PERSONALIZING MULTIMEDIA APPROACHES IN EDUCATION

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Faculty Resistance

Normally deviations from commonly accepted procedures raises questions. The use of media formats different from traditional lecture approaches in some cases has resulted in faculty resistance. The role of the educator changes from that of star billing in the classroom to that of a manager of educational experiences. He loses the "ego trip" associated with the fountain-of-knowledge approach in exchange for becoming a clever manager of meaningful educational experiences.

Lack of Understanding

A second source of resistance may stem from a natural fear or lack of understanding of audio-visual-machines and their operation and capabilities, and the erroneous belief that teachers might eventually be replaced by machines. Perhaps we should ask the following question, "If a machine can do the job of teaching better than the teacher, is the teacher needed?" Frankly, it is the role of the teacher that is changed and seldom, if ever, indicates his replacement by machine. It takes far more teacher effort to use the technologies available for teaching than it does to stay with a traditional lecture approach. The success of such an endeavor will be only as good as the teacher makes it.

Large Numbers of Students

Administrators may question the capability of various technological approaches in serving large numbers of students. The erroneousness of this conclusion can be shown by the efforts being carried out at several institutions such as Purdue where the audio-tutorial system is used with hundreds of students in biology. Contrary to frequently expressed opinions, individualization of instruction can also be imposed on audio-tutorial systems and audio tapes are often informal and on a first person basis.

Humanistic Concerns

A concern expressed by teachers, students and administrators alike indicates the possibility that the use of machines and modern technology will inhumanize education. One could also argue the inhumanness of large mass lectures whereby students are reduced to numbers on IBM cards. With the proper use of machines it is possible to take into account the fact that people learn in different ways and at different rates. This may be a very human approach compared to a mass lecture system without discussion time. The use of flexible technologies frequently enables students to proceed at their own rate in a manner suitable for them and at a time when they are receptive to learning.

Personalizing Education Efforts

It becomes apparent when examination is made that one must always be aware of the element of humanness. Students are people and a humanistic approach is essential if successful use of technology in education is to be realized. Even computer assisted education can be personalized if one is willing to sacrifice a few milliseconds of computer time. We have personalized a computer program used by students in calculating shade tree values which is part of a course in Grounds and Park Maintenance.

> The original formula was designed by the International Shade Tree Conference and it involves squaring the diameter of the tree 4½ feet above the ground and multiplying this value by .7854 and then by $10.00. The resulting value is then multiplied by a value group percentage figure and a condition class percentage figure giving the final adjusted value of the tree. We are fortunate in having a very capable programmer who personalized the program so that students can readily check their own answers against the computer without knowing about data processing or majoring in math. To illustrate, one must visualize the computer terminal which looks like a typewriter. After dialing the computer by phone the student simply types the code number and the name of the program desired which in this case is Calctree. The computer responds by typing out a question which asks for the student's first name. The student enters his or her first name and the computer then addresses the student by typing out his first name, typing a brief explanation of the purpose and the capability of the program and by typing a question asking for the diameter of the tree. The student enters the diameter and the computer then requests the value group percentage figure for the tree. The student enters this and the computer then requests the condition class percentage figure. The student enters this value and the computer prints out the final adjusted value of the tree along with a question asking the student if he wishes to do another tree. If the student answers yes the process is repeated. When the student finally answers no, the computer prints out the total value of the computed trees and thanks the student for allowing it to be of assistance. The computer then prints out a statement saying that it has enjoyed working with the student and that the student should not hesitate to call again when help is needed, followed by a good-bye.

Currently we are developing a personalized computer program to aid students in shade tree fertilizer problems.

Conclusion

The psychology of personalizing technologies available for improvement of instruction is important to the success of eduational efforts. It is not a difficult task to accomplish and it simply requires the instructor to put himself, as much as possible, in the position of the student. It is important to recognize differences in the way people learn and the rate at which they learn. The use of the considerable array of technological tools as aids in the educational effort, can remain humanistic.

It is left to the educator to personalize even the computer program.

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INTERNATIONAL AGRICULTURE – A NEW INNOVATIVE PROGRAM*

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A question frequently asked by agricultural educators in colleges and universities is "How can we increase our total student enrollment?" One way to accomplish this objective is by offering new and innovative courses that attract and meet the needs of students. One success story in this area is the international agriculture program offered in the School of Agricultural Sciences at California State University, Fresno.

In 1969, three agricultural student leaders inquired about the possibility of having a course taught on the subject of world agriculture. Five years later nearly 100 students are enrolled in three international agriculture classes being offered during the Spring Semester of 1974. Approximately 35 percent of this number are students representing practically every major other than agriculture that is offered on the University campus. International students constitute nearly 15 percent of the total enrollment.

The purposes of this co-educational, non-degree program in international agri-

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culture are: (1) to broaden the individual student's knowledge and understanding of international agriculture, primarily in the developing areas of Asia, Africa and Latin America and (2) to help prepare those students who plan to travel, live or seek employment in countries other than the United States.

