

Televised Classes Aid in Education

By JUDY HARKISON

Televised classes, where a television screen brings the instructor into additional classrooms, may be a partial solution to the growing pains of the American educational system.

The closed circuit television experiment at the University has been termed "pioneer" and the prediction made that it will be "ahead of all other schools if television develops into an educational use."

The project, financed by the Ford Foundation's Fund for the Advancement of Education, includes three independent television systems within three classroom buildings—chemistry, liberal arts, and engineering.

Among the classes televised are survey courses in psychology, political science, sociology and chemistry. These are all courses where enrollment is great.

One of the advantages of television is that the best instructor is able to meet an unlimited number of students at the same time.

Enrollment Rising
"The number of college students is continually increasing but the number and quality of the faculty is steadily diminishing," said Dr. Alvin E. Eurich, vice president of the Fund for the Advancement of Education, when he spoke at a University Faculty-Trustee dinner.

In 15 years, he said, college enrollment is likely to have doubled, but only 20 per cent instead of the present 40 per cent of the faculty members will have Ph.D's. Today about 32 per cent of persons of college age are students, but in 1970 more than 60 per cent are expected to be in college, he added.

Demand May Top Supply
Thus the demand for faculty members created by this increased enrollment will outstrip the supply.

Philip H. Coombs, secretary and director of research for the Fund, said last week that "the University has the potentialities of helping introduce in education new and improved methods which will help solve the central problem of education today."

The attitude toward TV teaching is becoming increasingly favorable. According to a progress report released by the Instructional Research Program at the University, generally 53 per cent of the students on the average enjoyed it, 10 per cent were indifferent, and 37 per cent disliked it.

Answer Five Questions
These figures are the result of questionnaires answered by students participating in television sections last semester. The questionnaire contained five choices: (1) disliked it somewhat; (2) disliked it intensely; (3) had no particular feelings about it; (4) enjoyed it somewhat; and (5) enjoyed it very much.

Studies indicate that students earn similar grades from television instruction as from attending a classroom lecture. This was proved by the comparison of test

scores by students in the television, the origination room where students are in the presence of the instructor, and the rotation of these two.

Take Part in Experiment
In a rotation experiment in a political science course, students attended class for four weeks in the face-to-face lecture, and then for four weeks received the lecture in a TV viewing room. After this rotation, they were given a choice of the kind of instruction they preferred for the remainder of the course.

Out of 219 students, 70 per cent, or 154 students, selected the TV rooms, 27 per cent, or 59 students, preferred the face-to-face lecture; and three per cent were absent at the time of the choice.

72 Prefer TV
In a similar rotation experiment in a commerce course, 47 per cent, or 72 students, preferred television and 53 per cent, or 82 students, selected the regular class.

Many things contribute to these choices, L. P. Greenhill, associate director of the project, said. They may include attitudes toward the course, the use of visual aids on TV, the performance of the instructor on television, and atmosphere of the classrooms.

Few Visual Aids
In large lecture classes that are usually held in auditoriums, students in the rear of the room are often handicapped in seeing and sometimes hearing. In this type of class, it is very difficult to accompany lectures without pictures and other graphic materials.

In certain courses, television is used to aid instruction with visual material. TV sets, are placed at approximately 20-foot intervals, along the side of the room. Thus students watch the sets and the magnified visual aids, while the instructor is lecturing at the front of the room.

No Change Noted
The effect on learning of the number of students in each TV viewing room was also investigated. No difference on performance was noted whether there were 15 or 150 in the class.

The project also provides training and part-time work for 24 undergraduates in camera operating, camera control work, and engineering, and for 23 graduate assistants in supervising TV

classes and leading discussion sessions.

This semester the experiment is aimed in the direction of adapting courses to television, developing in demonstration, and making the most effective use of teaching assistants.

Provides 'Best' Instructor
These advances in instructional television will not only help provide for an increase in enrollment, but will also enable the best instructor to meet more students. The instructors will lecture via television, and teaching assistants will lead discussion and problem work during recitation periods. The quality of classes is expected to improve because an instructor lecturing over TV is more apt to present a better prepared lecture and use more visual aids.

A talk-back microphone system enabling students in the TV viewing rooms to question the professor during his lecture was put into operation three weeks ago. This system was installed in response to a frequent complaint of students that questioning is impossible with televised classes.

Supports Television
When Dr. Alexander J. Stoddard, consultant for the Fund for the Advancement of Education, visited the University and studied the project, he said: "Television is a more powerful medium of communication, and the Ford Foundation wants to support attempts to find out what can be done."

The University's experiment is still in the trial stage and has much to be perfected. However, after one and one-half years of research, it has substantially indicated a bright spot on the educational horizon.

Three ROTC Groups Exist at University

Since Penn State is a land grant university it is required by Federal law to provide a reserve officer training corps program. Four semesters are required of all physically fit male students.

The student may choose between Army, Navy, and Air Force training. Army and Air Force cadets must take two years of training with two years of advanced training optional.

3 Grants Received For Cancer Work

Research on cancer will be continued at the University under three special grants.

The Damon Runyon Memorial Fund has provided grants of \$9500 to Dr. Robert F. Gentry and Dr. Howard W. Dunne, of the department of veterinary science, and \$5900 to Dr. M. Frank Mallette, associate professor of agricultural and biological chemistry.

The third grant of \$4600 was provided by the American Cancer Society which for the past three years has been supporting research by Dr. Eugene Ackerman, assistant professor of physics.

Laboratory Director To Present 2 Papers

Dr. Merrell R. Fenske, director of the Petroleum Refining Laboratory at the University, will present two papers in Venezuela during a two-week visit in that country from Sept. 24 to Oct. 5. He will be the guest of the Creole Petroleum Co.

He will give a talk before the pipe line and production research group in Maracaibo and another lecture to the Creole board of directors in Caracas on the chemistry of petroleum refining and the production of petrochemicals.

Navy cadets must take a full four years of training. To enroll in Navy ROTC a student must either take a national test before he arrives on campus or he must apply for admission to the program on campus no later than the third day of orientation week.

If he has taken the test before arriving on campus, he becomes a regular student in Navy ROTC. If he applies after arriving on campus, he becomes a contract student in Navy ROTC.

A contract student may be promoted to regular status by examination after the program is underway. Regular Navy cadets receive \$50 per month and payment for books for all four years.

Army and Air Force cadets and Navy contract students get 90 cents subsistence pay per day during their junior and senior years if they choose to take the advanced two years of training.

Navy cadets must take three summer cruises before they are graduated. Army and Air Force advanced cadets must take a four to six week training program at some military base during the summer between their junior and senior years.

After graduation regular Navy cadets become Ensigns in the U.S. Navy, and contract students become Ensigns in the Naval Reserve. Army and Air Force advanced cadets become second lieutenants in their reserve branches. Advanced cadets of all three branches must go on active duty.

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