

Reversing The Trend Of Declining Enrollments

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Abstract

Enrollment declines in colleges of agriculture have been a nationwide concern for the past decade. One service course in The Ohio State University Department of Horticulture has shown a 325% enrollment increase since 1982. Factors that contributed to the success of the course include an interdisciplinary approach to instruction, utilization of the highest quality instructors, and "word of mouth" advertising within the student population.

Introduction

The enrollment declines in colleges of agriculture have been a nationwide concern for the past decade. Several authors have documented enrollment numbers, offered reasons for decline, predicted future trends, and proposed solutions that might allow colleges to grow in numbers again. The College of Agriculture at The Ohio State University (OSU) has not been exempt from enrollment problems. Yet one introductory course in the Department of Horticulture has had a 325% increase in average quarterly enrollment since 1982, thus successfully reversing the trend observed in many departments. This paper describes the design of that course, the course's seven year evolution, and the factors that contributed to its success.

Statistics on the enrollment decline for all programs in agriculture range from "20% (1980 to 1984)" to "nearly 26%" (1979 to 1984)⁵. Zadick noted that in the plant science programs alone the total USA undergraduate enrollment fell from 15,661 to 7,662 (a 49% decrease between 1978 and 1985)⁷. Pescatore⁴ has suggested two reasons for the decline: 1) a decline in the traditional college-age population, and 2) the failure of agriculture to compete with other professions in attracting students. The future may hold more of the same. Keller³ reports that the 25% drop in the total number of 18-year-olds, the traditional pool of students which began to decline in 1979, will continue through 1994.

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Proposed Solutions

Several solutions to declining enrollments have been proposed by educators. Daluge suggested more introductory courses to remedy declining numbers². Reisch's recommendations were to define a target population, market agricultural education to that population, and develop agricultural courses with university-wide appeal⁵. Zadik stresses in her study of horticultural education that an interdisciplinary approach is necessary to "produce students who are able to think in a context of the world as a whole"⁷. Zadik also suggested the development of "service" courses to accommodate many of the non-majors who continue to enroll in horticulture courses. Although many departments and universities may have proposed and designed courses aimed at reducing declining enrollment, no successful formulae are in the literature.

A Focused "Service" Course

Horticulture 170, "The Role of Wine in Western Culture", is a 100 level (freshman) course in the OSU College of Agriculture which incorporates several of the qualities mentioned above. The course has been successful as measured by the criteria of 1) increasing student enrollments, 2) continued student demand over several consecutive quarters, and 3) increasing and/or continued quality of instruction. Quality of instruction was measured by evaluating a) computerized Student Evaluation of Teaching (SET) forms which compare quarterly instructor averages, college averages, and university averages and b) written responses that address course strengths and weaknesses. The SET forms are a 25-question cafeteria style evaluation selected from a 234 item menu; the written responses were taken from four open-ended questions suggested in the University of Illinois Instructor and Course Evaluation System¹.

The responsibilities for Horticulture 170 were assumed by the author in 1982. The course syllabus describing lecture topics was left 75% intact, with the focus on horticultural, geographical, and procedural aspects of grape and wine

Table 1: Undergraduate Student Enrollment Numbers (1982-1989)

Academic Year	Horticulture 170		Undergraduate Enrollment ¹	
	Total Enrollment	Quarterly Average	Agriculture	Ohio State Univ.
1982 - 1983	168	56	1,657	41,108
1983 - 1984	178	58	1,489	41,247
1984 - 1985	264	88	1,451	40,142
1985 - 1986	307	102	1,370	40,828
1986 - 1987	379	123	1,290	40,896
1987 - 1988	386	178	1,268	40,482
1988 - 1989	364 ²	182 ²	1,227	40,538

¹ Numbers represent undergraduate (UG) student enrollment during the 4th week of autumn quarter of each academic year.

