ABSTRACT
               Selected proceedings are presented from the Fifth
Annual Conference on Undergraduate Teaching of Psychology. The
proceedings includes: (1) "Multimodal Self-Management: A Holistic
Approach to Teaching Self-Improvement," by Edward J. O'Keefe and
Donna Berger; (2) "Undergraduate Research: Statistics to Senior
Presentations," by Glena L. N. Schubarth; (3) "An Integrated Methods
and Statistics Course for the Beginning Major," by George C. Fago;
(4) "Relevance and Research: Using a Survey of Campus Environmental
Attitudes in a Research Methods Course," by Bruce E. Rideout; (5)
"Student Perceptions of Short, In-Class Experiences for Social
Psychology," by Karen O'Quin; (6) "The Use of Student Presentations
in Developmental and Social Psychology Classes," by Donna L.
Reittinger and Kathleen Crowley-Long; (7) "Assessing the Value of
Firsthand Knowledge in a Developmental Psychology Classes: Learning
through Observation, a Comparison of Methods," by Linda L. Dunlap;
(8) "Teaching Ethics," by Kathleen Harring, Laura Snodgrass, Dana S.
Dunn, and Stacey B. Zaremba; (9) "Student Brainstorming:
Undergraduate Teaching--Personal Dimension," by Albert H. Gardner;
(10) "Introduction to SYMLOG and Its Uses in an Experiential Group
Dynamics Course," by Thomas Rywick; (11) "Using Role-plays to Enhance
Empathy for Patients in the Study of Abnormal Psychology," by Amy
Herstein Gervasio; (12) "Designing and Teaching a Course on the
Psychology of Women," by Kathleen Crowley-Long; (13) "Reading,
Writing, and Research: Introductory Skills for the Empirical
Psychologist," by Patricia McKeegan; (14) "Using Hypertext to Provide
On-Line Help for Statistical Packages," by David S. Malcolm; and (15)
"Conditioning Software," by Ann Gilchrist. (JMC)

Teaching of Psychology: Ideas and Innovations

Proceedings of the Fifth Annual Conference

March 13-15, 1991

Judith R. Levine and Stanley C. Feist, Editors

BEST COPY AVAILABLE

Table of Contents

Introduction

The Fifth Annual Conference on Undergraduate Teaching of Psychology was held March 13-15, 1991 at the Neville Country Club in Ellenville NY. The conference was sponsored by the psychology department of the State University of New York College of Technology at Farmingdale with the assistance of the Center for Lifelong Learning at Farmingdale.

In addition to a keynote address by Douglas Bernstein, the conference participants had 23 presentations from which to choose, as well as an array of publishers' exhibits to visit. Fifteen of the presentations are included in these conference proceedings.

The success of this conference was due to the dedicated work of many people. We extend our sincere thanks to the following people for their efforts on behalf of the conference: Ms. MaryBeth Sclafani of the SUNY Farmingdale Center for Lifelong Learning for providing administrative support and overseeing the entire process; Ms. Barbara Sarringer of the Psychology Department at SUNY Farmingdale for providing invaluable secretarial assistance; Prof. David Griesé and Mr. Robert Loveler of the Psychology Department at SUNY Farmingdale for lending a much needed hand with the paper selection process; and Ms. Terry Finch of Houghton-Mifflin Co. for arranging for Douglas Bernstein to address us, and for providing a pre-dinner reception.

<div align="right">

Judith R. Levine
Stanley C. Feist

</div>

CONFERENCE PROGRAM

THE 5th ANNUAL CONFERENCE ON UNDERGRADUATE

TEACHING of PSYCHOLOGY:

IDEAS & INNOVATIONS

PRESENTED BY

THE PSYCHOLOGY DEPARTMENT

of

SUNY COLLEGE OF TECHNOLOGY AT FARMINGDALE, NY

on

WEDNESDAY, MARCH 13, THURSDAY, MARCH 14,
and
FRIDAY, MARCH 15, 1991

in cooperation with the

SUNY FARMINGDALE DEPARTMENT OF CONTINUING EDUCATION

WEDNESDAY, MARCH 13, 1990

1:00 PM to 2:00 P.M. REGISTRATION
Publishers' Displays

2:00 PM to 3:20 PM SESSION 1

Room 1: <u>Presider : Charles DuFour, Colby College, Orono, ME</u>
Workshop: Multimodal Self-Management: A Holistic Approach to Teaching Self-Improvement.
Edward O'Keefe & Donna Berger, Marist College, NY.

Room 2: <u>Presider: Kathleen Crowley-Long, College of St. Rose, NY</u>
What Memory Research Tells Us About Teaching Psychology.
William R. Balch, Penn State University, PA.

Some Insights and their Implications for Teaching Derived from Experience in a Military Education Program.
Mortimer Brown, Saint Leo College, FL.

3:20 PM - 3:50 PM: COFFEE BREAK

3:55 PM - 5:15 PM   SESSION 2

Room 1: <u>Presider: Judith Levine, SUNY College of Technology,Farmingdale,NY</u>
Workshop: Psyched to Write: Integrating Writing into Psychology Courses.   Maribeth Palmer-King, Broome Community College, NY

Room 2: <u>Presider: David Malcolm, Fordham University, NY</u>
Undergraduate Research: Statistics to Senior Presentation.
Glena L.N. Schubarth, Eastern Nazarene College, MA

Intuitive Approaches to Research and Statistics for the Beginning Student: A Pilot Program. George C. Fago, Ursinus College, PA.

6:00--7:00 PM   RECEPTION

7:00 PM   DINNER

DOUGLAS BERNSTEIN, INVITED SPEAKER
WAS IT GOOD FOR YOU TOO? KEEPING TEACHING EXCITING FOR US AND FOR THEM.

Invited Speaker and the Reception courtesy of Houghton Mifflin Company

Ask about our Hospitality Room

9:30 AM - 11:00 AM   SESSION 3

Room 1: Presider: Thomas Rywick, SUNY College at Fredonia, NY
Psychology and the "Real World": Toward a Methodology for Increasing Social Relevance. Kenneth D. Richardson, Ursinus College,PA.

Relevance and Research: Using a Survey of Campus Environmental Attitudes in a Research Methods Course.
Bruce E. Rideout, Ursinus College, PA.

Student Perceptions of Short, In-Class Experiences for Social Psychology.   Karen O'Quin, SUNY College at Buffalo, NY.

Room 2: Presider: Albert H. Gardener, University cf Maryland, MD.
The Use of Group Presentations in Developmental and Social Psychology Classes.
Donna Lis Reittinger & Kathleen Crowley-Long, College of St. Rose, NY.

Assessing the Value of Firsthand Knowledge in a Developmental Psychology Class. Linda L. Dunlap, Marist College, NY

11:00 AM - 11:20 AM   COFFEE BREAK

11:25 AM - 12:45 AM : SESSION 4

Room 1 : Presider: Kathleen Harring, Muhlenberg College, PA
Panel Discussion: Teasching Ethics.
Kathleen Haring & Laura Snodgrass, Muhlenberg College, PA
Dana S. Dunn & Stacey B. Zaremba, Moravian College, PA

Room 2 : Presider: Mortimer Brown, St. Leo College, FL.
"Speaking Prose"? : Teaching Critical Thinking in Psychology.
Majorie Gelfond, County College of Morris, NJ.

Student Brainstorming: Ideas and Innovations in the Teaching of Psychology. Albert H. Gardener, University of Maryland, MD

1:00 PM - 2:00 PM   LUNCH

4

2:10 PM - 3:30 PM   SESSION 5

Room 1: Presider: Stanley Feist. SUNY College of Technology,Farmingdale,NY
   Workshop: The Healing Wisdom of Hasidic Stories: A Contemporary
   Social Psychological Workshop on Story Telling.
   Howard W. Polsky, Columbia University School of Social Work, NY.

Room 2: Presider: Gene Indenbaum. SUNY College of Technology, Farmingdale
   Workshop: Active Learning: How to Make Critical Thinking a Reality in
   the Introductory Psychology Course.
   Karen R. Huffman, Palomar College, CA.

3:30 PM - 3:50 PM: COFFEE BREAK

3:55 PM - 5:15 PM   SESSION 6

Room 1: Presider: Howard W. Polsky,Columbia Univ,School of Social Work,NY.
   Workshop: Introduction to Sumlog and its Uses in an Experiential
   Group Dynamics Course.
   Thomas Rywick, SUNY College at Fredonia, NY.

Room 2: Presider: Linda Dunlap. Marist College, NY
   Workshop: No Sage on the Stage, But a Guide on the Side.
   How to Increase Student Thinking and Learning.
   James Bell, Howard Community College, MD.

