problems in the U.S. and the important programs and actions during the three waves of conservation are shown in Table 1. Each stamp is identified with the year of issue, its unique Scott's catalogue number, and the 1987 value of a mint or unused stamp. The total value of these 38 stamps is $8.20. This nominal cost is less than the fee for preparation of a single visual aid by a professional illustrator. A requisition for all these stamps would not in all likelihood require an explanation to even the most suspicious purchasing agent. Used stamps have about half the value, but the cancellation markings may mask some details of the design. However, some of the stamps pictured in Figure 2 have been cancelled.

How to Identify and Acquire Stamps for Visual Aids

The broad interest in stamp collecting has spawned organizations, publications, and businesses to serve collectors. The American Topical Association (3306 North 50th Street, Milwaukee, WI 53216) recognizes 700 different topical headings and distributes information through their bimonthly journal, *Topical Times.* Questions related to topicals are answered free of charge by an information board. Annotated checklists of stamps for many of the topical headings are available. A comprehensive guide by Lehnus (1982) offers complete and indexed tabular data on the persons, objects, topics and themes which adorn the 1,844 U.S. stamps issued between 1847 and 1980. A book by Moolman (1964) pictures U.S. commemorative stamps issued to 1964 with a brief explanation of the person or event depicted. The Postal Service Guide to U.S. Stamps is reissued annually (United Postal Service, Washington, D.C.) and contains colored pictures of almost all U.S. stamps. Stamp catalogues, such as Scott's Standard Postage Stamp Catalogue, (Scott Publishing Co., 911 Vandermark Road, Sidney, Ohio 45365) picture stamps world-wide and give catalogue numbers and prices based on current market averages. These books and many other related ones are common in university and community libraries. Hence it is easy for even the non-collector to identify stamps that would be instructive visual aids. Local hobby shops or members of community stamp clubs can likely supply the stamps or provide the names and address of dealers or the dates and locations of shows where dealers display and sell stamps.

Many subjects, including those taught in colleges of agriculture and forestry, are illustrated on postage stamps. Portraits of prominent individuals in the arts and sciences and pictures of insects, fish, birds, mammals and domestic livestock can be found. Food, fiber and ornamental crops and the management techniques used throughout the world in horticulture, agronomy, animal husbandry and forestry are only a few examples of topics illustrated. An indication of the breadth of subject matter on stamps is the surprising lists that have been compiled of stamps that deal with nuclear energy (Angelo, 1975) and mathematics (Scharf, 1978). The use of stamps in teaching is limited only by the imagination.

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Students Perceptions

Variables Influencing Learning Environment

Joe G. Harper and George C. Hill

Introduction

The primary purpose of this investigation was to provide information that would improve teaching effectiveness within the College of Agriculture. This investigation represented an analysis of data collected that will ultimately be used in a complete systematic approach toward improving college faculty instruction. The intended result of this study was to provide information and feedback to faculty regarding student perceptions of the learning environment.

The theoretical framework of this investigation was derived from a model of classroom learning developed by Mitzel and presented by Dunkin and Biddle (1974). The model describes student learning as a product outcome of the classroom learning environment. The learning environment involves an interaction of presage, context, and process variables relating to the student, the teacher, and the school.

Objectives

The primary objective of this study was to investigate the effect of selected variables on teaching effectiveness and classroom learning. The specific objectives were to:

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1. Determine the degree to which selected classroom variables are influencing student perceptions of the learning environment.
2. Determine the degree to which selected teacher variables are influencing student perceptions of the learning environment.
3. Determine if significant relationships exist between student ratings of the instructor and variable factors.
4. Determine if significant relationships exist between students overall course ratings and variable factors.
5. Determine if significant interrelationships exist between the variable factors.

Procedure

A survey instrument was developed by the investigators based upon a study completed by Perkins (1977) at Mississippi State University. The instrument was designed to elicit appropriate Likert type responses to 26 process variables which the investigators believed had an impact on the classroom learning environment. The variables were grouped into the following categories or factors: classroom variables, presentation variables, methodology variables, and evaluation variables. Also, included in the instrument wee variables which allowed respondents to rate the instructor and to provide an overall course rating based upon separate measures of the instructor, course context, subject matter usefulness and teaching methods. The instrument was developed in 1984 and field tested by thirty students in three randomly selected fall semester classes taught by three separate instructors. Several modifications were made in item wording for the sake of clarity as a result of the testing.

Reliability for the instrument was determined using Cronbach's alpha coefficient which measures internal consistency. The obtained reliability coefficients for each of the variable factors is reported in Table 1. Cronbach's alpha was selected as the most appropriate method because it provides a conservative estimate of the reliability of an instrument. (Carmines & Zeller, 1979).

