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By- Johnson, Donald W.

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This project was undertaken at the Pennsylvania State University during the academic year 1964-65 with the threefold purpose of developing and recording on videotape an introductory educational psychology course: presenting the course, under field conditions, to students enrolled in off-campus continuing education classes; and evaluating the videotape course as an instructional tool for students who do not have access to resident programs of instruction. A course was recorded on helical scan videotape under studio conditions using high-quality videcon cameras. It was offered to three groups of students with a total enrollment of 25 by transporting the equipment to the location of students for each class session. Liaison between the students and the professor was provided by the graduate assistant who transported the equipment. With proper maintenance the equipment proved to be completely reliable. Both on-campus and off-campus students achieved a satisfactory level, but the attitude of the latter, as measured by the course attitude questionnaire was somewhat above that of the campus control group. Students, however, expressed a desire for more contact with the professor. (Author/GO)

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The research reported herein was performed pursuant to a grant with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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Educational Psychology by Video Tape for Inservice Teachers: A Feasibility Study

Over fifteen years of research and development have revealed that children and adults can and do learn a great amount from instructional television. The effectiveness of television as an instructional tool has been demonstrated at all levels of education and for most types of subject matter. The advent of low cost video tape recording makes television an even more flexible tool. At this point in the development of instruction television, an important question is, under what conditions of the use is the medium most effective? This study sought to apply the medium of low cost television recorded to the problem of inservice teacher education and demonstrate the feasibility under actual field conditions. The combination of low cost instructional television, plus the flexibility of video tape could enable educational institutions to widen their present instructional boundaries and make more effective use of professional time. The end result could be that of providing instruction at the time and place most desirable for the learner.

The initial project undertaken in June of 1964, sought to determine the feasibility of video tape instruction to widen the boundaries of the University campus. One low cost helical scan video tape recorder was obtained. The basic educational psychology course was recorded on a series of 22 video tapes. The course was presented to off-campus continuing education classes composed of inservice teachers during the regular academic year 1964-65, and the results of the "pilot project" were evaluated on the basis of student achievement, attitude and technical feasibility.

THE PROBLEM

It was the problem of the study (a) to develop and record on video tape an introductory educational psychology course; (b) to present the course, under field conditions, to students enrolled in off-campus continuing education classes; and (c) to evaluate the video tape course as an instructional tool for students who do not have access to resident programs of instruction.

Answers were sought to the following specific problems: (a) to determine the attitude of students in off-campus locations who are taking an educational psychology course via recorded video tape; (b) to determine the feasibility of producing an entire semester's course on video tape; (c) to determine the realiability and portability of low cost helical scan video tape recorders; (d) to determine typical production requirements for such a course; (e) to determine the economic feasibility of such a course; (f) to determine what auxiliary equipment might be required for both production and representation of such a course; (g) to make some comparisons of achievement between off-campus and campus students.

Research has clearly established the effectiveness of television

as a teaching tool. In those studies where evaluation instruments have been employed to contrast instructional television with a typical lecture course, nonsignificant differences were found in the majority of instances (1,7,8). Findings further indicate that televised instruction is effective for college level students in courses in general psychology (4).

Televised instruction may be even more effective for older and more mature students than it is for students of the public school or college level (1). Chicago's TV college (2) found that television can be used as a principal means of teaching the more mature and highly motivated students. There is evidence to indicate that the unfavorable bias toward television is overcome when the students perceive their instructors to be of excellent quality (1), an important factor in continuing education where extension instructors are often not as well qualified as resident professors.

METHOD

The study was conducted in two separate phases. Phase I was the production of video tape lessons and the other supplementary course materials. During Phase II, the course was presented to three separate groups away from the University Park Campus. (Because of low enrollments, additional material was later collected and will be presented as additional information in the report.)

The pre-production phase of course development began during the Spring term 1964, under the direction of the resident professor regularly assigned to teach Educational Psychology. Previously, the course had been presented in a large lecture hall. Therefore, in order to make the conversion to closed circuit television, it was necessary to completely restructure the course; new visual material was designed to incorporate into the lesson. The professor gained considerable television experience during the term because of the required adaptations to a new medium.

