Survey Report

Differences Between Rural and Urban Students

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Abstract

A survey was conducted of 717 of the 1783 students enrolled in the College of Agriculture at the University of Nebraska-Lincoln during 1982-83. Distribution of sexes, majors, and backgrounds were representative of the College. Responses of students that lived on a farm or ranch (rural) and those that did not (urban), and amount of farm experience were compared.

Of the students surveyed, 68.3% lived on a farm or ranch when not in school. Of the remaining 31.7% who did not live on a farm or ranch, 12.3% had no farm experience, 6.3% had 1-2 years experience, 3.9% had 3-5 years and 9.2% had over 5 years farm experience. Most of the men had rural backgrounds. Women were more likely than men to have no farm backgrounds. Rural students were younger than urban students. The more farm experience, the more likely a student would enter the college as a freshman. This resulted in a higher proportion of upperclass urban students. Urban students needed more semesters to reach graduation However, neither rural nor urban students throught they had a deficiency of background for agricultural courses.

Urban students were more likely to change majors, and students with no farm experience changed majors most frequently. There were no differences between groups in the certainty of career goals or in the number of times they changed career goals. Rural students were more likely to select production agriculture as a career goal. Students with little or no farm experience were more likely to select sales, research, or a government agency as a career goal. Students with no farm experience were more likely to major in Horticulture or Natural Resources.

Students were also surveyed regarding issues important to agriculture. There were no differences in opinion between groups regarding the profitability of farming or ranching (most thought it was profitable), or the work environment on a farm or ranch (the majority thought it was superior). However, rural students thought that farmers and ranchers work for less money than other workers. Both rural and urban groups felt that the lack of a farm or ranch background was a disadvantage in obtaining a job in agriculture. Rural students thought that farming or ranching requires as much training and skill as most other occupations whereas those with no farmng experience thought it required less. Rural students felt more strongly that the Federal Government should increase price supports for agricultural commodities. Urban students felt more strongly that food prices are too high. Rural students agreed more strongly that the U.S. should not limit agricultural exports while students with no farm experience agreed less. Rural students disagreed with the statement that we should produce and eat less meat and students with no farm experience were more undecided.

Introduction

There continues to be an increase in the percent of non-farm students majoring in Agriculture (2). In addition, there are more non-farm students taking some agricultural courses even though they may not be majoring in agriculture. Administrators and faculty involved in teaching agricultural courses are concerned that traditional teaching methods may not meet the needs of the growing numbers of students with little or no farm background (6, 9, 12). Several authors have called for providing non-farm students with practical experience through field trips, workshops, or internships (7, 8); and others have suggested a tutorial approach in the classroom (11).

This study was initiated to compare the performance of students from varied backgrounds and to analyze their feelings and attitudes relative to their lack of farm experience.

Methods and Materials

A survey was conducted of 717 of the 1783 students enrolled in the College of Agriculture at the University of Nebraska-Lincoln during the 1982-83 academic year. Specific classes were selected in an attempt to sample a cross section of the entire college student body. The survey was administered during regular class time and students were instructed to complete the survey if they were enrolled in the College of Agriculture and had not already completed it in another class.

The students were asked the following questions:

1. What is the year of your birth?_____
2. What is your sex? 1. Male 2. Female
3. What is your class?
   1. Freshman 2. Sophomore 3. Junior 4. Senior 5. Fifth year
4. If you are not a first semester freshman, what is your overall grade point average? _____
5. Do you live on a farm or ranch when not in school?
   1. Yes 2. No

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6. If you answered "No" to the previous question, have you ever worked on a farm or ranch?
   1. No 2. Yes 1-2 yrs 3. Yes 3-5 yrs 4. Yes over 5 years
7. Did you enter the University in the College of Agriculture?
   1. Yes 2. No
8. What is your present major?

1. Ag Communications	9. Forestry, Fish & Wildlife
2. Ag Economics	10. General Ag
3. Ag Education	11. Horticulture
4. Ag Honors	12. Integreted Pest Mgmt.
5. Agronomy	13. Mechanized Ag
6. Animal Science	14. Natural Resources
7. Entomology	15. Plant Pathology
8. Food Science	16. Pre-Veterinary
	17. Undeclared

9. How many times have you changed your major? Do not include a change from undeclared to a specific major.
   1. none 2. one 3. two 4. three 5. four or more
10. How many total credit hours did you (will you) take your first year in the Ag College? _____
11. How many total semesters will you require for graduation?
    1. 7 or less 2. 8 3. 9 4. 10 5. 11 or more
12. In how many Ag courses did you feel you had insufficient background? 1. none 2. few 3. some 4. most 5. all
13. How sure are you of your career goals?
    1. Very sure 2. Sure 3. Unsure 4. Very unsure
14. If you know your career goals, which of the following best describes your primary goal?