² Data reported for two quarters only.

production. Within two quarters, an increased emphasis was placed on the technical aspects of all topics. In 1985 an interdisciplinary approach was initiated by adding a guest instructor from the Department of Educational Theory and Practice, College of Education, who lectured about the legal aspects of alcohol consumption. A retail wine merchant provided a lecture on pricing regulations and world market influences and, more recently, a lecture on substance abuse has been included from the Department of Preventive Medicine, OSU College of Medicine.

Enrollment Patterns

During the 1982-1989 period, total student enrollment numbers in Horticulture 170 increased (Table 1). This was in contrast to the decreasing enrollment observed in the College of Agriculture and in the Department of Horticulture. Total university undergraduate enrollment during this period was relatively constant.

Although the agriculture campus lecture halls are physically separate from the main campus, students from main campus comprised 64% of the 1987-88 enrollment total and

Table 2: Factors Influencing Selection of Horticulture 170 as an Elective

Reasons For Taking Course	Mean (St. Dev.)*
Learning more about selecting a wine	4.45 (.71)**
Heard course was interesting	4.34 (.89)
Heard course was informative	3.91 (.91)
Learning more about how to make wine	3.75 (1.02)
Heard course was not difficult	3.36 (1.09)

* N=414

** 5=Primary factor, 4=Some importance, 3=Neutral, 2=Little importance, 1=Not a factor.

73.5% of the 1988-89 enrollment total. The average rank of students in the course was 3.15 (Junior = 3.0; senior = 4.0). All 19 OSU colleges were represented, including Business, Engineering, Nursing, Arts and Sciences, and Veterinary Medicine.

From September 1986 to June 1988, the author began surveying students to identify patterns of enrollment (Table 2). Student responses to questions asking why this elective course was chosen indicated they were primarily interested in learning "how to select a wine." Results of an open-ended question on this survey asking how students learned of the course showed the sources were "a recommendation from a friend" (71.5%), followed by selecting the course from "the course offerings book" (14.9%), and third, upon recommendation "by an advisor" (10.9%).

Discussion

Increasing student numbers observed in Horticulture 170 during periods of general declining enrollments indicate that "service" courses in agriculture can be successful. Horticulture 170 also had broad appeal, drawing students from all ranks and colleges represented at the university. Teaching methodology, quality instruction, marketing factors, and course design are areas which appeared to have had the greatest impact on the growth of this course.

Instructional methods which stimulate and hold student interest certainly exist. The key is to select and develop the right combination, and then use them skillfully. The author's

experience has been that integrating basic and applied information into lectures is the most effective in maintaining interest, regardless of the student population. This theme is also extended to the examinations, where new information is presented and questions requiring information processing and application are used.

An interdisciplinary approach to instruction was well-received by students. Topics were organized as single lectures presented by specialists from other areas: An attorney and with clients charged for driving while intoxicated, a substance abuse psychologist, and a successful marketer and retailer. Much as Zadick stressed the education of students who "think in a context of the world as a whole", this interdisciplinary approach serves to integrate real world and theoretical information for the student. An SET question that addressed guest lecturers was presented to students during the 1988-89 academic year. In response to "Topics of the guest speakers were appropriate", 90.5% of the students marked "Strongly Agree" or "Agree" from five choices ranging from "Strongly Agree" to "Strongly Disagree".

It is apparent from student and peer evaluations that quality of instruction was an important factor in the success of the course. This should send a clear message to administrators and faculty: To produce effective service courses, departments must promote and reward the teaching of the best instructors. The strongest argument for using top instructors is to recognize that a high-interest course is a resource that benefits the department, the instructor, and the students. Such a course becomes a vehicle to introduce undecided students to potential careers in agriculture. Not only can course enrollments rise, but an increase in the numbers of students majoring in agriculture can be realized.