After recording had begun, the course was taught live on closed circuit television for one term. To meet the needs of both campus and off-campus classes, each tape was made in a 75 minute length (see Appendix A for a list of titles). Production was undertaken in a fully equipped closed circuit television studio. The facilities included two high-quality industrial videcon cameras, a film chain and supporting equipment, a lighting grid, air-conditioning, switching equipment, and other appropriate equipment for this type of studio. Each production was recorded on a low cost helical scan video tape recorder using two inch wide video tape. The television production crew consisted of a director, an engineer, two cameramen and an audio engineer. The general production pattern involved at least one live rehearsal prior to the actual recording.

During the Fall term 1964, the course was offered in two off-campus locations - Lewistown and Altoona, Pennsylvania. The classes met one night per week for fifteen weeks and viewed two 75 minute tapes per

meeting. All classroom playback equipment was taken to the classroom location at the time of playback. The equipment consisted of the video tape recorder, 21" television monitor, audio amplifier and speaker; this was set up in the appropriate room by a graduate student prior to the arrival of the students. On three occasions during the term the professor visited the class in person. The above procedure was repeated in the Spring 1965, with one class which met in Altoona, Pennsylvania.

The video tape course was offered on campus to students regularly enrolled in Educational Psychology 14, during the academic year 1964-65. The on-campus group met three times per week for ten weeks and during each meeting viewed one 75 minute tape. Results are compared in later tables.

FINDINGS

The development and production of any type of televised course material is time consuming and critical. To use the medium effectively, it is often necessary for courses to be completely revised and adapted for use on television. Although the course was offered live on closed circuit television one term prior to recording, it was still necessary to spend a great deal of time in revision and preparation of visual material prior to studio recording. The original production schedule which called for the completion of three 75 minute tapes per week was found to be much too rigorous. It is difficult even for experienced teachers to develop and effectively present course material that rapidly.

The recording equipment was found to be highly sensitive, effected by abrasiveness of the tape's surface, temperature and weather conditions, plus a host of other factors. Perhaps the most frustrating equipment problem was that it was impossible to monitor the signal being recorded on the tape while the production was in progress. Thus, equipment malfunctions, head clogging, etc., can and sometimes did cause a major portion of the production to be lost.

The studio equipment was found to be entirely suitable for the production requirements. Lighting levels were more critical than those encountered in standard live closed circuit lessons. It was also necessary to control the audio and video output levels more carefully than in live recording.

The courses, offered in the evening, presented no unusual room requirements; it was only necessary to provide A.C. power. The following equipment was set up prior to playback in the classroom: 21" television monitor, speaker, video tape recorder, and audio amplifier. Through actual use, it was found that the learners were less distracted if the video tape recorder and audio amplifier were placed outside the room. In some locations this physical arrangement was possible. However, because of the pilot nature of the project and because only one video tape recorder was available for both recording and playback, no permanent conduits or lines were established. The room was arranged so that no student was more than 20 feet from the screen of the television

monitor, and where possible, room light was subdued.

Personal contact between the instructor and the learners was provided by the graduate assistant who served as room proctor, equipment operator, and liaison between the instructor and the students. The professor visited the learners at their location twice during the term - the first time the class was offered, and the other during the middle of the term; this number of personal visits was considered by the professor to be minimum.

Achievement Achievement of the experimental group was measured and compared to a campus norm group. All scores on examinations were standardized, based on the group of more than 1,200 regularly enrolled students on the University Park Campus. Standard scores were computed by converting the raw scores of the standardizing group to means of 500 with standard deviations of 100. All other scores on examinations taken by other groups were similarly converted using the same formula. Thus, comparisons between groups are easily made by inspection of the converted standard scores.

Table I shows that the first two experimental groups did not achieve as well on either the mid-term or final examinations as the campus norm groups. The mean score on the mid-term examination was in excess of one standard deviation below that of the campus norms; their performance on the final examination was approximately one half standard deviation below the norm group.

TABLE I

MEAN STANDARD SCORES ON COURSE EXAMINATIONS

Group	Mid-Term	Final
Off Campus Experimental N=25		
Fall group I	376.9	422.3
Fall group II	375.4	445.0
Spring group	519.8	482.8
Campus Norm=1200	500.	500.

The Spring experimental group showed a performance more nearly like that expected from the regular campus group. It exceeded the campus norms on the mid-term and fell slightly below the same group on the final. The data was not subjected to rigorous statistical analysis because of the pilot nature of the project. No groups were randomly selected. All groups did not represent the same population because many of the students in the experimental groups were nurses, housewives, etc., who in some cases needed additional credits to complete a bachlor's degree. The data did support the often repeated statement that students do learn from televised courses -- how well they learn depends on the method of presentation of the stimulus material and a great number of other factors.