Table 1. Cronbach Alpha Reliability Coefficients of Classroom Learning Environment Factors

Environment Factors	Number of Variables	n	Cronbach Alpha
Classroom Variables	9	166	.80
Presentation Variables	6	168	.68
Methodology Variables	7	151	.74
Evaluation Variables	4	162	.80
Course Rating Variables	4	171	.92
Instrument Total	26	151	.91

The population for this study consisted of all students enrolled in undergraduate classes in the College of Agriculture at the University of Nevada-Reno during Fall Semester, 1985 and Spring Semester, 1986. Five classes were selected from each semester for this study in an effort to eliminate a possible selection bias. A total of ten classes taught by different instructors were randomly selected for this study. One hundred and seventy-one students were administered the instrument from these ten classes.

Data Analysis

Data were collected from 171 students enrolled in ten undergraduate classes in the College of Agriculture. Means and standard deviations were calculated for the 26 variables which the investigators believed might have an impact on classroom learning. Pearson Product-Moment correlations were computed to determine if significant relationships existed between selected variables and factors.

Results

Objective one was designed to determine the degree to which selected classroom variables have an influence on student perceptions of the learning environment. As presented in Table 2 no single item was rated higher than 2.8, therefore, none of the variables in the classroom category were of a major influence.

Table 2. Classroom Learning Environment Variables

Variables	n	Mean[a]	SD
Too Warm	168	2.41	1.75
Too Cold	169	2.71	1.92
Inside Noise	169	2.31	1.71
Outside Noise	168	2.76	1.82
Lights Too Bright	168	1.52	1.12
Lights Too Dim	169	1.70	1.40
Seats Uncomfortable	166	2.80	2.08
Poorly Arranged	167	2.13	1.74
Can't Read Board	167	2.59	1.83

[a]Note: 1 = Never; 2 = Almost Never; 3 = Seldom; 4 = About Half the Time; 5 = Usually; 6 = Almost Always; 7 = Always

Objective two was to determine the degree to which selected teacher variables were influencing student perceptions of the learning environment. When asked about teacher presentation techniques, students generally felt that teachers, as a group, were consistent. The variables under teaching methodology demonstrated the greatest degree of variability as measured by standard deviation. Students responded that instructors used some form of visual aids approximately half the time. Additionally, these visual aids usually improved students' understanding of the instructional material. They also felt that instructors were almost always well prepared and summarized points adequately. Furthermore, the presentations were usually interesting to the students.

In the area of evaluation, students perceived that teachers almost always were fair and that evaluations were well defined. Where tests were generally perceived to enhance learning, outside assignments were not quite as highly rated. The teacher process variables mean ratings and standard deviations are reported in Table 3.

Objective three sought to determine if significant relationships existed between student perceptions of instructors and the variable categories that may affect classroom learning. Table 4 reports the correlations

Table 3. Teacher Learning Environment Variables

Variables	n	Mean[a]	SD
Presentation			
Speaks loud enough	170	6.41	1.08
Speaks distinctly	169	6.28	1.12
Speaks too fast	168	3.05	1.98
Speaks too slow	169	2.41	1.58
Correct vocabulary	170	2.63	1.74
Offending mannerism	170	1.57	1.27
Methodology			
Visual aids used	170	4.14	2.16
Visual aids improved understanding	151	4.97	1.96
Questions were encouraged	170	5.76	1.50
Presentations were interesting	168	5.21	1.41
Handouts were used	167	5.08	1.49
Instructor was well prepared	168	6.26	1.05
Points summarized	168	5.87	1.38
Evaluation			
Evaluation was well defined	167	6.05	1.26
Evaluation was fair	169	6.09	1.23
Tests enhanced learning	166	6.39	1.00
Outside assignments enhanced learning	162	5.63	1.69

[a]Note: 1 = Never; 2 = Almost Never; 3 = Seldom; 4 = About Half the Time; 5 = Usually; 6 = Almost Always; 7 = Always

among the instructor rating, course rating, and the process learning environment factors. As indicated in Table 4, a significant relationship does not exist between the students' instructor rating scores and the classroom variables. Also, there does not appear to be a significant relationship between how the students rated the instructor and the instructor's manner of presentation. However, a very high relationship does exist between the students' rating of the instructor and the students' perception of the teaching methodology used ($r = .70; p < .01$). Furthermore, a high relationship ($r = .58; p < .01$) exists between the instructor rating and the students' perception of the evaluation techniques which were used.

Objective four was to determine if significant relationships existed between students' overall course ratings and the variable factors. Each of the categories had a moderate positive relationship with the overall course rating. The evaluation and classroom variable categories each had a correlation of .39 with the course rating. The presentation and methodology variables had slightly higher relationships. These correlation coefficients can be found in Table 4.