6:0--7:00 PM   RECEPTION

7:00 PM   DINNER

INVITED SPEAKER, WILLIAM BUSKIST
   STUDENT INSIGHT:PSYCHOLOGY and ENVIRONMENT.

Invited Speaker courtesy of Harper Collins Publishers.

EVENING ACTIVITIES ON YOUR OWN -----   CHECK OUT OUR HOSPITALITY ROOM

5

FRIDAY, MARCH 16, 1991

9:30 AM - 10:50 AM   SESSION 7

<u>Room 1: Presider: Roger Hoffman,SUNY College of Technology,Farmingdale.</u>
Using Role-plays to Enhance Empathy for Patients in the Study of Abnormal Psychology.
Amy Herstein-Gervasio, Hamilton College, NY.

Creating and Teaching a Psychology of Women Course.
Kathleen Crowley-Long, College of St. Rose, NY

<u>Room 2: Presider: David Griesé,SUNY College of Technology,Farmingdale,NY</u>
Workshop: Reading, Writing, and Research: Introductory Skills for the Empirical Psychologist.
Patricia McKeegan, SUNY College at Old Westbury, NY.

10:50 AM - 11:10 AM: COFFEE BREAK

11:15 AM - 12:35 PM   SESSION 8

<u>Room 1: Presider: Karen O'Quin, SUNY College at Buffalo, NY</u>
Workshop: Using Hypertext to Provide On-Line Help for Statistical Packages. David S. Malcolm, Fordham University, NY.

<u>Room 2: Presider: Robert Lovler, SUNY College of Technology, Farmingdale</u>
Workshop: Conditioning: A Demonstration of Original Software.
Ann Gilchrist, Ulster County Community College, NY.

<u>1:00 PM - 2:00 PM   LUNCH</u>   Have a Safe Trip Home
****

Conference Committee: Chairman: Stanley C. Feist, Ph.D.
        Judith R. Levine, Ph.D., Professor David Griesé, Marybeth Sclafani.
        Design of Registration Mailing: Robert Lovler

Thanks to the following publishers for their support:

Allyn & Bacon   Dushkin Publishers
Guilford Publications   Harper Collins Company
Hemisphere Publishing Corp.   Houghton Mifflin Publishers
John Wiley & Sons   Lawrence Erlbaum Associates
McGraw Hill Book Company   West Publishing Company
Worth Publishers

MULTIMODAL SELF-MANAGEMENT:
A HOLISTIC APPROACH TO
TEACHING SELF-IMPROVEMENT

By: Dr. Edward J. O'Keefe
     Professor of Psychology
     Marist College
     Poughkeepsie, N.Y.

     Ms. Donna Berger
     Exec. Assistant to the
     Academic Vice President
     Marist College
     Poughkeepsie, N.Y.

11

A one-credit self-management course for high-risk students and the conceptual framework that serves to integrate the course topics was the focus of this workshop.

While Marist's student success course includes topics common to other freshman seminars, a comprehensive self-management model serves to integrate topics that are traditionally taught as if they were separate areas of human functioning. Thinking skills, motivation, study habits, time management, and assertiveness are the primary topics covered; goal-setting, values clarification, decision-making, communication, and self-esteem are also emphasized in the context of the primary topics.

The conceptual framework, which takes into account the intellectual, emotional, and behavioral characteristics of learning, is applied to each topic. By using the same methodology in addressing each topic area, Marist students learn that most situations they encounter, whether academic or personal, are experienced in three interrelated ways: intellectually, emotionally, and behaviorally. It is the objective of the course to teach students self-management skills that not only will help them to adapt and prosper during their freshman year, but to provide them with fundamental skills that will benefit them throughout their scholastic and professional careers.

The model serves to unify topics that are often approached in a disparate fashion. It also allows instructors to deal with fewer topics because by repeatedly applying the model to each topic area, it becomes clear that the individual topics are best understood when the elements common to all of them are understood. Students not only become proficient in using the model in specific topic areas such as self-motivation and study habits, but they learn to apply its principles in areas not formally covered as part of the course.

In summary, the workshop introduced a self-management model that can be adapted to most freshman success courses. References were provided and time reserved for reactions and questions. Participants also received a sampling of course materials and copies of the books used in the course were available for their perusal.

REFERENCES

O'Keefe, E. (1985). Ultimodal self-management: A holistic approach to teaching self-improvement. <u>Humanistic Education and Development</u>, 23, 176-182.

O'Keefe, E. and Berger, D. (1990). Self-Management for high-risk students: A student-focused program for student, faculty, and staff development. <u>Journal of Staff, Program, & Organization Development</u>, 8 (3), 175-180.

O'Keefe, E. and Berger, D. (1991). <u>The ABCs of Self-Management</u>. O'Keefe/Berger Publishers.

Undergraduate Research: Statistics to

Senior Presentations

Glena L.N. Schubarth

Eastern Nazarene College

Undergraduate Research: Statistics to Senior Presentation

Undergraduate psychology students rarely enter their first or second year of college excited about pursuing research. Most students in fact, have a very limited understanding of the important role research plays in all areas of psychology. I have found this to be consistently true in the experiences I have had at ENC.

Eastern Nazarene College is a relatively young liberal arts college located 6 miles south of Boston, founded in 1968. For the past three years we have had between 650-780 full-time undergraduate students. Of the 25 majors available at ENC, psychology has been one of the top three in terms of number of declared majors.

One of the requirements for graduation of ENC students in the successful completion of comprehensives. Each department has the authority to determine what method of comprehensive examination is most applicable to its majors. In the 1970s it was determined by the psychology faculty that a comprehensive research project would be the best avenue to use in order to prepare undergraduate students for continuing on in psychology whether they choose graduate studies or a Bachelor's level position in the job market. By completing this project a student has the opportunity: to explore an area of personal interest in the field psychology, to demonstrate his/her understanding of one specific area of psychology, to utilize his/her skills in searching literature, locating appropriate literature, reading and comprehending the research articles and integrating the works of other research into his/her own writing, demonstrate his/her understanding of empirical design, statistical analysis and data

interpretation, write a complete research project and finally demonstrate his/her oral presentation skills.

The presentations occur in January of the student's senior year. The department hosts a weekend seminar. During the fall of his/her senior year, the student is enrolled in a course, PS451 Perspectives and Issues in Psychology, that provides a forum for completing the senior project. The professor of the course guides the students in topic selection, literature search and integration, theoretical or empirical design and presentation style. Students had the choice of completing a theoretical or empirical project. As this comprehensive project was incorporated into the curriculum, the majority of students, over the years, have opted for a theoretical paper, not really understanding the depth of integration and thought needed for this type of research. The majority of these paper were little more that topical term papers.

We began devising a plan to encourage more students to complete empirical projects for their senior comprehensives. This required more time than one semester. Therefore an informal program was initiated in 1988 where a three course sequence was utilized as a basis for working toward the project. A department manual was also developed to assist the student through the entire process. This sequence began in the students sophomore year within the course PS250 Statistics for Social Sciences. Each student was required to choose a topic for a data collection project. At the beginning of this course, the students were introduced to the vast number of research topics, the importance of research and methods for determining topics that were appropriate for empirical research. Once the topic was approved by the professor, the student was required to locate one article that was in some way related to the

12

16

topic. The focus was on data collection, analysis and interpretation. Each student was required to turn in an individual data collection project written in APA format.

In his/her junior year, the students in two of the three tracks were required to complete PS350 Experimental Psychology. Within this course, the details of APA format and experimental design are taught. Each student is involved in 4 in-class experiments. She/he is required to write up parts of the experiment in APA format. Different aspects of the experimental write-up focused upon for each of the four experiments. This allows the student to acquire experience writing an empirical paper in APA format and receive feedback on his/her writing style, understanding of experimental design and APA format. Each student is also required to complete an individual research project. This may be an extension of the data collection project completed in Statistics. Approximately 10% of the students choose to continue with his/her Statistics project. By the time the Experimental project is completed, each student has written and receive feedback on each part of an APA format style empirical paper. The feedback covers APA format as well as experimental design, data analysis and interpretation. The students are also required to submit a proposal for the Canterbury Research Forum. This Forum provides undergraduate students with an opportunity to be involved in a poster session and graduate students to present papers from their research.

Students have the option of taking an elective course S0451 Quantitative Data Analysis, which assists them in understanding the SAS and minitabs programs on the UAH system. During this course students learn to input data and analyze data from various types of experimental designs including t-tests, regression and ANOVAs. This

course was first offered in the Spring semester of 1989 with an enrollment of 5 students. There are currently 9 students from Business and Psychology enrolled in the course.