The following year, additional data from larger intact groups were gathered and presented in Table II.

TABLE II

EDUCATIONAL PSYCHOLOGY ACHIEVEMENT SCORES

1966-67 ACADEMIC YEAR

Group		Mid-Term	Final
University Park I	Mean	60.9	62.7
N=250	Standard Deviation	8.02	8.39
University Park II	Mean	58.9	61.3
N=240	S.D.	7.95	8.02
Office Campus I	Mean	54.5	55.3
N=45	S.D.	8.93	8.4
Off Campus II	Mean	51.4	55.0
N=42	S.D.	8.3	6.7
Off Campus III	Mean	43.0	46.9
N=55	S.D.	9.78	8.76

Table II shows that students in off campus locations, during the year 1966-67, did not achieve as well as those on the University Park Campus, a finding which supports earlier data. The instructor had changed his grading policy, norms are no longer based on University Park groups. An examination of the scores reveal that, with the exception of off campus Group III, all mean scores were within one standard deviation. Again, it cannot be assumed that students in all groups are from the same population. Rigorous tests of significance could not be applied because certain assumptions could not be met. Off campus Group III did not have a proctor in the room; they met late in the afternoon, 6th period, 3:55 p.m. to 5:10 p.m. Many of the students in the class had been assigned to a televised class immediately prior. Their performance was poorer than that of any other group.

To summarize, in all trials of the video tape course, we did not demonstrate that students in off campus locations achieved as well on objective content examinations as those on campus with the same stimulus material. There may be a number of reasons for this such as low motivation, the competition of outside jobs, inadequate time, libraries not available, instructor not available for consultation, etc. The experimental students in this study may not be as able to perform acadamic work as those who are full time resident students. Students do, however, learn from the stimulus material and it can be accomplished both on and off campus.

Student Attitude The attitude of the students toward taking a televised course in an off campus location was possibly the most important evaluation made during the study. A Course Attitude Questionnaire (6) was developed at The Pennsylvania State University by the University

Division of Instructional Services. The instrument has been administered to over 450 classes throughout 10 years of use.

The CAQ was constructed in order to provide a tool which might be used to measure student attitude about many aspects of instruction, including the use of television. It was intended to serve as an instrument which would indicate those areas of instruction perceived by the students to be both good and poor.

Questions on the initial form of the questionnaire range from general evaluation of the course to specific evaluations of the text, outside assignments, and tests. Each item of the questionnaire originally served as a unit of information about the student's responses. However, statistical analysis indicated that many of the items were measuring approximately the same things while others were not reliably measuring anything. A grouping of items and summation of item scores is now used to report student's responses to such areas of instruction as course content, method of instruction, etc. A copy of the questionnaire is included in Appendix B.

The questionnaire was developed by selecting and constructing many items in the questionnaire so that a consistency of response could be checked. In the initial form many of the items referred specifically to televised instruction. It was administered to a cross section of students in courses which were taught exclusively by closed circuit television; the responses were factor analyzed. An analysis of intercorrelation of the items was used as a means of determining what items tended to cluster in groups, thus indicating that they measured approximately the same thing. This analysis also indicated which items accounted for the most variance in the responses of the students. The results of the analysis were used to eliminate some items and add others.

After the initial trial, all items pertaining directly to televised instruction were reworded so that they could apply to any University course regardless of location. The factors were identified and labeled (a) General, (b) Method of Instruction, (c) Course Content, (d) Student Interest and Attention, (e) Instructor and (f) Other. Table III shows the factors, the number of items assigned to each, the highest possible score, and the mean scores of each factor based on the administration of the questionnaire to 476 course sections at the Pennsylvania State University.

TABLE III

MEAN SCORES COURSE ATTITUDE
QUESTIONNAIRE (CAQ)
(476 COURSE SECTIONS)

	A General Course Attitude	B Method of Instruc-tion	C Course Content	D Interest Atten-tion	E Teacher	F Other	Total
No. of Items	8	8	8	8	8	10	50
Possible Score	32	32	32	32	32	40	200
Mean	23.9	21.9	22.5	22.4	24.8	28.2	146.5

The factor analysis of the responses from various courses indicates that the factors identified above are fairly stable with the exception of some of the items which relate to course content. Course content items occasionally intercorrelate quite highly with the general course attitude items.. Method of instruction, Factor B, has been found to be quite stable.