Courses must be marketed if one is to achieve enrollment gains in a university environment where many courses compete for decreasing student numbers. "Word of mouth" advertising is a powerful asset in developing and maintaining high enrollment elective courses. While lower level courses that satisfy university requirements, as well as elective courses, may benefit from direct advertisement in the student newspaper, "word of mouth" advertising can exert a tremendous impact on enrollment numbers. That more than 70 percent of the Horticulture 170 enrollment resulted from this type of advertising demonstrates its significance. SET data indicate these recommendations came from students satisfied with instructional quality and course content. Student evaluations from the previous 17 quarters consistently rated the instructor higher than the OSU instructor averages with respect to being "well-prepared", "demonstrating a thorough subject knowledge", "communicating subject matter well", and "stimulating subject interest". This is further reinforcement to use the most effective instructors to develop and teach broad appeal service courses. Offering a course over three successive quarters enhances the "word-of-mouth" factor and promotes course awareness in the student population.

The course design is not unique. The success of the course may relate to its addressing a specific, horticulturally related topic rather than being organized as a traditional survey course. Although the course and department discussed here are part of the agricultural college, the development of a

Empowering Freshmen to Design Their Own Learning Experiences

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Abstract

At Michigan State University, an internship seminar course has been developed to prepare two-year Horse Management Program freshmen to maximize their learning while on the job. Students develop individualized learning plans and are introduced to other aspects of the internship experience, such as evaluation, jobmanship and the sophomores' own experiences. As a result of taking this class, students are able to secure more appropriate placements, are proactive learners while on the job, and their performance is more fairly and consistently evaluated by their placement coordinator.

Introduction

In many colleges and universities, internships are a vital, if not required, component of the well-educated student's curriculum. In fact, of the 91 schools listed in the Harness

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similar course could occur in any discipline. Examples of other College of Agriculture courses which could be successfully developed are: "Man and Food", "Man and His Animals", or "Introduction to Biotechnology".

There is a current and future need for quality courses that complement the strong, general education base being promoted in today's universities. Use of the strategies discussed above can assist in developing high interest service courses that generate increased enrollment figures. Within this effort resides the potential to attract students into the rapidly changing field of agriculture.

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Horse Youth Foundation's 1988 *Equine School and College Directory*, 52 offered internships and 19 required them. At Michigan State University, a six-month internship (placement training) is the very heart of the two-year Horse Management Program. This technical program prepares students to assume managerial positions in horse businesses, working with equines on a day-to-day basis. Students begin by spending two 10-week terms on campus in hands-on type classes that emphasize attainment of skills necessary while on placement. After placement, students return to campus for two terms of business and management-type classes before graduation.

Since the internship experience is a key component of the education of so many students, educators must ask themselves: Are college students really being well prepared for their internships? Not just to *survive*, but to *maximize learning*? Too often, prefield preparation is neglected, resulting in simply a work experience, rather than a learning experience that should be, and often is, the high point of a student's college education. I sought to ensure that our students derived maximum benefit from their placement by developing the course ANS 042, Animal Science Placement Seminar. The rationale for such a course is justified by research findings in experiential learning and adult education.

Rationale for the Course

One compelling reason for teaching a course such as this is to help students become self-directed learners--in other words, to teach "andragogically." In adult education, the concept of andragogy has come to the forefront of discussion. While not grounded in the empirical research as has the theory of pedagogy, it nevertheless seems to have acquired the status of an established doctrine (Jarvis, 1984). Knowles (1980) summarizes the basic assumptions of andragogy: that adults want to become more self-directed as they mature; their experiences are a rich resource for learning; they are aware of specific learning needs generated by real-life problems; and they wish to apply newly acquired skills to present circumstances. He also states that "self-directed learning is the best way to learn" (Knowles, 1975).

Brookfield (1986) summarizes concepts of andragogical practice from Knowles' work, stating that facilitators must help students: diagnose their own learning needs, formulate objectives, identify learning resources, carry out their own learning plans, and help evaluate their own learning.

To espouse and practice these andragogical principles is not the only reason for developing a prefield preparation course. This kind of course also increases the likelihood of students maximizing their learning while on internship. In