

APPLYING A LEARNER OUTCOMES MODEL TO HEALTH SCIENCE

HUMAN SEXUALITY / HEALTH SCIENCE 15

REBECCA ARNESTY, HEALTH SCIENCE DEPARTMENT

PROJECT GOALS:

The purpose of learner outcomes in this course is:

1. To assess increases in student knowledge and understanding of human sexuality.
2. To assess whether students can apply their new knowledge and understanding to related choices and decision- making using case scenarios. sexual-
3. To assess if student learning improves when principles of alignment and learning are applied in both instruction and assessment. styles

BACKGROUND:

The course in Human Sexuality, Health Science 15, meets the General Education requirement at Cabrillo College under Area E. It includes a broad range of topics integrating research from the health sciences, biology, psychology, sociology and anthropology. The students enter the course with a range of knowledge from myth and misconception to truth, and with a diversity of life experience.

The demographics of the Fall, 1999 class consisted of the following: The age range was 75% of 18-21 year olds, 18% of 22-29 year olds, and 6% over 30 years old. The ethnicity included 76% White, 6% Asian, 17% Hispanic, 0% African American. The education status showed 19% AA/AS, 9.5% BA+, 9.5% GED, 57% high school grad. It was difficult to conclude from the Office of Institutional Research Data the number of semesters each student had attended Cabrillo, either sporadically or consecutively.

Health sciences course goals focus on improving knowledge, attitudes, and behavior. The desired result of health education is behavior which results in making sound choices and decisions. The assessment of an increase in knowledge has always been possible through various evaluation methods, such as exams and writing assignments. In teaching this course over the past six semesters, I have developed an interest in assessing whether students are able to apply their new knowledge and understanding of human sexuality to their ability to make choices and decisions related to sexual issues. This interest led me to choose this course for my project. The specific learning outcomes I designed for the course integrated knowledge with the ability to make sexual-related choices and decisions. The use of case histories, case studies and scenarios were designed and implemented to disclose students' choices and decisions related to sexual issues and problems. Case scenarios were incorporated into classroom activities and then later used as part of student assessment. My long term goal would be that the students would be able to also make sound choices and decisions related to sexual issues in their own lives. Since this would be very difficult to measure, I settled for a shorter range goal which was the students' ability to make sound choices and decisions for fictitious characters described in various case scenarios.

Another interest this project allowed me to explore was incorporating activities and evaluation methods using the different Kiersey Learning Styles. I focused on four of Kiersey's Learning Styles, including the SJ or Clerical Learner, the NT or Independent Learner, the NF or Democratic Learner, and the SP or Hands-On Learner. According to Kiersey, each learning style requires meeting specific learning needs. The SJ (Clerical Learner) needs structure, clear instructions and expectations, sequential lessons, question and answer sessions, and frequent feedback about performance. The NT (Independent Thinker) needs encouragement for independent investigation, logical presentation, an emphasis on principles, help in establishing priorities, and feedback related to competency. The NF (Democratic Learner) need a personal approach, face-to-face dialogue, group harmony, democracy, and creativity such as stories about people, fiction, myths and fantasy. The SP (Hands-on Learner) needs physical involvement, activities, practical applications, competition, games, risks, and performances. My theory was that student success and retention would improve if the instruction, learning activities, and evaluation employed all of the four different learning styles. Classroom activities would be more diverse. Assignments and evaluation methods would also reflect the different styles.

My project also modeled alignment principles employed by California State University, Monterey Bay. Instruction, classroom activities, outside assignments, and evaluation were aligned to foster improved student learning and success as well as retention. The students were given a number of individual writing assignments and collaborative projects designed to reinforce topics and concepts addressed in the classroom and in their reading assignments.

PROCEDURES:

I developed ten learner outcomes based on the course content. Since I was interested in the students' abilities to make sexual-related choices and decisions, I integrated my desired student goals for the course into learner outcomes that were measurable.

The learner outcomes were as follows:

- * Describe historical and cross-cultural perspectives of human sexuality
- * Describe how values and behavioral scripts relate to sexual behavior
- * Evaluate the way society and sexuality is changing
- * Describe the human body and its responses
- * Explain the value of hygiene, prevention, and sexual health care
- * Discuss relevant research regarding how sexual orientation develops, homosexual relationships, and homosexual family life
- * Describe how responsible, quality, intimate sexual relationships are nurtured
- * Describe different contraceptive methods, including how couples can share responsibility related to birth control
- * Describe the development of sexuality as it changes through the lifespan
- * Describe available campus and community resources, self-help, and support groups related to sexual health care

I reorganized the sequence of course topics. I grouped topics so that I could create learning experiences and activities which would help integrate concepts in a meaningful way. For example, I grouped together concepts in health and wellness with sexual anatomy, physiology, health, and sexual response.