Table IV shows course attitude means for the experimental and campus groups, plus Penn State norms based on over 450 sections. The size of sample and lack of randomization precluded statistical comparisons. The observed differences among groups, while not large, show method consistantly below the campus norm.

TABLE IV

COMPARISON OF CAQ MEANS - EXPERIMENTAL
CAMPUS AND NORM GROUPS

	N	General	Method	Content	Interest	Teacher	Other	Total
Exptl. I	8	24.0	17.4	22.6	20.1	24.5	27.0	135.6
Exptl. II	7	23.1	15.6	21.6	19.7	23.4	27.9	131.4
Exptl. III	10	27.2	17.9	25.5	24.4	25.7	29.8	150.5
Campus	374	22.8	17.1	22.6	18.4	23.5	27.8	131.8
Norm		23.9	21.9	22.5	22.4	24.8	28.2	146.5

During the Fall term, 1967, a general survey of student's reactions to televised courses was obtained from 7 Commonwealth Campuses. The results are summarized as follows:

A. Student responses from campuses receiving televised instruction (N=828).

What do you think of the idea of having televised courses on Commonwealth Campuses as a means of offering courses that would not otherwise be available?

27.5%	Very good	17.0%	Fairly bad
47.2%	Fairly good	8.3%	Very bad

B. Student responses from campuses where visiting graduate assistants complement televised instruction (N=248).

What do you think about discussions with a television instructor and/or the instructor sent by the academic department at the University's main campus to supplement the televised lectures and reading materials?

40.6%	Essential	17.3%	Not very important
36.7%	Highly desirable	5.7%	Unnecessary

How did the discussions of the content of this televised course with the television instructor and/or his representative from University Park affect your learning?

20.2%	Added a great deal to my understanding	25.0%	Added very little to my understanding
41.5%	Added somewhat to my understanding	13.3%	Added nothing to my understanding

Economic Feasibility There are a number of limitations with any attempt to analyze the cost of innovation in education. The study attempted to make instruction available to students who otherwise would not have been able to attend the course. The question is not one of choosing between two systems but between availability and unavailability of instruction.

A careful cost analysis was conducted at Pennsylvania State University in 1956-57 (5). The analysis was based on a television system similar to the one employed in this study. Cost included the value of the system, salaries and wages for all television personnel, spare parts, depreciation spread over five years, and a percentage for administrative supervision. The total cost averaged $27.00 per hour for $1,100.00 of operation during the academic year. Comparisons were made between the actual cost of televised instruction and the cost that would have been incurred had the course been taught the usual way - sections averaging 45 students. The report indicated that the cutting point in cost for televised instruction came at about 200 students per course.

If all of the students were on a single campus and if they were taught in a single group by a single instructor, the cost would be less than with television; but students were scattered throughout the State and for one reason or another were unable to attend the University to complete their course requirements. Likewise, it is impractical from an economic standpoint to send University professors away from their work

on campus to teach widely dispersed small classes. For this pilot project the cost of all playback equipment was under $5,000., plus graduate student's time, and cost of transportation.

Technical Feasibility With any new piece of equipment as complex as a helical scan video tape recorder, a certain shakedown period is required. During the production phase of the experiment a new piece of electronic equipment was being used. As could be expected, time consuming and frustrating problems were experienced. Video engineers were not familiar with tape recording equipment and as a result, it was difficult to spot defective tapes or tell when minor problems were occurring. Excessive headwear and equipment downtime were experienced, which frustrated the academic and production personnel. Due to this early experience a more extensive program was instituted for the video engineers, including a factory training program. A regular preventive maintenance routine was established on all video recording equipment and a program of preproduction tape check-out was begun.

During the Fall term 1964, a graduate assistant and competent television engineer accompanied the playback equipment to the site of the class. The engineer's log, during that term, revealed that few problems arose during the playback. The subsequent playbacks were undertaken without the aid of the engineer. A graduate teaching assistant, with no particular training in electronics or knowledge of the internal function of the equipment, was solely in charge of the operation. During the playback portion of the study, the tape recorder and satellite equipment was transported from the University Park Campus to outlying centers in a station wagon a total of 45 times without a single equipment malfunction. The success of the playback phase can be attributed to thorough preventive maintenance and a highly reliable piece of complex electronic equipment. It is absolutely necessary to have competent maintenance engineers available for thorough preventive maintenance programs prior to the routine use of television recording equipment. The requirements are much higher than those normally associated with television receiver repair. Production requirements appear to be higher than those for equipment playback.

