

and frequently helpful; we recommended that any survey of this kind have space for anecdotal comments.

Our findings suggest that the College of Resource Development should survey its students periodically. While many of the results of this survey are not directly applicable to other institutions, the survey methodology and kinds of questions are. We recommend that other institutions which want information on recruitment, retention, employment, and curriculum evaluation conduct similar surveys. Copies of our survey form are available from the author upon request.

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Student Preference To Learning Styles

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Abstract

An instructor-developed survey was used to sample student preference to learning styles. The results indicate that students have a high interest in styles such as taking field trips, individualized instruction, and attending workshops. Other learning styles were of less interest. It appears that, whatever the learning style, students prefer an active learning environment.

Introduction

Many thoughts come to mind as to ways students learn. Also, the learning styles of students may or may not be in accord with the teaching styles of the instructor. With these thoughts in mind, certain questions may be asked. What are the various ways in which students seem to learn best? Do students vary by ethnic background in ways by which they learn? If the learning styles of students were known before instruction starts, could instruction be improved by varying the teaching styles of the particular instructor? Although other questions may come to mind, these few illustrate the need to look more closely at the learning-teaching styles of an instructional program.

The objective of this study centered around the learning styles of students at the California Polytechnic State University.

The objectives were:

1. To survey the learning styles of a sampling of students at the California Polytechnic State University,
2. to determine if there are common styles of learning which students use, and
3. to determine if ethnic backgrounds favor one learning style over another.

Procedures

In order to meet the objectives of the study, the following procedures were used. Instructors at the California Polytechnic State University, who were willing to assist in a survey, were asked to take the survey to their respective class and have it completed in the last ten minutes of class. As a result of this method of instructor participation, 140 students responded to the survey. These students were enrolled in Animal Science, Ornamental Horticulture, Physics, Geography, Social Sciences, History, Crop Science, Soil Science, and Biological Sciences.

All data for this study were obtained from the Personal Interest Survey. The Personal Interest Survey was an instructor-made survey and was based on the Likert scale (2).

The results were hand tabulated. All results were recorded as a frequency of response to each item on the interest survey. Frequencies were converted to a percent, and the percentages were used as a basis to determine the relative interest in each type of learning style as asked in the survey items.

Results and Discussion

Limitations of Study

This study had the following limitations. These limitations should be kept in mind when reading the findings of the study.

1. The sampling was generally small.
2. The numbers of students by ethnic background were very small but similar to the distribution on campus. Since the ethnic distribution may not be generalizable, it is not reported here.

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3. The study was not randomized to students at the California Polytechnic State University, and
4. Not all instructors, who were randomly picked in the study, participated in the study.

Student Learning Style Preference

The interest survey results indicate that students, respective of ethnic background, have a high preference for learning styles in three ways. As Table 1 shows, the learning styles of greatest interest are (1) taking field trips at a 82.8% student preference; (2) learning by individualized instruction at a 71.4% student preference; and (3) going to workshops on academic subjects at a 67.1% student preference.

It may be that students prefer workshops and field trips as a learning style because they offer immediate practical application of course content. Students can either see something being done or participate in an activity that teaches a lesson. The feedback of knowledge is immediate.

In the case of individualized instruction, students receive instruction in a personalized manner. The adequacy of learning can be determined quickly. Students can find out what they know and what they still need to learn on a subject or unit of study. Therefore, the personalized instruction and the quick feedback of testing can be very appealing to students.

It seems that students also have a relatively high interest in learning by the following styles: (1) watching television; (2) talking about a subject in class; (3) synthesizing information into complex thoughts; (4) attending show-and-tell lectures; and (5) attending lectures. Interest in these styles was expressed by at least 50% of the respondents.

Certainly the less active learning situations have a lesser appeal. McKeachie (3) states that active participation in learning by college students can be facilitated by the active participation of students.

Talking about a subject in class is a more useful learning style when the purpose is to develop critical thinking. Fincher (1) suggests that it fosters construction attitudes, values, or motives. The higher interest by students in this survey would indicate that at times it

Table 1. Students response to learning styles respective to ethnic background. A response of 1 is the lowest interest in learning style. A response of 5 is the highest interest in learning style. "A" equals percentage of students responding to the scale. "B" equals combined percentage at the low and high end of the scale.

Question: Using slide-tape sets to learn about areas of academic interest.					
Scale	1	2	3	4	5
A	34.2	22.1	21.4	15.7	5.0
B	56.3		20.7		
Question: Taking field trips to learn more about areas of academic interest.					
Scale	1	2	3	4	5
A	1.4	2.8	12.1	31.4	51.4
B	4.2		82.8		

