CASE STUDY

Faculty Perceptions on Teaching Improvement

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Abstract

Faculty perceptions on teaching improvement in the College of Agriculture, California State Polytechnic University, Pomona, were examined during the Spring Quarter, 1988. The population of the study consisted of all faculty in the College of Agriculture (N=69). Data was collected through a written questionnaire. Through the study, faculty expressed the need for teaching improvement. Overall, faculty (61.5%) felt that the academic community lacked adequate knowledge of learning theory and practice, and that there was no formal assistance available to them. Results revealed that 39% of faculty had no prior teaching experience before assuming their university teaching posts. Most faculty recommended that formal coursework in teaching college-level agriculture be available at the university level to new faculty. Content addressing "Teaching Methods", "Electronic Media", and "Curriculum Development and Evaluation" would be beneficial.

Although the emphasis by college faculty on teaching varies at different institutions, teaching is indisputably important (Mooney, 1991). College teaching, however, is in need of improvement. In *Tomorrow's Teacher* (1986), the Holmes Group reported that "Teaching must be improved..." (p. 3). Murray (1987) found that 59% of the senior faculty members at the University of Western Ontario felt that classroom teaching was of the same quality or worse today than when they began their career 15 or more years ago. Bowman et al. (1986) reinforced this perception through the statement that "...all too often, the teaching methods of college professors could be significantly improved" (p. 96).

The College of Agriculture at California State Polytechnic University, Pomona, has experienced declining student enrollments for most of the previous ten years. With this decline in student numbers, it has become apparent that the College must revitalize programs in order to attract and retain students. A quality teaching program is recognized by students and faculty alike as one means of doing so (Knight, 1988) and Pals (1988) asserted that, in order to facilitate a program for improving college teaching, an assessment of faculty attitudes is necessary. This was supported by Mangano (1973) who stated "Faculty attitudes represent one of the greatest barriers to change" (p. 204).

In the College of Agriculture, California State Polytechnic University, Pomona, data on faculty attitudes towards teaching improvement were unavailable. Data identifying educational opportunities available to faculty to improve their teaching were also unavailable. Hence, the problem for this study was the lack of specific information with regard to teaching improvement. These data are essential in the design of an effective teacher improvement program.

Purpose and Objectives

This study was conducted to determine faculty perceptions toward teaching improvement in the College of Agriculture, California State Polytechnic University, Pomona. Specific objectives were:

1. To identify the teaching experience of faculty in the College of Agriculture.
2. To determine the perceptions of faculty towards teaching improvement.
3. To identify useful resources to college faculty for improving their teaching.

Procedures

The population of the study consisted of *all faculty*, full-time and part-time, in the College of Agriculture, California State Polytechnic University, Pomona, (N=69). Faculty were identified from the Spring Quarter, 1988 faculty/staff roster provided by the Dean's Office.

A questionnaire used in a similar study at the University of Idaho's College of Agriculture (Pals, 1988) served as a guide in the development of this study's instrument. The resulting instrument was validated by a jury of experts including four faculty and two administrators in the College of Agriculture. Only minor modifications were needed as indicated by this expert review. The reliability of the scaled portions of the questionnaire was established through Cronbach's alpha coefficient ranging from .732 to .935.

An initial mailing and two follow-up mailings were utilized to gather the data during Spring Quarter, 1988. Ten day time intervals occurred between all mailings. All faculty were assured of complete confidentiality with their responses.

Early respondents (those who responded to the first mailing) were compared with late respondents (those who responded to the second and third mailings), since late respondents have been shown to be most like non-respondents (Miller and Smith, 1983). Data analyses showed no significant difference ($p>.05$) between groups. Therefore results were generalized to the target population.

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Findings

Sixty-nine questionnaires were mailed. Sixty questionnaires (87.0%) were returned through an initial mailing and two follow-up mailings.