DISCUSSION

The production requirements of a television course are very exacting and somewhat relentless. Television requires a hugh amount of visual material. University professors in conventional lecture-discussions do not use the amount of visual material normally required to keep a television lesson interesting. A wide variety of existing materials such as film, slides, charts, and still pictures were incorporated in the lessons, however, they still had the characteristic of a visualized lecture. The full potential of television as a visual medium was not exploited by the production of this course. The audio track carried most of the information, and the instructor's face was prominently displayed on the picture tube a great deal of the time.

The presentation of the course material in the classroom was carried out without technical problems. The limitations of such a system are

perhaps more educational than technical. During the study, it was felt that more feedback from the professor to the students was needed. The graduate student who operated the equipment acted as an inter-agent between the student and the professor. The professor visited the class on three occasions but still some students expressed the feeling of being "cut off." This serious problem is one which deserves further study.

Another serious problem is the question of active student involvement. Television can be a passive medium, however, there are certain techniques which can be used to involve the learners. Two techniques were used in later revisions of the course material; (1) open ended problem situations where presented. Students were then asked to write out their diagnosis of the problem and discuss it with their colleagues. After an appropriate length of time the professor came back via video tape and gave his diagnosis of the problem; (2) short answer type questions were included at various intervals throughout the tape. These techniques,however, were not included as part of the original course material.

The achievement scores support other findings that students can learn from a variety of means. One off-campus experimental group achieved a higher score on the mid-term exam than the campus norm. The achievement of all of the experimental groups, while lower than the campus norm, were within a range which might be expected. Off campus students in this study were confronted with a number of problems not associated with full-time university students; most had full time jobs; few had access to comprehensive libraries. Most of the students were unable to discuss the content of the course with a roommate or others also in the class. The instructor was not available for discussion, however, the results as shown on examinations indicated that they did learn. The attitude of the students, as measured by the course attitude questionnaire, is near or above that of the campus control group, but below the campus norm. The attitude of the students in the off campus centers toward taking an educational psychology course via video tape, seems to be somewhat better than that of students on campus taking the same course; this could be explained because of the nature and geography of their full-time employment. They feel the need for the course and are willing to put up with some inconvenience to obtain it. The students in the experimental groups, I,II and III, were generally older than those of the campus group, which could account for some of the difference of attitude. In the later Fall term 1967, a survey of student's reactions to televised courses revealed that nearly 75% of the students who responded favored the idea of totally televised instruction where the alternative was not to have the course available. They supported the feeling of the pilot experimental group that something other than televised course material was needed; it could take the form of an instructor or graduate student to lead discussion and answer course related questions.

CONCLUSIONS AND IMPLICATIONS

It is possible to develop and record a course on video tape and present it to off-campus students in continuing education classes. Students do not feel as involved in the course as they do with the live

instructor, but this does not greatly inhibit their ability to learn from the medium if they are so motivated. It is desirable to provide proctors who have the ability to lead discussions and answer questions. The equipment, at this early stage of development, is sufficiently reliable to offer courses without excessive equipment malfunction which could result in the loss of classes. An extensive program of preventive maintenance is required to keep the equipment at a dependable level of performance. The most serious limitations which presently exist are those associated with the development of software and our ability to utilize the television medium as as effective teaching tool. Better techniques must be developed to involve the learner during the lesson and to provide him with meaningful feedback. More attention must be given to the total instructional system which includes many elements in addition to the video tape lesson.

SUMMARY

It was the problem of the study (a) to develop and record on video tape an introductory course in educational psychology; (b) to present the course to students enrolled in off campus continuing education classes; and (c) to evaluate the technique as a means of instruction for students who do not have access to campus classes. A course was recorded on helical scan video tape under studio conditions using high quality videcon cameras. The course was offered to three groups of students with a total enrollment of 25 by transporting the tape, the recorder, monitor and necessary playback equipment to the location of the students for each class session. The graduate assistant who took the equipment to the site of the class meeting acted as liaison between the students and the porfessor. It was found that with proper maintenance the equipment was completely reliable, having been transported from the main campus 45 times, set up and operated by a graduate student. Students achieved at a satisfactory level and their attitude as measured by the course attitude questionnaire was somewhat above that of the campus control group. Students did express a desire for more interaction with the professor.