Students responded to films and guest speaker presentations by completing a written reaction paper. I redesigned the reaction paper questions to reflect the SJ, NT, NF, and SP Learning Styles.

I developed case scenarios to be used in conjunction with class lectures, as take-home assignments, and for evaluation (testing). Scenarios included problem-solving related to jealousy, communication, gender roles and expectations, sexual values, rape, sexual harassment, sexual health and wellness, sexuality in childhood and adolescence, sexual dysfunction, disease prevention, and other topics.

The Instructional Librarian, Topsy Smalley, and I developed exercises for students related to appropriate Internet research sites. The students received an orientation to the Library Home Page as well as instruction in using the Internet for conducting research in human sexuality and for subsequent course assignments and take-home exams.

I developed a “critical movie review” assignment. The goal of the assignment was for the students to evaluate the representation of sexuality in contemporary culture and in the media. The assignment supported attaining specific learner outcomes for the course.

ASSESSMENT

Student assessment was based on the following course requirements:

- * Pretest and post test (not calculated into the final course grade)
- * Three exams, which included a standardized multiple choice / true and false question portion and a written essay portion using case histories or case scenarios.

- * Twelve writing assignments integrating information from the textbook with students' ideas and experiences.

- * Eight Reaction Papers for films and/or guest speaker presentations

- * Research Article Critique

- * Critical Movie Review

RESULTS

Quantitative Data:

Pretest/Post test: The Pretest consisted of a 45 multiple choice question exam. The students completed this test on the first day of class. The group mean was 79%. I distributed the same test as a post test on the day of the final exam, after the students took the final. I didn't extend any credit to the students for completing the post test. In retrospect, that was a mistake on my part. The students did not take the post test seriously or may have been fatigued after taking the final exam. Some of the students elected to not take the post test, some scored well below their pretest score, and some scored higher than their pretest score. I decided that since the conditions under which this test was conducted produced unreliable results, I didn't use the scores for comparison. Instead, I averaged the student's three multiple choice exam scores and compared their cumulative exam score with the pretest. The exam questions were equivalent to the questions on the original pretest and post test. The group post test mean was 81%. I also calculated the group mean for the course grades which was 84%. These quantitative measures showed only small increases. (Table A)

Exams / Case Scenarios: Each of the three exams in the course included case scenario essay questions (a total of 50 points each exam) and multiple choice questions (a total of 50 points each exam). Students scored higher on the case scenario portions of the exams than they scored on the multiple choice portions. The cumulative mean score was 82% for the case scenario essay exams and 75% for the multiple choice exams. This score differential could have resulted from one of my project goals which was to align the following student learning opportunities: weekly writing assignments related to specific topics, class activities such as collaborative group problem-solving exercises or small group discussion using examples from case histories, and subsequent assessment based on case scenario test questions. (Table B)

Qualitative Data:

Reaction Paper: A comparison of student reaction reports containing questions derived from

different learning styles to previous course student reports containing standard questions showed that students wrote more thorough and thought provoking responses. Students gave more information and expressed ideas in a more comprehensive context using the learning style formatted questions.

Research Critique / Critical Movie Review: These two new assignments were successful in that they supported attainment of multiple learner outcomes. The students were able to apply the instruction from their class session in the library to critique a research article utilizing guidelines from their textbook, the library class presentation and accompanying instructional handout, and were able to apply their knowledge and understanding of course topics to a discussion and evaluation related to a contemporary movie of their choice. Most of the students received the maximum points possible for each of the two assignments. This data is more qualitative than quantitative in measuring learner outcomes in this project.

End of Course Student Self-Assessment: Each student anonymously completed a survey designed to assess student perceptions of their attainment of each of the ten learner outcomes. Students completed the survey during the last class session. A Likert scale was used. For each outcome, students indicated a range of numerical values as to whether they strongly disagreed (a value of 1) to strongly agreed (a value of 5) that they met the outcome. The results were extremely favorable. The lowest score was 3.7; the highest score was 4.7; the median was 4.2; the mean was 4.2. The mean indicated that the students agreed that they attained each of the learner outcomes for the course. I regret that I didn't ask the students to complete this assessment as a pretest as well as at the end of the course. (Table C)

STUDENT ACHIEVEMENT AND RETENTION DATA

I compared grades and retention data from Fall, 1999 with data from the six previous consecutive semesters that I taught this course. I felt that comparing the data to just one semester wasn't enough information to show whether the project influenced the range of student grades or student retention. Fall, 1999 showed the highest retention at 95% comparing first census data to course completion data. The lowest retention was Spring, 1998 at 83%. In Fall, 1999 63% of students scored A and B grades; 8% scored D grades. In previous semesters A and B grades ranges from 18% to 75%; D and F grades ranged from 20% to 7%. A statistical analysis using a chi square test was applied to the grades and retention comparing Fall, 1999 with the other semesters. This analysis showed no statistical difference.