The third course occurs during the fall of the student's senior year. All psychology students are required to complete his/her senior comprehensive. Again s/he has the choice of expanding his/her Experimental Research project for the senior comprehensive. In the 1989-90 school year, less than 10% opted to expand his/her experimental project for the senior comprehensive. This meant that the majority of students were attempting to complete either an empirical or theoretical research project in 4 months while continuing as a full-time student.

We as psychology faculty had a number of concerns with our program. The pressure on students to complete a comprehensive project in a limited amount of time was resulting in projects that were not much above a sophomore level. As the number of graduates increased, the time demands upon the professor of the senior course have become overwhelming. Each student's senior comprehensive is read by the major professor a minimum of two times. Students are assigned a second reader in order to be able to receive more feedback but currently only approximately 25% of the students use their second reader. Students were not feeling confident enough to submit their research for presentation to meetings outside of ENC. Students continued to be unaware of the importance of networking in the field of psychology. There was minimal awareness of what was occurring in the field outside of the the ENC campus. Students could choose options for the psychology major which did not prepare them for their senior comprehensives.

14

In an attempt to address these concerns, we have recently revised our entire curriculum. We now offer a B.S. and two B.A. tracks in psychology plus a dual B.A. in psychology and sociology. All students are required to take the three courses that are seen as critical for preparation for their senior project, Statistics for Social Sciences, Experimental Psychology and History and Systems. Each student receives a letter from the department chair during his/her sophomore year that introduces or reminds him/her that the process for senior comprehensives needs to be started. This process is as follows:

Sophomore year:

*Student receives a letter reminding him/her of the process

*Student completes Statistics for Social Sciences

*Student completes data collection project

*Student begins to become acquainted with psychology faculty members and their interests

Junior Year:

*Student receives second letter stating first deadline

*Student chooses his/her research advisor by the end of the fall semester.

*Student completes Experimental Psychology project

*Student participates in Canterbury Research Forum by completing a poster session from Experimental project

*Student submits research idea in writing to research advisor

*Student's idea is finalized and signed-off by research advisor.

*Student begins literature review. The student can use papers written in Abnormal, Social, Personality or Experimental.

Senior Year

*Student receives letter explaining process

*Student enrolls in History and Systems

*Student continues working on research project with research advisor

*Student is encouraged to submit research to professional meeting outside ENC

*Student presents in January.

Prior to the implementation of the three-course sequence, no ENC student had ever submitted for presentation or publication. Of the twelve students presenting in January 1990, three presented empirical papers. One student received honors and later that year submitted his research for publication and had it accepted.

This January we had 17 seniors present their comprehensives. Of these 17, 7 were theoretical and 10 were empirical. Two received high honors, one theoretical, one empirical. Two students submitted their work for presentation at a conference outside ENC. One was accepted for presentation.

As students are experiencing a longer time of being exposed to psychological research, they are feeling less intimidated and more interested in it. As students are encouraged to attend professional conferences and appropriate psychological meetings, they are increasing their expectations of themselves and expressing more confidence in their abilities. As we continue to monitor the program

and encourage students to interact with the psychological community inside and outside the college, I believe that we will have graduates who enter graduate programs and the work force better prepared, more confident and more experienced in the field of psychology.

17

AN INTEGRATED METHODS AND STATISTICS
COURSE FOR THE BEGINNING MAJOR

George C. Fago, Ph.D.

Ursinus College

Psychologists have long had an ambivalent relationship to statistics; we can't live without the field, but we sometimes find it difficult to live with it. The mathematics of advanced multivariate techniques is far beyond the expertise of the average researcher, and what these techniques constitute conceptually is similarly elusive. But the problem is particularly acute in undergraduate education. There is a concensus that the undergraduate major needs to know statistics, but that is the limit to agreement. When should the course be taken? At the beginning of the major before the methods course? Afterwards? Who should teach it? The department itself? The mathematics department? What should the course emphasize? How far should it go? The debate continues unabated as it has literally for decades.

Moreover, the debate is not an empty academic exercise. Anyone involved in undergraduate instruction knows that statistics is a real stumbling block for most undergraduates. Not a few have changed to other majors because of it, while the remainder struggle through it reluctantly with typically elusive benefits. Year after year I encounter students in my upper level laboratory courses whose grasp of statistics could most charitably be described as shaky. At best, they can compute some elementary statistical tests. When given a data set to analyze they are totally at sea. They are very unsure as to which statistics are appropriate and even more confused as to how to apply the tests to the data. Pragmatic considerations such as adjusting alpha levels for multiple tests (to say nothing of the concept of power), one vs. two-tailed tests of significance, non-parametric vs. parametric approaches, scales of measurement, etc., - these considerations are largely terra incognita for the typical undergraduate. To be sure, to develop and to sharpen analytical skills are also instructional goals for upper level laboratory courses as well. But it is disheartening to discover, as is so often the case, that you must start the process virtually at square one.

What is the origin of this apparently universal problem? In some cases students may simply not apply themselves, but a country-wide conspiracy among students seems unlikely. Similarly, universal ineptitude in teaching seems unlikely. Perhaps the fault is neither the students nor the instructors, but rather lies in the pedagogy itself. A gifted statistician and colleague once remarked off-handedly that he didn't worry overly much about the specific content of undergraduate statistics courses. He was convinced that it took about three statistics courses to produce a conceptual breakthrough into understanding. At the time that made sense to me intuitively, and descriptively I believe it is still reasonably accurate. He was convinced that successive re-exposure to the material was the causal factor behind the conceptual breakthrough. I am now increasingly convinced that in this he was mistaken. Repetition of course work always introduces a correlated variable, a general increase in experience with experimental data and analysis and a broader and deeper understanding of the context of statistical usage. And this, I submit, is at least as important as

19

repetition in developing understanding and facility with statistics. In fact, I argue that this is the causal factor.

B. A Piagetian Analysis

I would like to suggest a low level Piagetian analysis of the problem, with humble apologies in advance to the spirit of Piaget. It seems to me that 'statistics in psychology' constitutes a multi-dimensional entity. In actually doing statistics and, for that matter, teaching it we are confronted with the multi-dimensionality of mathematical statistics: what are they and what do they mean, considerations of experimental and research design, data sets - their production, reduction, transformation, and general management, the actual accomplishment of the statistical analysis itself, and finally interpretation of the results. Although 'statistics' bears on all these dimensions, they are none-the-less at least somewhat independent if not 'orthogonal.' My thesis is that the problem for undergraduate instruction is the problem of where to start. The problem on reflection seems intractable; no matter where you start, inevitably you find yourself in medias res with respect to the other dimensions. As a result, we not uncommonly duck the issue and require students to take a course in statistics, preferably from someone else, with statistics taught as an entity unto itself. Then we are surprised and distressed when these same students take our courses and work in our labs. 'How could they have learned so little?' is the common refrain.

From a Piagetian viewpoint the typical undergraduate who takes statistics for the first time has virtually no pre-existing cognitive structure within which to assimilate statistical concepts. The average student is profoundly unprepared cognitively for statistics. The indeterminacy inherent in statistics is itself without precedent in their conception of mathematics and there is little structure within which to assimilate it. Students also have little or no concept of a data set, or of the need for data reduction. They have had little or no experience designing and conducting research, much less with the problems inherent in evaluating the outcome of that research.

Students bring to the statistics course a conceptual model of science as received wisdom deriving from laboratory work which produces unambiguous and incontrovertible evidence. For example, the speed of a falling body at point b can be calculated with precision, i.e., it can be known. They also bring a conceptual model of a determined mathematics; two plus two is not probably four, it simply and self evidently 'is' four. As a result, statistics, a mathematics of indeterminacy and uncertainty defies assimilation. No cognitive structure exists which can accommodate itself to these concepts without wrenching and distorting alterations to the structure. Teaching a context-less statistics course imposes an onerous, often insurmountable, cognitive burden on the typical student, no matter how bright, hard working, and motivated he or she might be. I argue that statistics initially should be taught in the research context in order to promote the

20

gradual development of a cognitive structure or conceptual network relating statistics to research design, execution and analysis. Thus elements and instructional units which seem arbitrary in isolation could be appreciated within the context that gives them meaning. Only after the development of this rudimentary cognitive structure is a student in the cognitive position to benefit from a statistics course, or an advanced experimental design course.

Il A Proposed Solution

In considering the problems of undergraduate instruction in statistics vis a vis psychology I think we must also be very clear in our own minds as to our goals. Clearly we are not teaching statistics in an attempt to produce statisticians, nor for that matter are we teaching statistics as an end in itself. Rather, we teach statistics as a decision making tool in the research process, hoping that our students will become not statisticians but rather intelligent consumers of the various descriptive and inferential statistical procedures.

