control advisor and others who don't have a working knowledge of weed identification in the Northeastern and midwestern states would be able to use this program to help them identify common weeds.

The computer based key includes yellow nutsedge, wild garlic, wild onion, 21 grasses and 156 dicots. The key is based on 10 key characteristics for grasses and 12 key characteristics for dicots for most of the weeds contained in "The Weeds of the North Central States" common to the eastern Midwest and Mortheast. The program has search capabilities to identify the weeds have the characteristics the user specifics with final identification made possible by a combination of digitized pictures of the weed with zooms and associated description text.

N.L.Hartwig,
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ABSTRACTS OF POSTERS

A Case Study: An Examination of Student Perceptions of Undergraduate Teaching Excellence and Their Evaluation of the Enacted Teaching Practice of an Exemplar Agricultural Economics Professor

A case study for a 3000-level agricultural economics course was developed utilizing data gathered from survey instruments, semi-structured interviews, and researcher observations of the enacted teaching practice of an exemplar teacher. Four research questions framed this study:

How does an agricultural economics teacher, recognized for undergraduate teaching excellence, characterize his/her teaching practice?

How do undergraduate students in an agricultural economics course characterize excellent college teaching?

How does an agricultural economics teacher, recognized for undergraduate teaching excellence, enact his/her teaching practice?

How do undergraduate students react to and evaluate the enacted teaching practice of an exemplar agricultural economics teacher?

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Influence of a Food and Agricultural Sciences Workshop on Academically Talented High School Minority Students from Pennsylvania

A Food and Agricultural Sciences Workshop for Academically Talented High School Minority Students and Science Teachers was conducted as a college level project during summer 1994. The objective of this program was to conduct a one-week intensive summer workshop for minority high school science teachers and rising sophomore and junior students to introduce them to the science-based curricula and career options in the food and agricultural sciences. African-American, Hispanic/Latino and Native American Indian high school science teachers and their rising sophomore and junior students comprised the target population. These groups were targeted because of Penn State's College of Agricultural Sciences difficulty in reaching these underrepresented groups. The workshop included various participatory activities where department heads and their faculty used demonstrations, laboratory exercises, field trips, and discussions as their primary instructional approaches. In addition, three exercises were used to stimulate interaction between the participants and faculty.

Two approaches were used to assess the Workshop. First, the attitudes of the participants toward the food and agricultural sciences were assessed immediately before and at the end of the Workshop. The content and experiences included

in the workshop were also evaluated to provide benchmark data to guide the planning of future workshops. A Likert-type instrument with 10 statements to assess the participants' knowledge of and attitudes toward the food and agricultural sciences was used to determine how well the objectives of the workshop were met. When the workshop began the participants agreed that they knew very little about the food and agricultural sciences and at the end of the workshop they disagreed with this statement. Similar positive attitudinal shifts were found on five other variables. This presentation will include pictures and copies of materials related to program recruitment, media coverage, and featured stories about the Workshop.

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Issues for Consideration in the Development of a Capstone Course for Environmental Science Majors

The purpose of this presentation is to identify issues that should be considered in the development of higher-level environmental science courses. First, issues concerning the identification of desired student outcomes based on the needs of scientific professionals charged with environmental clean-up or hazard minimization are addressed. Additional issues identified include: the identification of appropriate content experts to develop and teach the course, the selection and development of instructional materials, the selection of appropriate instructional strategies, and development of formative student assessment instruments. Underlying the identification of these issues is the position that the desired outcomes, concerning student knowledge and problem solving skills, should drive the development and delivery of such courses, rather than a teacher's subject matter expertise or the availability of various instructional materials.

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Learning and Teaching Styles in Agricultural Economics Classrooms

Students majoring in agriculture have a strong preference toward a concrete sequential learning style and weak preference towards the abstract. The results of an assessment, using Gregorc's model of learning style, of 298 students over four years at North Carolina State University also reveals this preference is the same across majors in the College of Agriculture and Life Sciences, with the possible exception of ag engineering students. However, style preferences of faculty do not match well to the preferences of students, especially faculty with major research appointments. This has major implications for successful learning and teaching strategies.

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AASCARR Outstanding Teacher Award

The AASCARR Outstanding Teacher Award was first presented in 1995. AASCARR is the American Association of State Colleges of Agriculture and Renewable Resources. Membership in this organization is open to all non Land Grant institutions offering a bachelor's degree in agriculture. The purpose of this award is to recognize an outstanding faculty member of an AASCARR institution in the early years of their teaching career.

Eligibility

- Minimum of four years and a maximum of eight years of having at least a 50 percent teaching assignment.
- Member of an AASCARR Institution

Nomination

- Nomination forms are available through NACTA from Allen M. Beals, chairman, NACTA Teacher Recognition Committee, Department of Agriculture and Resource Economics, Campus Box 8109, North Carolina State University, Raleigh, NC 27695-8109.
- Selection will be made by an AASCARR review committee appointed by the president of AASCARR.
- Completed nominations should be returned to the chairperson of the NACTA Recognition Committee according to the timeliness established.

Recognition

- Recipient will be awarded a plaque and a minimum of $500 cash award at the 1996 NACTA annual meeting.
- AASCARR will also pay expenses of the award recipient to attend the 1995 AASCARR annual meeting for further recognition and to share their philosophy of teaching.