There was neither a text nor detailed course outline available when the first course Ag 161, International Agriculture, was offered. Through student-faculty input and evaluation, the class content and structure were revised periodically as the course was being taught. An enthusiastic student response resulted in the addition of a second section of Ag 161 for the following semester. A year later, a second course known as Ag 170, Seminar in Foreign Agriculture, was scheduled for advanced students. Ag 180, Undergraduate Research in International Agriculture, was also added the next year for students who wanted to do individual research on specific topics in international agriculture. A graduate course on the subject of agricultural development is presently being considered for addition to the program. All courses, with the exception of Ag 180, are offered for three units of credit and are taken for elective credit. Enrollment in the first course is limited to 40 students per class section. Only 16 advanced students are permitted to enroll in the advanced course. Numerous guest lecturers, color film and group discussions give variety and stimulation to the regular class presentations.

Approximately 20 of the more than 500 students who have enrolled in international agriculture classes to date have already traveled, participated in overseas work-study programs or accepted employment abroad. Every week some new and exciting activity or development presents another challenge for students enrolled in courses offered in this program.

The year 1974 has been declared by the Food and Agricultural Organization of the United Nations as the year to focus world attention and emphasis on increased food production. In light of present world food shortages in Asia and famine in parts of Africa, international agriculture is a vital subject that demands the best effort of college and university students and faculty if all mankind is to enjoy a better life in the decades ahead. Certainly the hundreds of students who have enrolled in the international agriculture courses at California State University, Fresno, are more aware of the world situation today. Many have accepted the challenge to be a part of the action and attempt to make a contribution toward solving some of the world's food problems.

THE POT OF GOLD

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The pot of gold at the end of the teaching rainbow, for the teacher, administrator, regent, student, educationist, and citizen, is the same, the participants' knowledge and understanding of the subject. Recent years have brought a trend which is not healthy. It is due to various factors, theories of educationists, uprisings of students, the influx of polls of public opinion, maudlin desires to please rather than teach, data-collecting ways of testing services, the ease afforded by computers, attempts to solve intrinsically insoluble administrative problems, the concern citizens have over critics of education and over their heavy educational burden in taxes, and, hardly least, man's introspective curiosity. The trend is toward diversions from teaching.

It is more fun to play than to work, at least until one learns that the most stable form of play is work. The duty of a teacher is to guide the learning of a student in the subject taught, and the duty of the student is to go after that subject until he or she gets it.

Too much digression is occurring, diversions which have been tolerated with increasing nonchalance. An old digression is the grading of students. The student asks "what do you think of my work?" instead of asking how to make his work more effective. The teacher yields to an urge to put a personal value on a student, though the goal is not a relative value, an opinion, but an understanding of the subject. The examination, quiz, or any assignment of a task, primarily useful as a teaching tool, a challenge to learning, easily becomes a mechanical scheme designed to aid the teacher in forming a personal opinion instead of to teach. Polls take many significant hours from the study or teaching of subjects, just to satisfy curiosity. How does the student like this method? What does the teacher think of this student? In more cases than not, the question, is this move a gossipy form of curiosity or is it an essential attention to study of the subject, can have only the dubious answer. Even to ask whether questionnaires and answers are meaningful or are for use as crutches to support a personal judgment can be embarrassing.

The simple truth hurts because it interferes with diversions. The truth is that students go to school as individuals to learn something, not to please teachers, and teachers are hired by and are responsible to citizens for helping this process along in the light of their greater maturity and experience with the subjects. The truth is not complicated. The team of teacher and student has a mutual obligation to face the puzzles of a subject, as a team. They can do this only when they quit concentrating on each other instead of on the subjects.

Surveys and questionnaires, many of them designed only to prove the obvious, are more often impediments than valid investigations. When an administrator accepts interlopers who want to use students as guinea pigs, or dotes on committees and other interferences with teaching, he is only disrupting legitimate schedules with busywork. As for the citizens, most of them will be content if fussing diminishes and attention to duty increases. It is one thing for a teacher to listen to a real gripe and another to foster griping, for example, as did one school which had students rate lecturers at the end of each lecture. On what were the minds of the students, persons without experience in teaching and who could have no understanding of the problems in presenting a subject new to them? A student may have some difficulty with a teacher who fits his background and mind poorly, but, if he wants that pot of gold, he will concentrate on the subject and take what is there to get. Teachers and students can be misfits; that is axiomatic. But when they both work at the subject these misfits are rarely significant.

The pot of gold contains adequate results, and no amount of surveying and appraising will produce such results. The study of teaching itself can be worthy, of course. But for teachers the extent to which such study becomes part of teaching is the criterion of worth. Right now, the cat is on its ninth life. Curiosity has taken eight lives already, so it is high time students and teachers turned their eyes toward subjects and quit looking at one another.

BOOK TO BE RELEASED

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