In this section I will describe a course that was deliberately designed to address the issues raised above, a course that deals with statistics in the context of the research endeavor introducing students to the various dimensions of that process within one framework. This course directly reflects my concerns developed in the first section of this paper, while also, of course, reflecting the constraints of the existing curriculum. Our majors are required to complete a course in statistics and an upper level course in experimental design and analysis. The new course in designed to be taken by freshman and/or sophomores as their second course in psychology following the introductory course. There are no prerequisites for the course beyond completion of the introductory course. No previous experience with statistics or computers is assumed.

The course, entitled Research Methods, covers aspects of non-experimental research. In designing this course I made several assumptions which, while debatable, have some face validity. First, I assume that it is possible to develop an intuitive understanding of elementary statistics in the absence of any mathematical understanding. Secondly I assume that students can become reasonably intelligent producers and consumers of statistical information without the accompanying computational ability.

In attempting to teach statistics within the total context of the research process I have defined four major goals of the course. The first goal is to develop the students' understanding of the major non-experimental approaches to research: observational research, survey research, and correlational research. The second goal is to develop an intuitive understanding of statistical applications and usages. The third goal is to help students develop expertise and confidence in the use of computers and statistical packages for data analysis. My final goal is to

develop in students rudimentary skills in scientific report writing.

Once I had formulated these goals I began to review texts for consideration for the course. I was not greatly surprised to find that no single text incorporates all of this material. I was pleased to find three paperback texts that between them do address these four major content areas. I will identify these texts by title and author not as a recommendation of them (although I personally am very satisfied with them), but simply as illustrative of the kinds of materials that are available and suitable for this level of instruction.

The first text, by Durso and Mellgren (1989) is entitled <u>Thinking about Research</u>. It covers all the fundamentals of research including various experimental approaches. It also includes extensive material on scientific report writing including explicit instructions on APA format as well as general tips on scientific writing style. There are also exercises and suggestions for research and an excellent teachers manual with additional suggestions. I do not assign the entire book since some of the material is well beyond the scope of this course, but the book is well written and easily understandable by the beginning student.

The second text is by John Phillips (1988) and is titled <u>How to Think About Statistics</u>. It covers the basic aspects of statistics in a non-computational fashion. Phillips goal in this text is to help the statistically naive develop a basic understanding of what descriptive and very basic inferential statistics mean. He succeeds admirably. His non-mathematical explanation of correlation coefficients is the most lucid I have ever seen.

The third text is <u>SPSSpc+ Studentware</u> (Norusis, 1988). The text by itself is a wonderfully clear, concise introduction to SPSS as well as related practical matters, e.g., how to set up a survey response sheet to permit easy coding and data entry. It explains each statistical operation with examples as well as the syntax used and options available within SPSS to carry out the operations. The bonus is that the text comes with a set of floppy disks which contain all the basic SPSS features for data manipulation and analysis up to and including Anova and Regression analyses. These disks can be used on any IBM or IBM compatible machine with dual floppy disk drives or they can be used to install the software on a hard disk. Importantly, the student has his/her own personal copy of SPSS which she/he can use anywhere. Although <u>Studentware</u> has some limitations, in most respects it is totally compatible with SPSSpc or SPSS mainframe versions which should ensure a large amount of positive transfer between systems.

My relief and even euphoria at finding three texts which met my instructional needs dissipated rapidly when I began to attempt to organize the course and prepare a syllabus. The problem is that the course in not the more usual sort of linear course where you

begin at point A and progress through a main text to the end of the course with some collateral readings along the way. Each of the texts is important, and each deals with a different aspect of an issue, so that they must be tackled concurrently. This resulted in a very detailed set of reading assignments which move constantly between texts. Initially I found it extremely difficult to coordinate the three texts. I did not solve the problem until I was able to formulate a general conceptual organization for the course.

The course is organized into three sections reflecting the three methods of non-experimental research. In the first section during which students design and conduct an observational study, we deal with elementary concepts such as operationalizing variables, rudiments of report writing, general considerations regarding scientific method and observation, elementary computer usage and elementary SPSS usage including creation of data files. The second section focuses on survey research and builds on the material in the first section. Topics such as sampling theory, data distributions, and descriptive statistics are covered in detail. In this section students receive their first exposure to the use of SPSS for data analysis. For this they use the cross tabulation procedure which challenges them to think about what the results mean while remaining well within their capabilities for understanding based on previous learning. The third and final unit involves the students in the design and execution of a correlational study. This introduces students to inferential statistics and provides the logical introduction to the issue of the determination of causality in psychology.

By the end of the course students have had exposure to all aspects of applied statistics and importantly they experience these aspects within the research context that imbues them with meaning. By involving the students in the design and analysis of the research from the beginning students gain first hand experience with elementary statistical applications such as data reduction and description, sampling methods and their limitations, problems of measurement error and variability, and data-based decision making. My hope is that this multi-dimensional but low-level introduction to statistics and research will generate the rudiments of a cognitive structure that will enable and facilitate the assimilation and accommodation of information in upper level statistics and experimental design courses.

The course along with its content is hardly unique. What is innovative is first the conscious attempt to take into consideration the students level of cognitive development and sophistication, and second the attempt to systematically generate a cognitive framework encompassing the research enterprise and particularly statistics as a critical element in the process. In order to do this I first attempt to generate student interest and involvement by using the campus community as our laboratory. From the beginning students are encouraged to and given guidance in developing research questions and studies about their own 'world.'

27

Thus from the beginning students have experience with all the facets of research, including the vital role of sampling and statistical description and analysis, on questions that are of intrinsic interest to them. I have found that the impact and pedagogical value of this is further increased if we can use a common theme or question throughout the course. For example, during this past spring the students in the course applied an observational approach, a survey, and a correlational approach to the question of the impact of the Gulf War on the student body. Clearly, operationalizing this question in three different ways was an experience that deepened their appreciation of the complexity of the process of generating knowledge as well as the relativity of that knowledge. That, in and of itself, is a desirable attainment.

Second, in generating their own research the students come face-to-face with all the problems and challenges of the enterprise. Importantly, they begin to see how 'statistics,' from sampling theory to inferential analysis, is an integral part of the process. Rather than being an abstract, numerical exercise, statistics comes to be appreciated as a necessary utility without which the researcher could not make sense of the data. They also begin to build an appreciation of how statistical considerations also influence the design and conduct of the study itself. From a Piagetian vantage point, students confront statistics at a concrete operational level when they experience statistics in context. This should help students develop the requisite cognitive structure for assimilation of statistical concepts and as a result should also facilitate the transition to formal operational thinking about statistics.

After one academic year, my informal impression is that the students who have had the course can be made comfortable with both statistics and the use of statistical packages at least for low level descriptive and analytical purposes. For example, by the end of the course students readily used SPSS to generate scatter plots, regression lines, and correlation coefficients. They were also able to discuss these intelligently and to draw reasonable conclusions from them. And this from a class of predominately freshmen!

The longer-term effects remain to be seen. I intend to follow the progress of these students during the next several years. I will be gathering information on their grades in the required statistics course was well as subsequent lab courses. I will also be discussing their progress with their instructors in these courses. My hypothesis, and of course my hope, is that their performance will be improved relative to earlier students who did not have the course.

REFERENCES

Durso, Francis T. and Mellgren, Roger L. Thinking about research:
      Methods and tactics of the behavioral scientist.   West
      Publishing Company, 1989.

Norusis, Marija J.   SPSS/PC+ Studentware.   SPSS Inc., 1988.

Phillips, John L., Jr.   How to think about statistics.   W.H.
      Freeman and Company, 1988.

RELEVANCE AND RESEARCH:

USING A SURVEY OF CAMPUS ENVIRONMENTAL ATTITUDES

IN A RESEARCH METHODS COURSE

Bruce E. Rideout

Ursinus College

Collegeville, PA 19426

Since the Fall semester of 1989 I have incorporated into my research methods course a survey of campus environmental attitudes. The survey has been used as one of the several required laboratory exercises that students must carry out each semester. Although the course has traditionally focused on experimental design and statistical methods, I decided to depart from my previous emphasis for two reasons, both related to shortcomings I perceived in the curriculum at the time.

First, I became increasingly aware of the important role of surveys in student research. More early experience handling this kind of instrument could make research less intimidating and more inviting for students. We have been making a continuing effort to involve students in more research, and greater preparation in the use of this methodology could serve this end. In addition, for more general reasons students need to be made more aware of the advantages and disadvantages of survey instruments. The results of surveys and opinion polls are constantly being displayed in the news media and cited as considerations in policy decisions. An informed electorate needs some critical awareness of this methodology.