1. Production	6. Extension
2. Finance	7. Graduate Study
3. Sales	8. Consulting
4. Research	9. Government agency
5. Teaching	10. Other (specify)

15. How many times have your career goals changed since you entered the College of Agriculture?
    1. none 2. one 3. two 4. three 5. four or more

Circle the choice that best indicates your reactions to the following statements:

SA - Strongly agree U - Uncertain D - Disagree
A - Agree SD - Strongly disagree

16. Farming or ranching is profitable in most cases.
    1. SA 2. A 3. U 4. D 5. SD
17. Farming or ranching requires as much training and skill as most other occupations.
    1. SA 2. A 3. U 4. D 5. SD
18. The Federal Government should increase price supports for agricultural commodities.
    1. SA 2. A 3. U 4. D 5. SD
19. Food prices are generally too high.
    1. SA 2. A 3. U 4. D 5. SD
20. The U.S. should not limit agricultural exports to countries that want our commodities.
    1. SA 2. A 3. U 4. D 5. SD
21. We should produce and eat less meat.
    1. SA 2. A 3. U 4. D 5. SD
22. Farmers and ranchers work for less money than other workers.
    1. SA 2. A 3. U 4. D 5. SD
23. Farmers and ranchers have a better work environment than others.
    1. SA 2. A 3. U 4. D 5. SD
24. The lack of a farm or ranch background is a disadvantage in obtaining a job in agriculture.
    1. SA 2. A 3. U 4. D 5. SD

Results of the survey were analyzed using the Statistical Analysis System (SAS) (5) under the query language STATAN (9). The data were analyzed using exploratory data analysis techniques (SAS UNIVARIATE). Two-way contingency tables were formed and associated Chi-squares computed (SAS FREQ). An analysis of variance was performed using both parametric (SAS GLM) and non-parametric (SAS NPART1WAY) procedures. Results of both procedures were consistent. Responses to Questions 5 and 6 were used to classify students as to their rural/urban status for purposes of analyzing other questions in the survey. All significant differences were reported using a probability of error of 0.0001.

Results and Discussion

As shown in Table 1, 68.3% of the students surveyed lived on a farm or ranch when not in school. Of the remaining 31.7% who did not live on a farm or ranch, 12.3% had no farm experience, 6.3% had 1 to 2 years experience, 3.9% had 3 to 5 years, and 9.2% had over 5 years farm experience. Records in the Office of

Table 1. UNL College of Agriculture students by farm background, sex, class, and entry into the college.

	Total resp..	Rural Live on Farm	Urban Farm Experience (years)			
			None	1—2	3—5	5+
		%	%	%	%	%
Sex	84.7	87.7	65.9	82.2	92.9	86.2
Male	15.3	12.3	34.1	17.8	7.1	13.8
	100.0	100.0	100.0	100.0	100.0	100.0
Class						
Freshman	24.6	27.0	17.4	13.6	11.1	30.8
Sophomore	18.1	17.9	12.8	20.5	33.3	18.5
Junior	25.3	24.1	32.6	29.5	29.6	21.5
Senior	26.1	27.8	23.3	25.0	18.5	23.1
Fifth year	5.9	3.1	14.0	11.4	7.4	6.2
	100.0	100.0	100.0	100.0	100.0	100.0
Entered Ag as Freshmen	82.5	88.0	60.9	66.7	66.7	87.9
Background (% of total)		68.3	12.3	6.3	3.9	9.2

Table 2. Students in the UNL College of Agriculture by major.