Table 1 Continued

Question: Learning by individualized instruction in a subject of academic interest.					
Scale	1	2	3	4	5
A	2.1	7.1	18.5	40.7	30.7
B	9.2		71.4		
Question: Talking about subjects of academic interest as an inclass group experience.					
Scale	1	2	3	4	5
A	3.5	9.2	33.5	37.1	15.7
B	12.7		52.8		
Question: Putting together smaller units of information into larger more complex thoughts in an area of academic interest.					
Scale	1	2	3	4	5
A	5.0	9.2	34.2	35.7	15.0
B	14.2		50.7		
Question: Listening to taped lectures as a learning tool in areas of academic interest.					
Scale	1	2	3	4	5
A	24.2	35.7	22.8	14.2	2.1
B	59.9		26.3		
Question: Going to a workshop to increase my academic skills or learn something new in the field.					
Scale	1	2	3	4	5
A	2.8	10.0	18.5	40.7	26.4
B	6.4		67.1		
Question: Reading books in areas of academic interest.					
Scale	1	2	3	4	5
A	6.4	12.1	40.0	30.7	10.0
B	9.25		40.7		
Question: Attending lectures in areas of academic interest.					
Scale	1	2	3	4	5
A	2.8	10.0	37.1	40.7	9.2
B	12.8		50.0		
Question: Attending show and tell lectures in areas of academic interest.					
Scale	1	2	3	4	5
A	2.8	11.4	35.0	33.5	17.1
B	14.2		50.7		
Question: Watching television programs in areas of academic interest.					
Scale	1	2	3	4	5
A	3.5	13.5	29.6	34.2	19.2
B	17.1		53.5		
Question: Discussion with tutors after class as a way of increasing my academic skill.					
Scale	1	2	3	4	5
A	10.7	21.4	36.4	25.7	5.7
B	32.1		31.4		
Question: Writing a term paper to bring together thoughts on subject of academic interest.					
Scale	1	2	3	4	5
A	31.4	27.8	30.0	10.0	7
B	59.2		10.7		
Question: Doing laboratory practices in an area of academic interest.					
Scale	1	2	3	4	5
A	12.8	15.7	34.2	26.4	10.7
B	28.5		37.1		
Question: Attending seminars in an area of academic interest.					
Scale	1	2	3	4	5
A	4.2	12.8	32.8	35.0	14.2
B	17.1		49.2		
Question: Writing an analysis of subjects in areas of academic interest.					
Scale	1	2	3	4	5
A	25.0	24.2	30.0	12.8	4.2
B	49.2		17.1		

would be better to learn by group discussion. On the other hand, students expressed a higher interest in the development of critical thinking by suggesting that the combining of information into complex thoughts is an effective learning situation.

Students reported low interest in learning by (1) listening to taped lectures; (2) using slide tape sets; (3) writing analyses in subject areas; and (4) writing term papers. The percentage based on the frequency of response was 26.3%, 20.7%, 17.1%, and 10.7% respectively.

Instructors may observe that students are reluctant to do term papers because they are too time consuming. Term papers require students to use library resources extensively and then type reports by due dates. Perhaps, students do not feel that the investment in time is worthwhile for the learning by this method. Students may also view the writing of an analysis of a subject in the same way as writing term papers.

The use of slides with or without tapes apparently has little merit to the student as a learning style. It is a substitute for the classroom experience. Students may feel that, as a substitute, it is too impersonal and fails to provide the needed contact with the instructor.

Conclusion

Instructors may be able to offer a wider range of teaching styles in the classroom in order to obtain better results from students. While the lecture format is viewed as a useful learning style by 50% of the students, it appears that instructors may be able to take advantage of a variety of other teaching styles. The learning-teaching styles of greater interest than lecturing include the following:

1. Take field trips
2. Using individualized instruction
3. Going to workshops of academic interest
4. Watching television
5. Talking about subjects in the classroom
6. Taking simpler thoughts and combining them into complex thoughts
7. Attending show-and-tell lectures

This variety of learning-teaching styles could be used in a single course with adequate course preparation. Instructors could review lesson plans to determine if more effective teaching styles should be implemented in order to get the point across to students. Perhaps, the variation in teaching-learning style would improve the attitude of students toward learning. If attitudes are considered, then this factor must be measured in view of any changes in teaching-learning styles.

The introduction of a variety of teaching-learning styles in the classroom also demands the necessity of effective evaluation. Therefore, instructors should devise ways to measure the effectiveness of the particular style or styles.

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Preparing Voag Teachers In Livestock Skill Areas

Ed Osborne

Introduction

Faculty members in colleges of agriculture across the United States are being forced to modify their approaches to teaching technical agriculture courses in order to accommodate the changing livestock skill levels that entering college agriculture students possess. A growing number of journal articles and conference presentations deal with the topic of providing practice in performing agricultural skills at the university level. Those who question the appropriateness of this type of education in a university setting generally focus their arguments around two issues:

1. agricultural skills should be practiced and developed in educational settings other than four year colleges and universities, and
2. college graduates in agriculture will secure positions requiring managers rather than practitioners.

But what about those agriculture graduates who may enter the teaching profession? They must be both educational managers and practitioners. The importance of vocational agriculture teachers having technical skills has been widely recognized. Researchers have generally agreed that successful vocational agriculture instruction requires that teachers possess essential skills in animal science and other technical areas (Thomas, 1977). The development of these requires structured student practice, as explained by Hammonds (1950, p. 144) when he discussed the "kinesthetic" sense or the need to "get the feel" of performing a task requiring significant skill:

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