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APPENDIX A

CLASS SCHEDULE FOR EDUCATIONAL PSYCHOLOGY 14

1964-66

Class Session	Lesson Content
1	Course overview; grading system
	Concept of variables; socialization; educational objectives.
2	School conflicts; psychology in education; systems of human thought.
	Points of view on man; determinism; biological determinism.
3	Biological determinism in psychology; learning Theories and environmental determinism.
4	Learning theories and environmental determinism continued; a purposive adjustive view.
	(25 min.): mathmetical influence on future learning theories.
5	Cybernetics; communication and information theory; game theory.
	Erikson's theory of development.
6	Intelligence tests.
7	Intelligence test scores; concept of correlation. CLASSWORK TEST I.
8	Transfer of learning
	Transfer of learning continued; skill learning.
9	Skill learning continued.
	Continuum of understandings; mental associations.
10	Mental associations continued; concept learning.
11	Concept learning continued.
	Problem-solving and critical thinking.
12	Problem-solving and critical thinking continued; creativity and intelligence.
13	Creativity and intelligence continued; attitude learning.
	Programmed instruction and teaching machines.
14	Measurement and evaluation.
15	Types of classroom leadership. CLASSWORK TEST II.

APPENDIX B

THE PENNSYLVANIA STATE UNIVERSITY

COURSE ATTITUDE QUESTIONNAIRE

SA=Strongly Agree A=Agree D=Disagree SD=Strongly Disagree

		SA	A	D	SD
1	I learn more when other teaching methods are used.	-	-	-	-
2	It was a waste of time.	-	-	-	-
3	Overall, the course was good.	-	-	-	-
4	The textbook was very good.	-	-	-	-
5	The instructor seemed to be interested in students as persons.	-	-	-	-
6	More courses should be taught this way.	-	-	-	-
7	The course held my interest.	-	-	-	-
8	I would have preferred another method of teaching in this course.	-	-	-	-
9	It was easy to remain attentive.	-	-	-	-
10	The instructor did not synthesize, integrate or summarize effectively.	-	-	-	-
11	Not much was gained by taking this course.	-	-	-	-
12	The instructor encouraged the development of new viewpoints and appreciations.	-	-	-	-
13	The course material seemed worthwhile.	-	-	-	-
14	It was difficult to remain attentive.	-	-	-	-
15	Instructor did not review promptly and in such a way that students could understand their weaknesses.	-	-	-	-
16	Homework assignments were helpful in understanding the course.	-	-	-	-
17	There was not enough student participation for this type of course.	-	-	-	-
18	The instructor had a thorough knowledge of his subject matter.	-	-	-	-
19	The content of the course was good.	-	-	-	-
20	The course increased my general knowledge.	-	-	-	-
21	The types of test questions used were good.	-	-	-	-
22	Held my attention throughout the course.	-	-	-	-
23	The demands of the students were not considered by the instructor.	-	-	-	-
24	Uninteresting course.	-	-	-	-
25	It was a very worthwhile course.	-	-	-	-
26	Some things were not explained very well.	-	-	-	-
27	The way in which this course was taught results in better learning.	-	-	-	-
28	The course material was too difficult.	-	-	-	-
29	One of my poorest courses.	-	-	-	-
30	Material in the course was easy to follow.	-	-	-	-
31	The instructor seemed to consider teaching as a chore or routine activity.	-	-	-	-
32	More outside reading is necessary.	-	-	-	-
33	Course material was poorly organized.	-	-	-	-
34	Course was not very helpful.	-	-	-	-

Course Attitude Questionnaire (Cont'd.)

SA=Strongly Agree A=Agree D=Disagree SD=Strongly Disagree

		SA	A	D	SD
35	It was quite interesting.	-	-	-	-
36	I think that the course was taught quite well.	-	-	-	-
37	I would prefer a different method of instruction.	-	-	-	-
38	The pace of the course was too slow.	-	-	-	-
39	At times I was confused.	-	-	-	-
40	Excellent course content.	-	-	-	-
41	The examinations were too difficult.	-	-	-	-
42	Generally, the course was well organized.	-	-	-	-
43	Ideas and concepts were developed too rapidly.	-	-	-	-
44	The content of the course was too elementary.	-	-	-	-
45	Some days I was not very interested in this course.	-	-	-	-
46	It was quite boring.	-	-	-	-
47	The instructor exhibited professional dignity and bearing in the classroom.	-	-	-	-
48	Another method of instruction should have been employed.	-	-	-	-
49	The course was quite useful.	-	-	-	-
50	I would take another course that was taught this way.	-	-	-	-