A second reason for the development of this laboratory exercise concerns the content rather than the method. Over the past ten years there has been a growing consensus that environmental problems are serious matters in need of attention, both locally and globally. (I should probably add that the only exception to this growing awareness seems to be in the federal

administration, where it is largely restricted to campaign statements.) Students are of course not an exception to this consensus; many have strong reactions on environmental issues, although there naturally is a wide variety of opinion.

But despite the increasing interest and importance of environmental issues, and the clear need for graduates to be informed in these matters in order to make appropriate voting and policy decisions, students have very little exposure to these issues in the traditional curriculum. I have been somewhat puzzled by this lack of exposure across the college curriculum, and am inclined to speculate that what I perceive as an educational gap may be partly due to the interdisciplinary and applied nature of environmental problems. In addition, there may be some reluctance to cover these issues because they might be perceived as inappropriately political.

In any case, using a survey of campus environmental attitudes provides a good opportunity to expose students to an important and useful nonexperimental methodology, while also allowing them to pursue a better understanding of a topic that concerns them and has real contemporary relevance. I should add that more recently the idea of incorporating environmental issues into the curriculum has gained increased attention through the conference of University Presidents for a Sustainable Future, organized by Tufts University President Jean Mayer and held in October, 1990, in Talloires, France. Tufts' efforts to incorporate environmental issues into the curriculum are also seen in their Environmental Literacy Institute, which began

offering workshops for their faculty in Summer 1990, and is
opening the workshops to faculty from other institutions this
summer.

The development and use of a survey for the present purposes
has typically involved several stages and decisions. As carried
out at Ursinus, the exercise included four components:

(1) Preparation of a packet of background readings;

(2) Creation of the survey;

(3) Administration of the survey by students;

(4) Analysis of the results (using SPSS).

One advantage of this type of laboratory exercise is that there
is considerable flexibility in the amount of student involvement.
Thus, the instructor has choice at almost every step whether to
increase student involvement and class time spent on the project,
or to streamline the exercise for students by providing the
background materials, questions, results, etc., and limiting
class time to discussion of basic methodological issues such as
reliability, validity, sampling, response set, etc. Let me now
consider the four components of the lab exercise in more detail:

(1) Background Readings

Because an essential goal of this exercise has been exposing
students to environmental issues, background readings for this
lab have typically not been from psychological research journals.
Furthermore, since the previous exposure of students is quite
varied, and the accessibility of relevant articles is often
limited, I have chosen to provide students with a packet of

articles gleaned from a number of sources, including <u>Scientific</u> <u>American</u>, <u>The New York Times</u>, Union of Concerned Scientists, and several publications of environmental organizations. I have also encouraged students to explore other sources.

One could, of course, require them to be more independent or to focus more on the methodology of the survey, but given my particular goals, my providing the information packet has been effective, though a bit time-consuming for me. (I have a few of the packets here if you wish to look them over after the presentation.)

(2) <u>Creation of Survey</u>

In creating the questionnaire the most immediate choice concerns the degree of student involvement in generating questions. Since students learn a great deal in the process of creating, discussing, and revising survey items, and they must also first know something about the issues before creating items, there are real educational benefits to student involvement in survey creation. On the other hand, there are also significant costs in this process. Even after students are made aware of the concepts of reliability, validity, bias, etc., it is surprizingly difficult for them to generate good items. Thus, the process can become a lengthy, tedious, and sometimes frustrating classroom exercise, depending on the length of the survey. Fortunately, since I have been making minor revisions in the survey each semester, rather than generating a new instrument with each class, I have found it quite workable to involve students in work

30

on new items without a major investment of class time.

The survey that I have used has included questions of several types. In addition to demographic and opinion-based questions related to public policy issues, I have included some questions designed to assess subjects' knowledge of environmental issues. These questions enable students to investigate relationships between knowledge items and others concerning opinions, age, exposure to news media, etc. Since many of the survey items have been used repeatedly in successive semesters, one can also examine changes in student awareness and opinion . over time. (See examples.)

Finally, some of the items on the questionnaire have been taken from other sources, such as the national survey of college freshmen, New York Times surveys, and opinion polls sponsored by the Union of Concerned Scientists. Although the samples are from different populations, students are nonetheless able to compare results and discuss them in light of these differences.

The current revision of the survey has 41 questions, which I expect is about the maximum that I will use for the present purposes. Although a variety of environmental issues are touched on in the survey, there is an emphasis on global warming and energy policy, largely because these have been particularly prominent issues in the media in the past 2-3 years.

I should point out one other issue that I try to make my students aware of. Attitudes as represented on a survey are not necessarily consistent with behaviors. I have made an exploratory effort to get around this problem by asking some

31

questions that concern behaviors, such as items 11, 19, and 41, but such items ultimately are a poor substitute for actual behavioral measures if they are possible.

(3) <u>Survey Administration</u>

The students in my course administer the survey by contacting subjects in person, and picking up the questionnaires when they have been completed. Subjects are selected from an alphabetical list of resident students, with each student in the class being assigned 8 subjects. Thus the sample size is usually 70-100 for the typical class size. Inconvenience to the subjects is minimized by having them respond directly on the questionnaire and having students in the class transfer data to Scantron forms, which are turned in along with the questionnaires within one week. The use of systematic sampling from an alphabetical list of students ensures a sample that is representative of the resident student body, although I sometimes make adjustments in the sample when the initial procedure leads to a large gender imbalance. I usually try to impress upon the students the seriousness of the data collection effort, and cooperation is typically excellent.

(4) <u>Analysis of the Survey Results</u>

The results of the survey have been processed using a Scan-tron Model 2100 OMR Data Terminal on line with a Leading Edge Model D computer equip.ed with a resident SPSS/PC statistical

package. The interface program for creating the SPSS data file was written by George Fago of the Psychology Department at Ursinus. Thus far I have done these procedures as well as the subsequent statistical analyses myself, but the Psychology curriculum at Ursinus is currently in transition, and a second methods course that was started in Fall, 1990, will ultimately prepare students to conduct the statistical analyses themselves. (In another presentation at this conference, George Fago discussed approaches to teaching statistics in the new methods course.)

The analyses used in this lab exercise have included primarily correlations, as well as selected chi squared analyses and t tests. These are discussed in class, and students also have the opportunity to pursue other specific statistical hypotheses and to consider the results of previous semesters if they wish.

In conclusion, I have found that use of a survey of environmental attitudes on campus has been received very favorably by the students. There is a creative enthusiasm in their lab reports on this exercise that is both refreshing and indicative of real interest and motivation. The results of the surveys have been quite interesting as well. Although my presentation here has not included discussion of any findings, I'd be glad to respond to any questions about the survey.

Student Perceptions of Short, In-Class Experiences
for Social Psychology

Karen O'Quin

State University College at Buffalo

Many classroom exercises exist to facilitate the teaching of social psychology. However, I have found several problems with many of the classroom experiences available for social psychology classes (e.g., Pines & Maslach, 1979).

First, I generally do not like in-class projects that consume the entire class period (although there are some exceptions, for example, the Subarctic Survival Task (Head, 1986) and Benjamin's (1985) aggression exercise). Thus my focus has been to create or find relatively short, but involving, projects for in-class experiences.

Second, I have found that it is difficult to get class members to do out-of-class experiences regularly unless they are graded (even extra credit is an inducement for only part of the class). Thus, I have focused on in-class experiences.

Third, I am not fond of projects which require a great deal of data collection or analysis in class. Students seem to get bored when I bring out my calculator or spend very much time with numbers. It is possible to conduct exercises a week or so before data are distributed (e.g., Schiavo, 1990), but that approach detracts from the immediacy of feedback, and requires a substantial out-of-class time investment on the part of the instructor. I have tried to create or find exercises which minimize data analysis for these in-class projects.

Fourth, I don't have a great deal of time to spend on preparation for exercises. Thus, I have tried to minimize the out-of-class preparation time required for the experiences.

Finally, I like to plan ahead. For each exercise, I

35

indicate the approximate time to complete the exercise, and any preparation the instructor needs to do ahead of time.

Students' perceptions

Some of the literature (e.g., Berrenberg, 1987) includes students' perceptions of an exercise, typically using descriptive statistics. However, in many other cases (e.g., Benjamin, 1985; Lashley, 1987; Makosky, 1985) reports of student perceptions are presented in anecdotal form. It seems difficult to find studies which directly compare several exercises used over the course of a semester. The purpose of the present study was to do so.

Method

Subjects

Subjects were 48 students enrolled in a social psychology class during the Fall, 1990 semester. There were 8 males and 40 females.