Each semester I varied the method of examination. Methods included all objective, multiple choice and true / false style questions (Fall, 1996), all essay exam questions (Spring, 1997 and Fall, 1997), a combination of objective and essay questions (Spring, 1998), combined student test scores allowing students to take the multiple choice portion of the exam in groups and the essay portion individually (Fall, 1998 and Spring, 1999) , a combination of multiple choice questions and case scenario essay questions (Fall, 1999).

Though attrition was slightly less and there were no F grades, there was no sound basis to compare data gathered from my project with data from prior semesters. Learning Outcomes are difficult to measure quantitatively. I utilized research design methods and test instrument design skills acquired

during my graduate education. Though I was able to utilize some social science research methods, I lack the expertise in institutional research that I would need to more accurately evaluate this project and to produce statistically valid and reliable results. (Table D)

EFFECTIVE STRATEGIES FOR DEFINING AND ASSESSING LEARNER OUTCOMES

In defining learner outcomes I conducted an inventory of the knowledge and skills the students should have been able to gain and demonstrate by the end of the course. I considered how the learning activities could be aligned with the assessment methods. I only defined the outcomes that I thought I could reasonably measure. A statement of learner outcomes was included in the course syllabus so that students could be informed of what the course intended to accomplish.

The use of case scenarios was an effective strategy in measuring students' ability to apply their knowledge and understanding to making decisions and choices about sexual- related issues. The use of scenarios in class activities as well as in assessment indicated that using alignment principles was effective in achieving student success. Improved student performance on the Reaction Paper assignments demonstrated that posing questions that incorporate different learning styles yield improved written responses. Diversifying classroom activities such as instructing students to identify and evaluate scientific research using the Internet improved critical thinking skills, supported other learning activities, followed alignment principles and played a positive role in assessment.

In revising my outcomes, I plan to emphasize broader expectations of student learning rather than the specific, objective- driven outcomes I described in this project. For example, the outcomes would focus on students' abilities to make healthy decisions related to sexual health and sexual issues, to analyze the impact of culture and the media on their sexuality, and to develop effective interpersonal communication skills. In revising my teaching strategies, I plan to add an additional assignment in which students keep a journal of their own life scenarios to which they could apply their new knowledge, resulting in making decisions and choices about their own sexual issues and health.

EFFECTIVE NEW TEACHING STRATEGIES

The following new strategies were implemented in my Human Sexuality course:

- * Walking Debate- a values clarification exercise used to elicit discussion-related to issues and "hot topics".
- * Internet Research Project- orientation in the library classroom given by Topsy Smalley, Instructional Librarian.
- * Incorporating film segments into interactive lectures and presentations.
- * Having students prepare topics based on specific questions assigned to them and then

teach the class about their topic--the result was a comprehensive study of the topic given in small sections by different groups of students. Instructor is the facilitator, fills in the gaps in information and leads students in discussion.

- * Final project case scenario was to have students develop a brochure or educational material for the Cabrillo College Student Health Center on the subject of Sexual Health and Wellness. Projects were diverse, creative, and academically outstanding!

- * Developing exercises and assessment based on Kiersey's Learning Styles. Incorporating styles into teaching and classroom learning opportunities.

- * Utilizing case scenarios to help students develop critical thinking skills and efficacy in applying knowledge to making choices and decisions related to sexual issues.

CONCLUSION

The most valuable aspect of this project has been being in a cohort of faculty who spent two weeks in a summer institute exploring the phenomenon of learner outcomes and then meeting together monthly during the last two semesters. Sharing ideas and teaching strategies, problem-solving teaching challenges, and exploring goals and innovations with each other has benefited me professionally inside the classroom, in my other faculty responsibilities within the college, and in my own life.

This Learner Outcomes project has provided me with the opportunity to redefine my teaching goals and to engage in the many challenges involving teaching and learning. Articulating learner outcomes has allowed me to clarify Human Sexuality course goals and the strategies I would use to reach those goals. I believe that my students have benefited and that my project was successful in meeting my proposed outcomes. My qualitative data reveals that students succeeded in improving their knowledge and understanding of human sexuality, that students demonstrate abilities in applying their learning to making choices and decisions using case scenarios, and that aligning activities with assessment and incorporating different learning styles in teaching and assessment improves retention and student success. I cannot, however, show vast quantitative differences in these areas.

In light of these discrepancies, I believe that defining learner outcomes, developing teaching strategies that facilitate student learning, and broadening evaluation methods for assessing learner outcomes has merit on an "in the classroom" level only. Based on my own experience and on discussions held with other learner outcome project participants, I strongly advocate continued support for faculty cohorts involved in similar endeavors.