Major	Enrol. at UNL	Total survey resp.	Rural Live on Farm	Urban Farm Experience (years) None	1—2	3—5	5+
	%	%	%	%	%	%	%
Unknown	13.4	11.0	11.0	17.0	6.7	7.1	7.6
Ag Comm.	1.0	0.6	0.4	1.1	2.2	0.0	0.0
Ag Econ.	18.7	19.3	22.7	8.0	13.3	17.9	15.2
Ag Educ.	3.0	3.9	4.7	0.0	0.0	3.6	6.1
Ag honors	2.8	3.1	4.3	0.0	2.2	0.0	0.0
Agronomy	5.8	9.9	9.4	8.0	6.7	21.3	13.6
An. Sci.	13.0	12.8	12.7	6.8	15.6	10.7	21.2
Entomol.	0.2	0.3	0.0	1.1	2.2	0.0	0.0
Food Sci.	1.8	0.6	0.2	2.3	2.2	0.0	0.0
F F & W	1.1	1.1	0.4	4.6	0.0	0.0	3.0
General Ag	13.8	17.7	21.8	6.8	6.7	10.7	12.1
Hortic.	4.2	4.3	1.4	18.1	8.9	3.6	4.6
I P M	0.0	0.4	0.4	0.0	0.0	0.0	1.4
Mech. Ag	3.8	3.4	3.1	3.4	2.2	7.1	4.6
Nat. Res.	10.0	5.6	1.4	17.1	22.3	14.4	6.1
Plant Path.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pre-Vetr.	4.5	2.1	1.8	3.4	4.4	0.0	1.5
Undeclared	2.9	3.9	4.3	2.3	4.4	3.6	3.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0

the Dean, UNL College of Agriculture, group students on the basis of address, with those with rural addresses classified as rural, and those with urban addresses classified as urban. Using those criteria, official records showed 58.0% rural, 38.1% urban, and 3.9% unknown. The survey results probably reflect a more accurate estimate of student background. For our discussion, students that said they lived on a farm or ranch will be called rural while those that do not actually live on a farm or ranch will be called urban.

Official records show 81.5% men whereas the survey showed 84.7% male. When separated by farm experience (Table 1), the percentage of rural men was significantly higher than urban men. Woman were most likely to have no farm background (34.1% of total). There were significantly more Junior and Senior urban students (Table 1) but when grouped by farm experience, there were no significant differences.

The more farm experience, the more likely a student would enter the College of Agriculture as a freshman (Table 1). When analyzed as a continuous variable, the urban students were older than the rural students. Mean year of birth was 1961.8 for rural students and 1960.0 for urban students. The mean grade point average (GPA) was 3.052 which was not different between rural and urban students.

Enrollment by major in the College of Agriculture is shown in Table 2. Survey results were consistent with official data. Students with no farm experience were more likely to major in Horticulture or Natural Resources, otherwise there were no differences. Within the college, urban students changed majors more frequently (Table 3), and students with no farm experience changed majors the most. The total number of semesters required for graduation (Table 4) showed that urban students needed more time until graduation. Since urban students are less likely to enter the College of agriculture as freshmen, the shift in curriculum may result in some students taking courses in other colleges that do not apply toward graduation requirements in agriculture.

Table 3. Change of major by students in the UNL College of Agriculture.

Major changes	Total resps.	Rural Live on Farm	Urban Farm Experience (years) None	1—2	3—5	Over 5+
	%	%	%	%	%	%
None	62.0	64.7	51.2	48.9	57.2	68.2
One	30.0	28.3	37.2	37.8	32.1	27.3
Two	5.2	5.4	4.8	8.9	10.7	0.0
Three	1.9	1.2	3.4	4.4	0.0	3.0
Four or more	0.9	0.4	3.4	0.0	0.0	1.5
	100.0	100.0	100.0	100.0	100.0	100.0

Table 4. Total semesters required for graduation for UNL College of Agriculture students.

Semesters	Total resps.	Rural Live on Farm	Urban Farm Experience (years) None	1—2	3—5	5+
	%	%	%	%	%	%
7 or less	18.9	17.3	32.5	16.3	14.8	16.9
8	38.4	43.5	18.1	32.6	40.7	30.8
9	25.3	25.5	19.3	30.2	25.9	27.7
10	12.3	10.8	20.5	13.9	14.9	10.8
11 or more	5.1	2.9	9.6	7.0	3.7	13.8
	100.0	100.0	100.0	100.0	100.0	100.0

Rural students were more likely to have production agriculture as a career goal than urban students (Table 5). This may result from the lack of opportunity for urban students to enter an existing farming or ranching operation. The high percentage of students with over 5 years experience that plan to enter production agriculture indicates that many of these may be members of farm families that live in town. Students with little or no farm experience were more likely to enter sales, research, or a government agency. However, there were no differences between rural and urban students nor between levels of farm experience when students were asked about the certainty of their career goals (Table 6) and the number of times they had changed their career goals (Table 7). These results agree in part with a study conducted by Daluge and Thompson (4) which showed that students with farm experience had a better perception of their career goals, were less likely to change major, and completed study sooner when compared to urban students.