Materials

Seven in-class exercises were used, 5 of which were obtained from Whitford and O'Quin (1991). These were entitled "Common Sense", "Self-Presentation", "Status and the Transactional View of Leadership", "Similarity of Attitudes and Attraction", and "Designing a Drug Prevention Program". The other two exercises, included for comparison, were the Subarctic Survival Task (Head, 1986), and "Whom Should We Hire?" (source unknown). All exercises are available from the author.

A 12-item questionnaire (Appendix A) was used for evaluation of the exercises. It included student ratings of time required for the experience, amount of learning, contribution to

understanding social psychology, willingness to recommend the experience to other students, etc. It also included a space for student comments.

Procedure

All exercises were presented as a part of regular classroom instruction. Students participated in small groups ranging in size from 4 to 6. Exercises varied in length from about 15 to about 50 minutes. Immediately following each exercise, students rated it using the 12-item scale. The instructor solicited written comments as well.

<div align="center">Results and Discussion</div>

Data reduction

Preliminary factor analyses (principal components, varimax rotation) of the 12 items for each of the 7 exercises showed that 3 or 4 fairly similar factors were obtained for each exercise. Items were grouped on the basis of their similarities across the 7 factor analyses. Reliability analyses (coefficient alpha) were then performed for each subscale for each exercise. The average and range of reliabilities are presented in Table 1. As may be seen, average reliabilities were fair to excellent, although some individual exercises yielded poor coefficient alphas.

Subscale scores were obtained by recoding items if necessary (as indicated in Table 1), so that a high score indicated a positive evaluation, and computing the mean. The first two items from the 12-item scale, measuring whether the exercise was suited to one's ability and the time required, did not consistently load on the same factor. They were analyzed separately.

Comparison of exercises

Table 2 presents the means and results of post hoc analyses for the seven exercises. One-way analyses of variance were used to compare the means, and all F values were significant ($p <$ .001). It is important to keep possible order effects in mind when comparing the exercises with each other; of course, only one order of exercises was possible in a single class in one semester.

With regard to ability, the "Common Sense" exercise yielded the lowest rating (3.02 on a scale where 4 was "just right"). "Status and the Transactional View of Leadership" and the "Subarctic Survival Task" were perceived as requiring the highest ability, followed by "Designing a Drug Prevention Program".

With regard to time required, students perceived "Common Sense" as being just right. All the other exercises had higher means, although only two were significantly higher: "Self-Presentation" and "Status and the Transactional View of Leadership". Thus, students perceived several of the exercises as requiring too much class time.

On ratings of fun, it was interesting to note that "Whom Should We Hire?" was perceived as most fun, followed closely by the "Subarctic Survival Task". These tried-and-true favorites seemed to be the best. The least fun, although still above average, was "Status and the Transactional View of Leadership". The exercise required students to role-play. My own perception was that I myself interfered with the fun of the exercise, by reminding students to keep to their roles. They got so involved

38

42

in the discussion of the topic that they forgot to role-play.

On ratings of usefulness, the highest was the "Subarctic Survival Task", followed by "Whom Should We Hire?", "Self-Presentation" and "Designing a Drug Prevention Program". For ratings on the clear scale, "Whom Should We Hire?" was rated highest, followed by "Common Sense".

Finally, for the educational scale, the "Subarctic Survival Task" was rated highest, followed by "Whom Should We Hire?" and "Self-Presentation". It should be noted that, although no statistical test was performed across dependent variables, that the ratings of educational contribution were lower for all exercises than the ratings of clarity, usefulness and fun. I did not ask students to justify their ratings, but informal reports indicated that students felt they learned more from lecture (perhaps more test-relevant information), although the exercises were seen as providing a valuable break in a 75-minute class. Another point to note is that I did not specifically include test questions related to the exercises, although of course there were test items related to the content covered in the exercises. The issue of whether students do learn more from lecture than from exercises, especially with regard to long-term retention of material, is clearly one for future study.

In summary, then, students perceived many of the exercises as requiring too much class time. Although most exercises were perceived as fun, clear, and useful, their contribution to education was rated somewhat lower. Results suggest that future research should compare the long-term effectiveness of such

classroom exercises upon student learning.

References

Benjamin, L. T., Jr. (1985). Defining aggression: An exercise for classroom discussion. Teaching of Psychology, 12, 40-42.

Berrenberg, J. L. (1987). A classroom exercise in impression formation. Teaching of Psychology, 14, 169-170.

Head, T. C. (1986). Organizational behavior: Cases, exercises and readings. Boston: Houghton Mifflin.

Lashley, R. L. (1987). Using students' perceptions of their instructor to illustrate principles of person perception. Teaching of Psychology, 14, 179-180.

Makosky, V. P. (1985). Identifying major techniques of persuasion. Teaching of Psychology, 12, 42-43.

Pines, A., & Maslach, C. (1979). Experiencing social psychology: Readings and projects. New York: Knopf.

Schiavo, S. (1990). Classroom exercises in social and group psychology. Presented at the Fourth Annual Conference on Undergraduate Teaching of Psychology: Ideas and Innovations, Springfield, MA.

Whitford, F. W., & O'Quin, K. (1991). Instructor's manual to accompany John C. Brigham's Social Psychology, 2nd Edition. New York: HarperCollins.

Table 1

Items in the Subscales and Reliabilities

	Average Reliability	Range
Subscales		
Fun (2 items)	.69	.46-.89
not fun-fun		
interesting-boring*		
B. Useful (2 items)	.68	.32-.83
useless-useful		
worthwhile-worthless*		
C. Clear (2 items)	.66	.54-.80
confusing-clear		
understandable-mysterious*		
D. Educational (4 items)	.88	.76-.92
How much did you learn from this exercise?		
To what extent was this exercise a valuable educational tool?		
Would you recommend that other students use this exercise in this course?		
To what extent did this exercise contribute to your understanding of social psychology?		

Note. Items marked with an asterisk above were recoded before averaging to form the subscale score.

Table 2

Means and Post Hoc Analyses for Comparison of Exercises

	Dependent Variables					
Exercises	Ability	Time Required	Fun Scale	Useful Scale	Clear Scale	Educational Scale
Common Sense	3.02_a	4.04_a	5.09_a	5.09_{ab}	6.11_{bc}	3.92_{ab}
Self-Presentation	4.69_{bc}	5.12_b	5.68_{abc}	5.69_b	5.74_{bc}	4.53_{ab}
Similarity of Attitudes & Attraction	4.39_b	4.76_{ab}	5.55_{ab}	5.39_{ab}	5.83_{bc}	4.16_{ab}
Status & the Transactional View of Leadership	5.33_d	5.60_b	4.82_a	4.78_a	4.36_a	3.60_a
Subarctic Survival Task	5.34_d	5.48_b	6.30_{bc}	5.81_b	5.38_b	4.98_b
Whom Should We Hire?	4.52_{bc}	4.63_{ab}	6.48_c	5.74_b	6.57_c	4.67_{ab}
Designing a Drug Prevention Program	5.11_{cd}	4.85_{ab}	5.45_{ab}	5.56_{ab}	5.59_{bc}	4.38_{ab}
$F(6,42)$	21.93	11.68	38.03	6.74	27.94	13.54

Note. Within each column, means with same subscript do not differ at the .05 level (Tukey). All F values are significant at the .001 level.

THE USE OF STUDENT PRESENTATIONS IN DEVELOPMENTAL AND SOCIAL PSYCHOLOGY CLASSES

Donna L. Reittinger, Ph.D.
and
Kathleen Crowley-Long, Ph.D.

THE COLLEGE OF ST. ROSE

THE USE OF STUDENT PRESENTATIONS IN DEVELOPMENTAL AND SOCIAL PSYCHOLOGY CLASSES

Student presentations may be used in any non-research, non-statistics course. But this technique is used best in applied and clinical psychology courses. Students may work alone or in groups of 2 or 3. In most situations, student groups of 4 or more are less successful since it is difficult for students to find mutually agreeable times to plan and work on their presentations. It also becomes difficult for them to meaningfully divide the groups's general theme so that each student has an appropriate topic. The most successful presentations result form cooperative efforts in which students work together on a single classroom presentation. However, in some courses, 2 or more students may do individual presentations on the same day.

The amount of instructor guidance/control may vary. In lower level courses, the instructor may wish to select the topics to be presented and allow students to choose from the teacher-generated topics. In Higher level or more applied courses, the instructor may wish to allow students to choose their own topics. In such courses, the instructor may wish to encourage creativity by giving students class time to form groups and select their own topics with minimal instructor input.

