

Table 6. Regression of Grade in AGR EDUC 290 on Course Assignment Scores

Course Assignment Scores Entered Stepwise in Equation	R	R ²		F*
		R ²	Change	
Major/Minor Projects	.6431	.4136	.4136	596.70
In-Class Assignments	.7932	.6292	.2156	717.01
Final Examination	.8734	.7628	.1336	904.58
Midterm Examination	.9070	.8227	.0599	977.78
Speech with Visual	.9292	.8635	.0408	1065.04
Strategy Plan	.9365	.8769	.0134	998.88
Audio-Visual Labs	.9144	.8857	.0088	929.70
Self-Evaluation	.9419	.8872	.0015	824.58

*p < .001.

Implications of the Study

The data indicate that the selected demographic variables of the student were not significantly related to the student's final grade in AGR EDUC 290. With the exception of quarter enrolled, none of the variables were significantly related to final grade at the .05 level. The explanation of why Spring Quarter grades are significantly lower than Winter may be that students, generally, achieve lower grades in all courses Spring Quarter, based upon information provided by the college office.

The multiple regression table indicates that the Major Project is the most important item in determining students' final grades. This is to be expected since the Major Project carries the most points toward the final score (150 of 505). The differences in point values of assignments may account for much of the differences in variance in final grade.

An interesting finding was that the 50 points of In-Class Assignments was the second most important factor in determining the student's course grade. This finding reinforces an old belief: students who attend class do better in the course. In-Class Assignments were developed to help meet course objectives; however, attendance was not an objective of the course. Therefore, it would be possible to criticize In-Class Assignments as a major factor in determining a student's final grade.

Assignments that address all the objectives (Major Project, Final Exam, Midterm Exam) contribute more to variance in the final grade than assignments that address only one or two objectives. However, an assignment that does not contribute much to the variance in final grade may still be important, especially if it is the only assignment that addresses a particular course objective.

The dilemma of whether or not to grade on attendance (measured by In-Class Assignments in this study) remains open to debate. If further analysis indicates a high correlation between In-Class Assignments and other assignments, then In-Class Assignments may not be needed. Such information may show that class attendance is associated with all assignments.

Assignments that contribute to the student's final grade which truly evaluate student mastery of the course objectives should be the goal of all teachers. An effort must be made to determine if the weight given the factors that determine the final course grade are closely aligned with content that is considered important by the teacher. This study provides an approach to such course evaluation.

Literature Cited

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PROJECT REPORT

Outdoor Laboratories In Juniper Studies

Bradley W. Pedersen
Project Proposal

Hypotheses

"The environment for learning has changed dramatically in colleges of agriculture with an increase in students with a non-farm background and decreased practical experience. This requires instructors to better understand the processes and conditions of learning."

Another synonym for "non-farm" might be "non-agriculture." Take the example of the introductory horticulture student. It is typical that these individuals, in majority, also do not come from backgrounds directly involved in the horticulture industry. However, the popularity of horticulture programs in secondary education, junior and senior high curricula has created this same disparity in entry level abilities between these students with some horticultural background and those with none as is most apparent between farm and non-farm background students. Also, it seems apparent that those students with farm backgrounds are more familiar with the culture of plants in general, so in that respect, do have a distinct advantage over the non-traditional farm student.

General Rationale

The problem arises: even though horticulture instructional materials may be introduced at an "intro" level, class membership becomes split almost instantly because some comprehend and others do not.

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The introduction of some type of reinforcement allows the less experienced (not less intelligent) to catch up or, in some cases, pre-learn certain information to keep all class members competent throughout the entire course curricula.

Selection of Courses or Segments of Courses

At the University of Minnesota Technical College, Waseca, a sequence in woody plants is part of the core introductory courses required in the horticulture curriculum. The horticulture curriculum, itself, has two majors: Floriculture Greenhouse and Garden Center Technology, and Landscape Nursery Technology. Each major is composed of three areas of study or emphasis. Regardless of major, the core courses must be mastered.

The woody plants courses encompass the study of deciduous and evergreen trees, shrubs, and certain woody vines. The major thrust of the sequence is the proper identification and naming of these woody plant materials.

The UMW campus is an ideal setting for the woody plants courses. Over 100 acres of campus grounds include hundreds of species of woody plant materials, and in fact the entire campus as well as the adjoining Hodgson Memorial Arboretum at the Southern Experiment Station is a working outdoor laboratory for the students who study woody plant materials. Also located on the UMW campus is approximately seven acres of outdoor horticulture laboratories which contain many of the newer selections of woody plants available in the industry.

In spite of these valuable outdoor laboratory situations, a problem area has developed for which we feel the reinforcement unit design is of great benefit. Within the *Juniperus* (juniper) genus there is much similarity of plant types and usage. Because of this similarity, we find many students have difficulty mastering the competencies in the amount of time available. The lack of mastery of these competencies becomes quite evident when evaluating a student's performance, not only in the woody plants courses, but in subsequent courses where woody plants is a prerequisite.

Project Development

In order to have an effective reinforcement unit for this area, it was necessary to develop a unit that could be used by students not only during the growing season, but also during winter months. The reinforcement unit was developed to consist of both an outdoor laboratory and a sound/slide set for identification.

One of the best ways that we believe a reinforcement unit can aid the students is by providing an opportunity to study the junipers by comparison of one plant to another. In order to do this effectively, the

plants in the outdoor laboratory are located in close proximity to each other and are labeled.