Table 5. Career goals of UNL College of Agriculture students.

Career goal	Total resps.	Rural Live on Farm	Urban Farm Experience (years) None	1—2	3—5	5+
	%	%	%	%	%	%
No response	19.7	18.0	25.0	26.7	14.3	22.6
Production	39.6	48.6	15.9	15.6	17.9	30.3
Finance	8.5	9.6	3.4	6.7	10.7	7.6
Sales	5.1	3.1	13.6	4.4	14.3	6.1
Research	6.0	4.1	12.5	8.9	7.1	9.1
Teaching	3.6	3.3	2.3	0.0	14.3	6.1
Extension	1.0	1.0	0.0	4.4	0.0	0.0
Grad. study	1.8	1.6	2.3	2.2	0.0	3.0
Consulting	2.7	2.5	2.3	4.4	3.6	3.0
Gov. agency	4.0	1.6	10.2	13.3	7.1	6.1
Other	8.0	6.6	12.5	13.4	10.7	6.1
	100.0	100.0	100.0	100.0	100.0	100.0

Table 6. How sure students in the UNL College of Agriculture are of their career goals.

Relative certainty of goals	Total resps.	Rural Live on Farm	Urban Farm Experience (years) None	1—2	3—5	5+
	%	%	%	%	%	%
Very sure	22.5	21.6	32.9	17.8	14.3	24.2
Sure	53.0	54.1	44.8	55.5	60.7	50.0
Unsure	22.0	22.0	17.6	26.7	25.0	22.7
Very unsure	2.4	2.3	4.7	0.0	0.0	3.1
	100.0	100.0	100.0	100.0	100.0	100.0

Table 7. Number of times students in the UNL College of Agriculture have changed their career goals since entering the College.

Number of career goal changes	Total resps.	Rural Live on Farm	Urban Farm Experience (years) None	1-2	3-5	5+
	%	%	%	%	%	%
None	60.2	60.4	61.2	48.9	60.8	65.1
One	22.4	21.8	21.2	44.5	17.8	15.2
Two	12.6	13.0	12.3	4.4	17.8	13.6
Three	2.6	3.1	1.3	0.0	3.6	1.5
Four or more	2.2	1.7	3.8	2.2	0.0	4.6
	100.0	100.0	100.0	100.0	100.0	100.0

Table 8. Degree to which students in the UNL College of Agriculture felt they had insufficient background in their Ag courses.

Relative number of courses	Total resps.	Rural Live on Farm	Urban Farm Experience (years) None	1—2	3—5	5+
	%	%	%	%	%	%
None	24.3	24.7	21.4	11.1	25.0	33.3
Few	40.0	41.4	32.1	42.2	42.9	36.4
Some	20.0	18.8	26.2	33.3	10.7	15.2
Most	12.7	11.8	15.5	11.1	21.4	13.6
All	3.0	3.3	4.8	2.3	0.0	1.5
	100.0	100.0	100.0	100.0	100.0	

Analysis of the number of credit hours that students took their first year in the College produced a bimodal distribution. This indicated that some students responded for an academic year while others responded for one semester. Because of this misinterpretation of the questionnaire the results were not analyzed.

Much discussion has occurred among teachers of agriculture regarding the degree to which urban students lack sufficient background for agriculture courses. However, Table 8 shows that there was no pattern to rural and urban student responses to this question; nor was there an association of response with amount of farm experience. This agrees with a study by Anderson and Elkins (1) which showed that urban students have few disadvantages when enrolled in agricultural courses.

Questions 16 through 24 addressed perceptions of current agricultural issues (Table 9). There were no differences in responses of rural and urban students based on farm experience to questions on profitability, working conditions, and advantages of a farm background. Students agreed farming was profitable and that farmers have a better work environment than others. All groups thought a lack of a farm or ranch background was a disadvantage in obtaining a job in agriculture. On the other hand, rural students were more emphatic in agreement that farming or ranching requires as much training and skill as most other occupations, that the Federal Government should increase price supports for agriculture commodities, that the U.S. should not limit agricultural exports to countries that want our commodities, and that farmers and ranchers work for less money than other workers. Rural students disagreed with the statement that we should produce and eat less meat. Urban students were more emphatic about food prices being too high which would generally reflect a consumer rather than a producer attitude.