Regardless of the group format or amount of instructor input, it is vital that the instructor describe the assignment (requirements, criteria for grading, etc.) as early in the semester as possible. It is also vital for students to be provided with a written handout describing the nature of the assignment, the requirements, criteria for grading, common problems, etc.. This can be included as part of the course outline. For an example, see Appendix A. However,

in order to prevent procrastination, the instructor may choose to have each group submit an index card indicating the names of the students comprising the group, the topic of the group's presentation, each student's specific topic, and the format of the presentations. It is wise to do this about 2 weeks after the assignment is made. It forces students to "gel" their ideas, eliminates any overlapping topics, and allows the instructor the opportunity to "control" the content and make suggestions for improvement.

It is helpful to provide students with examples of formats their presentations might take: psychodrama, panel discussion, debate, game, lecture, or TV show format. Students are fond of using videos and audio tapes; it is a good idea to put a time limit on this (5-10 minutes, depending on the length of the presentation). Some students enjoy video-taping interviews with professionals in the field; as a general rule of thumb, these interviews are very well done and often merit a longer time limit (15-20 minutes, depending on class length). It is necessary, however, for students who wish to tape a professional interview or a more informal interview with friends-family to clear the interview with the instructor first. Unethical, unrealistic, or inappropriate ideas can be rechanneled into more acceptable suggestions. Students whose presentations are straight forward and more didactic should be encouraged to supply the class with handouts relating to the presentation. True-false tests on common misconceptions work well with class members.

The instructor should emphasize, in cooperative assignments, that each student must participate equally in the actual presentation. This notion is reinforced by grading each member of the group separately from every other member. It also eliminates "upgrading"

of mediocre effort or downgrading above-average performance.

Student presentations work best if they are planned for the end of the semester. This allows students sufficient time to prepare and reduces the instructor's "performance" time at a point in the semester when other demands require attention. Criteria for grading may be evaluated casually or on a likert-type scale (see Appendix B). The following criteria may be included:

> overall quality of performance
>
> accuracy of information
>
> effort time expended in preparation
>
> professional interview-visitation
>
> handouts
>
> timeliness-interest value

Other assignments related to the presentation assignment should be graded separately. For example, a research paper on the content of each student's presentation may be assigned and given a separate grade.

Two problems are commonly encountered with this technique: students not "pulling their fair share" of the preparation (ie., not showing up for meetings, hard to contact, work not done on time) and students absent on the day of the presentation. The first problem can be ameliorated by having each student keep track of the amount of time s/he spends preparing for the presentation and exactly what was done to prepare. As soon as the presentation format is decided, each group is given a form to fill out, indicating who the participants were, what each one did, how much time was spent in preparation, how many outside-of-class meetings were held and who attended. Each student is required to sign the form indicating agreement on all the information provided. In the event that signing the form is not sufficiently motivating, the

other students in the group are instructed to continue with the assignment as planned and to refuse to change their presentation at the last minute to accommodate the prodigal student. The prodigal student must fit him/herself into the already established presenstation.

The second problem involves student absenteeism on the date of the presentation. Emphasizing students' responsibilities to their groups and classmates goes a long way to alleviate this problem. Most students will fulfill the expectation that they will be present for their presentation. The only acceptable excuses for absenteeism are student illness (verified by a phone call to the student health service or doctor's written excuse) or death in the family. Students who are absent for the presentation for these reasons will be required to give their presentation at the convenience of the class schedule when they return. Students who are absent unexcused receive a grade of F for their presentation. It is important to understand that this does not happen often, particularly if students know what the consequences will be in advance.

Although a few students dread the presentation, most students report that they enjoy the activity. It gives them the opportunity for creative expression, practice in public speaking, encourages them to apply the content of psychology to real experience, and can provide an excellent catalyst for classroom discussion. It can also help students realize that they can learn from each other. But most importantly, cooperative group presentations give students experience in working with others to accomplish a goal. Employers often complain that college graduates do not work well as team members; this assignment gives students some experience with team effort.

Do non-participating students actually learn anything from their classmates presentations? We investigated this question in a Death & Dying course during the Fall semester 1989 by evaluating students' multiple choice test performance across four instructional strategies: instructor lecture, textbook readings, guest lecturer presentation, and student presentations. The results of the study indicated that student presentations produced superior learning over the other three strategies. The actual nature of this learning activity, the increased level of arousal through identification with the presenters, and the novelty provided by a change in classroom routine all contribute to make student presentations a beneficial and enjoyable experience.

49

APPENDIX A

Group Presentation & Paper Assignments

You are required, as one of your assignments, to participate in a group
presentation and to write a 5-7 page research paper based on your
contribution to the group.

On a day to be announced in class, the entire class will be divided
into 6 groups of 3-4 students each. Students may decide earlier who will
constitute their group. Each group will select one of 3 broad areas of
development to study according to the following arrangement.

    Young Adulthood (18-39)
        Group 1
        Group 2

    Middle Age (40-64)
        Group 3
        Group 4

    Old Age (65 +)
        Group 5
        Group 6

Once the 6 groups have formed, students within each group will select a
theme for their group. The theme may be selected from life experiences or
by reviewing topics in the text for that developmental area. Once this is
done, each group will further divide its theme into a number cf specific
topics so that each student has a specific topic to research. This process
should occupy all or most of the class.

Beyond this pre-arranged class day, group must meet on its own to plan
its presentation. Students may proceed independently to work on their 5-7
pg research papers on their specific topics. Guidelines for this paper are
described in previous sections of this handout.

Presentations: Each group will be responsible for conducting 1 full class
session. Group presentations in the past have consisted of psychodrama
(i.e. skits), debates on issues, game shows, imitations of TV shows (i.e.
Dr. Ruth Shaw, Phil Donahue), but the presentation should be limited only by
practical constraints and ethical considerations. Creativity and accuracy
of content are the main goals. Each studen must participate equally and
fully in the group effort. Each group will be asked to complete a form
describing exactly what each member did to prepare for the group
presentation, how much time each member spent in such preparation, whether
or not interviews were done for the preparation, how many times each group
member met with the group for planning the presentation. Each member of the
group will sign the form to signify accuracy of the information.

Presentations will be graded on the following criteria:

1) Creativity - (did the group do something novel/different or did it simply report its research, read its papers to the class or psychodrama the obvious?)

2) Accuracy of Content - (was the portrayal accurate in terms of the topic presented, or was it inaccurate and overly melodramatic)

3) Quality of Performance - was the presentation interesting, did it keep students involved, asking questions, laughing; or were students bored, falling asleep, looking at the clock? Was the presentation logical, or thrown together and not organized?

DESCRIPTION OF PRESENTATION GRADES:

A - outstanding, creative, interesting, thought provoking
B - good portrayal, good attempt at creativity
C - average, read papers to class, psychodrama was mundane or over-done
D - marginally acceptable, lacks interest, little effort obvious, perfunctory
F - non-existant or appears hastily done at the last minute, insufficient effort, an embarassment to watch

51

Social Psychology

Group Presentations

Each student is required to participate in a group presentation.
Students may elect to join a group to explore, research, and present to the
class information on one of the following topics.

1. Persuasion - Invent a product and design a campaign to promote its use
    among some population (e.g., women, college students, or children). Be
    sure to review the research on the importance of speaker
    characteristics, type of message, and audience characteristics. You
    might want to present this as a group of advertising agents making a
    sales pitch to a businessperson seeking to market a product.

2. Aggression - Identify at least one infamous act of aggression and
    research the literature on the causes of aggression. You may choose a
    war, a mass murder, cults (e.g., Jim Jones or Charlie Manson),
    terrorism, or any other heinous act as a starting point for your
    research and discussion.

3. Prejudice and Discrimination - Outline for the class the prevalance of
    prejudice and discrimination in our society. How strong are the various
    forms of prejudice. What, according to the literature, causes
    prejudice? What are the effects of prejudice? How can prejudice and
    discrimination be combated? You may wish to focus on racism, sexism,
    ageism, or some combination of these.

4. The Media and Modeling - Identify one or two common behaviors modeled by
    one of the media (e.g., TV, movies, videos, magazines). According to
    the literature, what are the effects of these media images? How do they
    influence children? How do they influence adults? What, exactly, do
    they teach?

Social Psychology

Presentations

Each student is required to select a topic relevant to Social Psychology, conduct a review of the literature (see "Writing a term paper handout), and then present her/his findings to the class. The topic you choose will become **your** area of expertise! Topics <u>must</u> be approved by the instructor <u>no later</u> than _____.

Your presentation should be approximately 10-15 minutes in length. Your job is to teach the class -- you must make them understand the general concepts and experimental results you report. You may use any instructional strategy or technique you desire. Please let me know <u>at least</u> two weeks ·in advance if you require any audio-visual equipment or other special support services. You may use quizzes, demonstrations, videos, role-playing, interviews, panel discussions, debate -- whatever you wish.