Teaching Experience of the Agriculture Faculty

1. Ten respondents (17.0%) replied that they began teaching as elementary, junior high school, or high school teachers. All of these levels of instruction require formal certification in California. Of remarkable note, fully 39% of the respondents indicated that they had no prior teaching experience before beginning their college teaching careers.

2. When asked if prior teaching experience or other pedagogical training was required to be hired, 49 respondents (81.7%) replied that none was required. However, twelve faculty indicated that prior teaching experience or other pedagogical training would have been helpful. The data showed that most faculty (86.7%) agreed with the need for a formal course available to new faculty; however, courses, both formal or informal, which would be *required* of all new faculty were not regarded as favorable.

Faculty Attitudes Toward Teaching Improvement

Only fourteen respondents (23.3%) indicated that their teaching, as reflected through student evaluations, needed no improvement. The remaining faculty (76.7%) stated that their teaching was in need of further improvement.

In considering the value of student evaluations of teaching, most faculty (74.1%) felt that this form of evaluation was helpful. Approximately 81% of the faculty have used comments from student evaluations to improve their teaching. This overall support for student evaluations was also reflected when 52 respondents (86.7%) indicated that they would continue to solicit student evaluations even if they were no longer required to do so. As expected, a significant relationship existed between the perceived effectiveness of student evaluations and the respondent's willingness to continue to solicit these evaluations even if they were no longer required, $X^2(2, \underline{N} = 57) = 12.68$, $p<.05$.

In an attempt to determine the faculty's willingness to improve teaching, faculty members were asked to agree or disagree with eight controversial teaching statements. Responses are summarized in Table 1.

The data revealed that, in most cases, faculty felt teaching ability and improvement can be measured; that research is not done at the expense of good teaching; that classrooms are not the proprietary domains of professors, but should be open for inspection; and that the College of Agriculture administration is supportive of good teaching and the development of a program to improve teaching. On a note of caution, this table also reflects that approximately one-third (32.2%) of the respondents felt that college teaching is an art that cannot be taught and is only developed through years of experience. Further, a majority of respondents (61.5%) felt that the academic community at Cal Poly Pomona does not possess adequate knowledge of learning theory and practice. Finally, 71.7% of the respondents agreed that there is a lack of a formal program for improving teaching at Cal Poly Pomona.

Respondents were asked to indicate those courses in education which would be beneficial to faculty. Three courses, "Teaching Methods", "Electronic Media", and "Curriculum Development and Evaluation", were regarded as beneficial by 50% or more of the respondents. It is interest to note that these same three courses were identified as beneficial to teaching improvement by college faculty in the University of Idaho study (Pals, 1988).

Faculty were also asked to identify specific areas of assistance useful in improving their teaching. Responses are summarized in Table 2. Faculty indicated that developing visual aids and using a variety of classroom teaching methods would be of most use as techniques in improving teaching. Assessing student grades and developing lesson plans appear to be the least useful techniques.

Faculty Resources for Improving Teaching

Table 3 summarizes data collected to determine the extent to which faculty have used resources for improving their teaching. The resources of "advice from fellow faculty" and "student evaluations of teaching" ranked highest. Most faculty (91.4%) have used these resources. Other resources used included using departmental evaluations of

Table 1. Faculty Perceptions of Controversial Statements Pertaining to Teaching

Statement	Percent Agree	Percent Disagree	N
College teaching is an art that cannot be taught but only develops through experience.	32.2	67.8	59
Teaching ability cannot be measured.	13.7	86.7	60
Teaching improvement cannot be measured.	5.1	94.9	59
Professors' classrooms are their castles. They should not be disturbed by visitations to observe them, or by questions that seek to define their instructional purpose or the purpose of their course.	6.9	93.1	58
With regard to the controversy of teaching versus research, excellence in one is at the cost of neglecting the other.	30.0	70.0	60
Members of the Cal Poly Pomona academic community possess adequate knowledge of learning theory and practice.	38.5	61.5	52
There is a lack of a formal program at Cal Poly Pomona for improving teaching.	71.7	28.3	53
In the College of Agriculture, the administration supports good teaching and the development of a program to improve teaching.	73.4	26.4	45