When the data were analyzed based on farm experience, students with no farm experience were less emphatic in their agreement that farming or ranching requires as much skill as most other occupations, and that we should not limit agricultural exports. Urban students were more undecided on whether we should produce and eat less meat.

Summary and Conclusion

Although there were differences in demographic factors such as age, sex, semesters to graduate, and career goals; as well as attitudes regarding some ag issues, there were no significant differences between rural and urban students regarding vital issues in teaching such as certainty of career goals and perceived sufficiency of background for ag courses. Although there are undoubtedly some urban students with special needs, our study shows that, at least in students minds, great differences do not exist between

Table 9. Responses of UNL College of Agriculture students to questions regarding agricultural issues.

Question response courses	Total resps	Rural Live on Farm	Urban Farm Experience (years) None	1—2	3—5	5+
	%	%	%	%	%	%
Farming or ranching is profitable in most cases.						
S. Agree	8.0	7.8	6.0	6.7	0.0	16.7
Agree	49.7	50.9	50.0	40.0	64.3	40.9
Uncertain	25.7	22.4	32.1	44.4	28.6	27.3
Disagree	16.2	18.5	10.7	8.9	7.1	15.1
S. Disagree	0.4	0.4	1.2	0.0	0.0	0.0
	100.0	100.0	100.0	100.0	100.0	100.0
Farming or ranching requires as much training and skill as most other occupations.						
S. Agree	52.2	55.2	36.9	48.9	42.9	54.6
Agree	41.8	39.8	50.0	44.4	50.0	40.9
Uncertain	3.5	2.9	6.0	6.7	7.1	1.5
Disagree	2.1	1.6	6.0	0.0	0.0	3.0
S. Disagree	0.4	0.5	1.1	0.0	0.0	0.0
	100.0	100.0	100.0	100.0	100.0	100.0
The Federal Government should increase price supports for agricultural commodities.						
S. Agree	22.2	25.0	12.0	20.0	7.1	22.7
Agree	32.5	33.8	35.0	17.8	25.0	33.4
Uncertain	27.9	24.1	37.3	42.2	35.7	30.3
Disagree	11.4	11.1	9.6	8.9	32.1	6.1
S. Disagree	6.0	6.0	6.1	11.1	0.0	7.5
	100.0	100.0	100.0	100.0	100.0	100.0
Food prices are generally too high.						
S. Agree	7.1	6.6	7.1	15.6	0.0	7.6
Agree	30.5	30.5	36.9	22.2	17.9	33.3
Uncertain	24.4	21.9	34.5	20.0	39.3	27.3
Disagree	25.9	26.4	17.9	31.1	39.3	22.7
S. Disagree	12.1	14.6	3.6	11.1	3.5	9.1
	100.0	100.0	100.0	100.0	100.0	100.0
The U.S. should not limit agricultural exports to countries that want our commodities.						
S. Agree	38.1	43.8	16.9	35.6	28.6	28.8
Agree	40.8	40.7	43.4	28.9	57.1	39.4
Uncertain	17.0	12.6	28.9	33.3	14.3	24.2
Disagree	2.8	1.9	8.4	2.2	0.0	4.6
S. Disagree	1.3	1.0	2.4	0.0	0.0	3.0
	100.0	100.0	100.0	100.0	100.0	100.0
We should produce and eat less meat.						
S. Agree	2.0	0.2	9.5	2.2	3.6	4.5
Agree	5.4	2.3	16.7	11.1	10.7	7.6
Uncertain	8.2	5.0	16.7	15.6	17.9	12.1
Disagree	40.0	38.9	41.7	40.0	39.3	45.5
S. Disagree	44.4	53.6	15.4	31.1	28.5	30.3
	100.0	100.0	100.0	100.0	100.0	100.0
Farmers and ranchers work for less money than other workers.						
S. Disagree	21.7	25.5	9.5	17.8	14.3	15.4
Agree	42.6	45.9	29.8	35.5	25.0	46.1
Uncertain	21.6	17.5	36.9	28.9	39.3	20.0
Disagree	10.6	8.8	16.7	11.1	14.3	13.9
S. Disagree	3.5	2.3	7.1	6.7	7.1	4.6
	100.0	100.0	100.0	100.0	100.0	100.0
Farmers and ranchers have a better work environment than others.						
S. Agree	27.0	29.1	14.3	25.0	21.4	31.8
Agree	38.8	38.3	44.0	29.5	46.4	37.9
Uncertain	13.0	10.9	25.0	20.5	17.9	6.1
Disagree	17.1	17.2	11.9	20.5	14.3	22.7
S. Disagree	4.1	4.5	4.8	4.5	0.0	1.5
	100.0	100.0	100.0	100.0	100.0	100.0
The lack of a farm or ranch background is a disadvantage in obtaining a job in agriculture.						
S. Agree	14.0	13.9	15.5	15.6	0.0	18.2
Agree	39.8	40.3	30.9	37.7	42.8	47.0
Uncertain	23.7	22.7	23.8	31.3	39.3	19.7
Disagree	18.2	19.6	21.4	8.9	17.9	10.6
S. Disagree	4.3	3.5	8.4	6.7	0.0	4.5
	100.0	100.0	100.0	100.0	100.0	100.0