Objective five sought to determine if significant relationships existed between student perceptions of variable categories which may affect the classroom learning environment. Pearson correlation coefficients for the categories of variables are shown in Table 4. The classroom variables did have a significant positive relationship with the presentation variables ($r = .45; p < .01$). However, no significant relationship was found between the classroom variables and teaching methodology or evaluation variables. There were low positive relationships between the presentation variables and the methodology and evaluation categories. The teaching methodology variables had a strong positive relationship with the evaluation variables ($r = .66; p < .01$).

Implications

1. Based upon the findings of this study, it appears that the teacher is the key to providing an effective learning environment. College of Agriculture teachers need to recognize that they are the most important factor of the variables which students perceive are interacting in classrooms.

2. Teaching methodology has the highest relationship with student ratings of the teacher; the implication being that effective teaching methods appear to be more important than elaborate presentations or classroom settings.

3. Classroom situations and manners of presentations do not have significant relationships with instructor ratings. This conclusion implies that students at the college level do not appear to consider these factors when evaluating teachers. A possible explanation may be that college teachers, as a whole, use the same manner of presentations and similar classroom settings. Therefore, because of this lack of variability students do not perceive these as variables which distinguish quality instruction.

Conclusions

Student perceptions are but one of several means to evaluate the college classroom learning environment. Students can provide some very useful information regarding what is occurring in the classroom. The findings of this study indicate that

Table 4. Pearson Product Moment Correlations Among Instructor Rating, Course Rating and the Learning Environment Factors

		Factors				
Factors	Instructor Rating	Classroom	Presentation	Methodology	Evaluation	Course Rating
Instructor Rating	1.00					
Factors						
Classroom	- .06	1.00				
Presentation	- .03	.45**	1.00			
Methodology	- .70**	- .06	.14*	1.00		
Evaluation	.58**	- .10	.17*	.66**	1.00	
Course Rating	.55**	.39**	.54**	.49**	.39**	1.00

* = $P < .05$
** = $p < .01$

students perceive the instructor to be the key to providing an effective learning environment. This study is by no means an end in itself. A great deal of further study needs to be conducted in evaluating the college classroom learning environment. However, this study has provided some useful information for College of Agriculture instructors regarding their apparent role in the classroom learning environment.

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COMPARISON

Attitudes of Students Entering the Colleges of Agriculture, Science and Humanities

Richard I. Carter and Kelvin L. Leibold

Purposes

The primary purposes of this study were: (1) to examine factors influencing College students' curriculum decisions, and (2) to compare students entering the College of Agriculture with those entering the College of Sciences and Humanities.

The hypotheses tested were:

H_o1: There will be no difference in factors influencing choice of majors between students entering the College of Agriculture and those entering the College of Sciences and Humanities.

H_o2: There will be no difference in factors influencing career choice of farm-reared students entering the College of Agriculture as compared with students entering the College of Sciences and Humanities.

H_o3: There will be no difference in attitude towards agriculture of farm-reared students entering the College of Agriculture as compared with students entering the College of Sciences and Humanities.

Procedures

The participants in this study consisted of entering students in the colleges of Agriculture and Sciences and Humanities at Iowa State University during the Fall semester of 1985. The sample was taken from new students in the College of Agriculture who were enrolled in an agriculture orientation class during the Fall semester and who attended their orientation class the day the survey was administered. New freshmen and transfer students are required to enroll in an orientation class unless extenuating circumstances of conflicts prevent their enrollment. Useable results were obtained from 417 students in the agriculture orientation classes, which represented 84 percent of the new students entering the College of Agriculture during Fall semester.

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The sample also included new students in the Sciences and Humanities College who were enrolled in the Open option or Pre-business option and attended the selected orientation classes the day the survey was administered. Useable results were obtained from 375 students (84%) who were surveyed and enrolled in the Sciences and Humanities Open option and 80 students (56%) who were surveyed and enrolled in Pre-business option.

The data for this study were collected by means of an instrument used to collect basic demograhic information from new students in the College of Agriculture. The data collection instrument included a section which asked respondents to indicate, using a four-point scale, the level of influence certain factors had on their choice of majors and a section to assess students' attitude toward agriculture and their reaction to factors influencing career decisions. Items were selected based on the literature review and experiences of the researchers and college administrators. A six-point agreement scale was used by respondents to evaluate items in this section of the questionnaire.

Following approval by the Human Subjects Committee, the instrument was distributed to instructors of the departmental orientation classes during the second week of classes. An information sheet describing the administration procedures was provided. A telephone call was made to all instructors not returning the answer sheets after two weeks. All instructors returned the answer sheets within a three week period.

All answer sheets were submitted to the University Test and Evaluation Center for transfer of data to disk. An initial frequency run was made used to check the data for possible errors. After error checks were made, the data were uploaded to the mainframe computer at the University Computation Center.

Analysis of Data

The Statistical Package for the Social Sciences (SPSSX) (Nie, 1983) served as the basis for selection and computation of statistical procedures. Subprogram T-TEST was used to compare factors which influenced choice of majors by students entering the College of