Table 2. Types of Assistance Useful in Improving Faculty Teaching

Type of Assistance	Percent Useful	Percent Not Useful	N
Developing visual aids	57.7	42.3	52
Using a variety of classroom teaching methods	53.8	46.2	52
Developing exams	36.5	63.5	52
Using effective class discussion	34.6	65.4	52
Maintaining class interest	30.8	69.2	52
Utilizing the chalkboard effectively	28.8	71.2	52
Developing lesson plans	19.2	80.8	52
Assessing student grades	13.5	86.5	52

Resources available to faculty for improving teaching

teaching (66.7%), reading about effective teaching (66.1%), and using observations of classroom teaching (55.4%) by peers. Use of the video-tape reviews o teaching ranked as the most infrequent resource used (25.5%). Data analyses revealed a significant relationship between the age of the respondent and the respondent's perception on the usefulness of video-taping class performances, $X^2(18, N = 57) = 42.27, p<.05$. Less than 48% of those faculty 50 years or older replied that video-taping classroom performances would be a useful technique for improving teaching.

Conclusions and Recommendations

Through this study, faculty indicated there is a need for teaching improvement. The written comment, "I am frustrated with my teaching effectiveness which I deem as less than personally desirable" reflected one individual's perceived need. Although guarded in their willingness to suggest that all faculty be required to have formal educational coursework, most faculty concurred that the academic community lacks adequate knowledge of learning theory and practice. Respondents agreed with the importance of having coursework, formal or informal, available to them. Content addressing teaching methods, electronic media, and curriculum development and evaluation appears to be most beneficial to these faculty. This could be especially meaningful since many faculty (39%) indicated that they had no prior teaching experience before assuming their university teaching posts.

The perceived merit of student evaluations of teaching was substantiated in the study. Most faculty believed student evaluations were generally accurate and were useful for suggesting possible areas for pedagogical improvement. The high degree to which faculty value student evaluations was reflected by the fact that almost all of the respondents would continue to solicit student evaluations even if this form of evaluation was no longer required by the university.

Faculty believed there is an absence of a formal program at Cal Poly Pomona for improving teaching. An *informal* program does, however, appear to be in place as evidenced by the proportion of faculty who have consulted with each other with regard to teaching improvement and by those faculty who have read about effective teaching. Generally though, fewer faculty have employed formal techniques, such as the utilization of peer classroom observations or video-tape reviews of their teaching. his fact, coupled with the expressed need of faculty for the availability of educational coursework, infers a possible direction for faculty development efforts at Cal Poly Pomona.

Table 3. Resources Used by Faculty to Improve Their Teaching.

Resource	Percent Have Used Resource	Percent Have Not Used Resource	N
Sought advice from a fellow faculty member	91.4	8.6	58
Used student evaluations of teaching	91.4	8.6	58
Used departmental evaluation of teaching	66.7	33.3	54
Read about effective teaching	66.1	33.9	56
Used peer classroom observation of teaching	55.4	44.6	56
Use evaluation of teaching by department head	41.1	58.9	56
Used video-tape review of teaching	25.5	74.5	55

The findings of this study raise additional questions--questions which speak to the need for further research:

1. Are results of this study generalizable to faculty in other Colleges of Agriculture? Since findings of this study are consistent with those identified through a similar study conducted at the University of Idaho (Pals, 1988), perhaps faculty at additional institutions may, likewise, possess a comparable need for teaching improvement.

2. What are the predictors in the training and experience of college teachers which contribute to pedagogical success? Since most respondents to this study believed that successful college teaching is not just an art but develops through training and experience, the identification of these contributing factors might prove beneficial in structuring teaching improvement programs for college faculty.

Clearly, faculty perceive that teaching can and should be improved. A well constructed, well directed program aimed at enhancing instruction may provide beneficial results and useful incentives for college teachers.

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