the needs, perceptions and academic characteristics of rural and urban students.

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Table 1. UNL College of Agriculture students by farm background, sex, class, and entry into the college.

Computer Managed Instruction
COMPUTERIZED TESTING

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Abstract

A computerized test generator has been developed which allows greater latitude, than do existing test generators in selecting specific subject areas from which the test is to be produced. The instructor may select test items from up to 6,000 subject areas and specify number and type of questions to be selected from each subject area. It is being used for a course in which the categorization scheme allows subject areas to be selected from 760 different objectives. Students respond on mark sense test forms which are machine scored, analyzed, stored, and listed by the computer.

Introduction

The computer revolution is continually playing an increasing role in higher education. Presently computers represent one billion dollars of the United States' annual higher education budget and by the end of this decade every student will be expected to have access to a full range of computing services (Gillespie 1981). Although computers cannot replace the psychomotor instruction in biological laboratories (Crovello 1981), computer-aided instruction (CAI) and computer-managed instruction (CMI) have been used successfully in a multitude of instructional techniques (Osburn and Schneeberger 1981; Pelz and Ware 1978; Smith and Sherwood 1976).

Many educational institutions utilize computing services for scoring examinations. The result is fewer errors, increased consistency and efficiency, and the release of instructors from time-consuming activities of scoring and score compilation. This provides more time for improvement of teaching materials and methods (Noble 1980).

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The Department of Entomology-Nematology, University of Florida, has developed a wide range of computer programs which score multiple choice, true-false, and matching questions as well as score tests in which the questions have been scrambled into different versions of the same test. There are programs to store scores for retrieval, add essay scores, produce cumulative grades after each test, drop specified test scores, derive statistical and graphical quantities (i.e., mean score, standard deviation, standard error, Kuder Richardson-20 coefficient, histogram of scores by percent and raw score) and develop a discrimination index. These programs are batch oriented, written in SAS (Statistical Analysis System) and operate on an IBM 3081 double processor in conjunction with an IBM 3082 Controller.

The computer managed instruction thus far has been extremely beneficial, but is related to only part of the testing procedure. Without computer generated tests, instructors still are required to spend large portions of time generating tests.

Many software packages for computer-assisted test construction (CATC) are available commercially with the purchase of microcomputer hardware (Christensen 1979; Huntington 1980). CATC software is also available independent of hardware purchases. Examples include GENTEST (Wasik 1979), TESTER (Hamer and Young 1978), TESTGEN (Arcos and Vano 1978), CATCAMS (Singh 1979), and TESTGEN PROGRAM (Office of Instructional Resources, University of Florida) which can be used by institutions having available computing services. However, these CATC programs do not allow the latitude of correlating subject areas to test items with the degree of specificity we desired; therefore, a comprehensive computerized test generator was developed to produce tests. This paper describes the production of a CATC test generator (TEST GEN).

Methods

Development of the Computerized Test Generator involved (1) production of the computer program and (2) compilation of test items.

Production of Computer Program

TEST GEN is a structured interactive system developed for test production and file maintenance. It is menu driven, written in Pascal and designed to be operated on a Digital Vax II/750® minicomputer in conjunction with a Digital Professional 350 PC® microcomputer. The system is designed to select test items on the basis of type of question (i.e., multiple choice, true-false, completion, short answer, or essay), the Specific subject area (category) from which the question is to be randomly drawn and to include particular test questions which may be desired. Multiple choice and true-false items can be computer scored. If all available test questions within a category have been used, a new category and question type may be entered