A plan was developed to provide an opportunity for students to view plant materials which are properly labeled and to have an area for self testing. The plan utilizes three repetitions of each particular species or cultivar juniper in the trial. Each repetition of plant materials is separate from the other, yet all three are located in approximately the same area of the outdoor horticulture laboratory.

The first segment of the trial has the junipers located by species with all junipers of a particular species located adjacent to each other. It is our hope that students will begin to associate identification characteristics of a species with all the plant materials that are common to the industry in that species. In this portion of the trial, pyramidal evergreens, spreading evergreens, or creeping evergreens are adjacent to each other. The plant materials in this portion of the trial are labeled so students will be able to correctly learn juniper groupings by species.

In the second portion of the trial, junipers are organized by type of growth habit; pyramidal, spreading or creeping are the common growth habits of the junipers involved. This portion of the trial is arranged not only by growth habit but also with different species spread throughout this entire portion of the trial. The students have an opportunity to study the junipers as a group and test their skills identifying individual plants of different species. The plant materials in this portion of the trial are not labeled and can be used in a testing situation.

The third portion of the trial is an exact duplicate of the second with the junipers still being grouped by growth habit not by species. The difference between the second and third trials is that the junipers in the third trial are pruned in a formal manner and the second trial pruned in an informal manner giving the plant materials a different appearance. This third trial provides the students an opportunity to study the plant materials under different management techniques. Again, the plant materials in the third trial are not labeled.

Two sound-slide sets have been developed from the trial. The first of these deals with those characteristics used to identify each of the species or cultivars in the trial. Students are also provided a script of the slide set and a glossary of terms for future references.

The second sound-slide set provides three slides of each species or cultivar; one unpruned, one formally pruned, and one informally pruned. The height, spread, and general growth characteristics for each plant are also given.

There are several benefits to the development of the juniper trial. The first of these benefits is that it ties into another reinforcement unit entitled, "Design Characteristics of Woody Plants."² This unit is a computer-based module designed to aid those students

who are dealing primarily with the characteristics of deciduous and evergreen plant materials used in landscape design. Students will be able to see first hand in the laboratory or on slides, the design characteristics described in the computer software. Second, the laboratory trial provides an area for students to practice pruning in support of each type of juniper growth habit. And third, the trial will serve as a study

A CASE STUDY

High School Students' Awareness Of a Community College Agriculture Program

Fred W. Reneau and John Kabat

Community College District 521, in southern Illinois, encompasses 14 high schools: Benton, Christopher, Enfield, McLeansboro, Mt. Vernon, Pinckneyville, Sesser-Valier, Tamaroa, Thompsonville, Waltonville, Wayne City, Webber Township, Woodlawn and Zeigler-Royalton. The district covers a total of 1,985 square miles. John A. Logan, Southeastern, Belleville College districts and part of the Kaskaskia agriculture program are also served by District 521 agriculture program.

The college offered three two-year programs in agriculture. The three programs included agriculture business, agriculture mechanics and agriculture production. The agriculture department depended on three forms of advertisement: 1) radio, 2) newspaper, and 3) past students. Enrollment in District 521's agriculture program increased from 1978 to 1982. Since 1982 there had been a 50 percent drop (1982 to 1985) in enrollment (Scott, Clark, Personal Communications, August 1984).

Problem Statement

In Spring 1984, District 521 agriculture department did not have enough students enrolled in the on-the-job training program to fill the number of available job sites. Because of a lack of qualified students, District 521 had to turn down 15 past employers of on-the-job sites. These jobs were in agriculture production, agriculture business and agriculture mechanics.

The college's agriculture shop, laboratory facilities and farm were not being used to their full potential (Clark, 1984). Employers did not have students to fulfill the agricultural needs of the district. Concerned about the decline in enrollment, the college wanted to know are potential agriculture students informed about District 521's agriculture programs?

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area to determine which species and cultivars are most susceptible to environmental, insect, and disease problems.

Although the plant materials are still young, it appears that the juniper reinforced module will be a great credit to the Horticulture Curriculum

"Landscape Design Students to Use Computer Software." NACTA Journal, Vol. 28, No. 2, June, 1984.

Research Questions

- 1) What percent of students enrolled in high school agriculture classes were interested in an agriculture career?
- 2) To what extent are high school students aware of the agriculture program in community college District 521?
 - a. Program options
 - b. Cost of education
 - c. Financial assistance available
 - d. General studies courses needed for the degree and transfer program
- 3) What benefits do high school students perceive they obtained by attending a two-year agriculture college?
- 4) What agriculture jobs interest high school students?
- 5) What advertisement has been most informative of District 521 agriculture program?

Methodology

Population

The population included all students (N = 468) enrolled in high school vocational agriculture classes in District 521 as well as other high school students interested in agriculture who responded. All fourteen high schools in the district participated in the study.

Instrumentation

The two parts of the questionnaire included the background factors and awareness factors. The first part of the questionnaire collected background information, and the second part determined the students' awareness of the community college agriculture programs available in District 521.

Validity and Reliability

Definitions used before the questions reduced confusion and guessing the answers. Construct validity was obtained (Best, 1981). This helped to increase the instrument's purpose of measuring what it was supposed to measure. The District 521 agriculture advisory council reviewed the questionnaire (October, 1984) and provided the suggestions.