Topic selection should begin with a perusal of your text. Your text touches upon many interesting and exciting topics -- there is something for everyone! However, topics will be assigned on a first come, first serve basis -- so get yours early. Remember **all** topics must be approved by me by _____.

Each presentation will be graded using the "Evaluation Form for Student Presentations". Students who fail to appear on the date of their presentation will receive a failing grade. Term papers are due on the date of your presentation -- -- **NO EXCEPTIONS**!

Evaluation Form for
Student Presentations

Student Name: _____
Date: _____ Topic: _____
Rating: _____ Class: _____

This form will be used to grade all presentations.

_____ Appropriateness and significance

25 - Extremely appropriate and significant
20 - Quite appropriate and significant
15 - Somewhat appropriate, but trivial
 5 - Not consistent with assignment
 0 - Totally unrelated
Comment:

_____ Documentation
25 - Excellent
20 - Good
15 - Fair
 5 - Mostly opinion
 0 - None
Comment:

_____ Line of argument

25 - Extremely clear & convincing
20 - Good - clear & convincing
15 - Fair - not very convincing
 5 - Muddled & confused
 0 - Unintelligible
Comment:

_____ Style and Length
        of Presentation
25 - Excellent rhetoric &
        style
20 - Very good - Few errors
15 - Some serious errors
 5 - Many errors - Poor
 0 - Gross errors - not
        understandable
Comment:

Assessing the Value of Firsthand Knowledge in a
Developmental Psychology Class: Learning through
observation, a comparison of Methods

Linda L. Dunlap, Ph.D.
Marist College - Psychology Department, Poughkeepsie, NY

Students can gain a great deal of knowledge through the traditional class activities such as lecture, discussions, audio-visual presentation, and readings. Additionally, students may benefit from a less frequently used pedagogical technique of requiring students to directly participate in data collection.

Developmental and Child Psychology courses readily avail themselves for students to record data during observational activities. The content areas, of most other psychology courses, also suggest opportunities for students to have firsthand data collection experiences. The first-hand experience of data collection should not be reserved for Experimental Psychology courses.

During the last ten years in which I have taught Developmental Psychology courses, I have compared the impact of using several different formats for observation activities. These will be described in more detail below. I will also discuss the relative value of each of these forms of observations, by comparing examination score results and responses on student course evaluations. Application of these methods for other courses will be discussed.

We vary classroom activities, hoping that they may have a positive effect on student learning. Perhaps we should also be willing to acknowledge that these variations "break the boredom" for our students and ourselves. Engaging in an activity that is different from the typical format can motivate student learning and "wake up" the professor, or "wake up" the student and motivate the professor. I generally limited my variations in mode of activity, to those I felt would directly enhance the quality and accuracy of student responses on various assessment devices (e.g., paper, quizzes, examination). On several occasions I incorporated activities into the course that I believed would have a direct impact on student learning, as demonstrated in concept assessment, only to find that the activity had no positive effect. Normally, I would discard that particular activity, because I could not justify using class time. After more thorough investigation, I frequently discovered that although a particular activity did not have the impact on "grades" that I had hoped for, It did positively effect other aspects of students' behaviors. These behaviors may be as important as those formally assessed during examination, and are certainly a valued part of the educational experience. These learning outcomes need to be assessed, and in many cases these behaviors are not directly evaluated.

57

I have utilized several different student data collection

activities as requirements for my child development

classes. I have compared the value of each of thee

methods against each other, and against classes in which I

had no required data collection experience. I compare

these different group of students' examination grades and

particularly their scores on items which related directly

to methods of data collection. I also compared course

evaluation from these various groups. I was particularly

interested in their motivation to learn more, their

perceived knowledge about children, and their belief about

whether they learned something new or "unexpected" in the

course. Six major variations of the class activities I

used are outlined below:

(1) Outside-of-class (open) - Students were assigned to

observe a child or children for a minimum of 30 minutes

and write down what they observed using any format.

(2) Outside-of-class (defined) - Students were assigned to

observe a single child for 30 minutes. Before observing

the child they were to operationally define the single

behavior they planned to observe. They also designed and

used a structured data recording sheet (event or time

sampling).

(3) In-class video (open) - Students observed a video of children in a preschool classroom. Three teachers, one child's mother, and eight children were present. The student were told to observe a child or children in the video for 30 minutes and to write down what they observed using any format.

(4) In-class video (defined) - Students observed the same video as describe in (3), but were to use the method described in (2).

(5) Child-in-class (open) - A child (3 years old) visited the class with his/her mother. Students were told to observe as in (1).

(6) Child in-class (defined) - Subject of observation same as in (5), but students used method described in (2).

Not all activities were equally beneficial or had the same pattern of benefits. All activities added to the learning experience when compared with the no-activity group. Students examination grades were evaluated, there stated motivation to learn more, their perceived gain of knowledge, and the level that they gained unexpected knowledge. Other measures were taken as well, but only the results of these four will be outlined below.

(1) Outside-of-class (open)
    concept development - minor effect
    motivation - no effect
    general knowledge - minor effect
    learned unexpected - moderate effect

(2) Outside-of class (defined)
    concept development - large effect
    motivation - no effect
    general knowledge - minor effect
    learned unexpected - moderate effect

(3) Video (open)
    concept development - moderate effect
    motivation - minor effect
    general knowledge - moderate effect
    learned unexpected - minor effect

(4) Video (defined)
    concept development - large effect
    motivation - large effect
    general knowledge - moderate effect
    learned unexpected - minor effect

(5) Child-in-class (open)
    concept development - minor effect
    motivation - large effect
    general knowledge - large effect
    learned unexpected - large effect

(6) Child-in-class (defined)
    concept development - minor effect
    motivation - large effect
    general knowledge - large effect
    learned unexpected - large effect

At the first level of evaluation, how well the students

did on examination items, some activities seemed clearly

more beneficial than others. For example, the

child-in-class observation activity did not positively

enhance examination grades, but did have a large positive

effect on all other aspects of student learning evaluated

in this paper. Learning involves more than just concept

development, as demonstrated on examination performance.

The students consistently reported enjoying having the mother and child visit class. They "valued" having this experience. They consistently indicated that more classes should incorporate real-life activities, "so they can relate what they learned from the text and the lectures to their lives." The students did not enjoy the activities as much when they were asked to systematize their data collection methods. They did appear to benefit from the experience even though they did not like them as much. Enjoying class should not be a crime, nor should it be the ultimate goal. If we can successfully find a way to integrate the two, this may result in the greatest overall gains for the students.

As instructors we need to open the range of experiences and opportunities, we make available to our student. We only have them with us one semester (in some cases multiple courses). They have a whole lifetime of learning before them, and if we can give them tools to use when they are faced with life's experiences, and the motivation to see these experiences as learning opportunities, then I believe we have given them much more than just basic course knowledge.

Teaching Ethics

Kathleen Haring and Laura Snodgrass

Muhlenberg College

Dana S. Dunn and Stacey B. Zaremba

Moravian College

Panel Presentation

5th Annual Conference on Undergraduate

Teaching of Psychology: Ideas and Innovations

March 13 - 15, 1991

Ellenville, NY

It is essential that students are accurately informed about ethical issues pertaining to psychological research. These issues can be integrated into the existing courses in a departments curriculum and discussed within the context of the subject matter of the particular course. This article will discuss issues related to teaching ethics and will provide some recommendations for ways to expose students to a full range of ethical matters. The paper begins with a discussion of suggestions to enhance the teaching of the American Psychological Associations ethical principles (1982) with respect to ethical issues in human research. The next section of the paper includes a discussion of a role-play exercise which can be used to teach students about ethical issues that exist in animal research. Subsequently, ethical issues that arise in teaching about applied health and social research are considered. Finally, issues pertaining to teaching about research ethics and fraudulent research are presented.

TEACHING ETHICS

I

ETHICS IN HUMAN RESEARCH

In my experimental social psychology course, students
conduct several small studies - observational, survey, and
experimental - and one major laboratory experiment. Usually
I talk about ethics in the middle of the semester, right
before the students begin their major lab study. Then, the
APA principles for conducting human research are very fresh
in their memory.

When I teach ethics, I usually give a brief lecture
followed by class discussion and exercises. Students are
asked to evaluate research examples and their own
experiments. In addition, they must complete an ethics
proposal that is reviewed by the psychology department. The
best way to teach ethics is to practice what you preach.
Don't explain to students the harm that excessive deception
can cause and then help a student research group devise a
triple order deception in their experiment.

THE EXPERIMENTER - SUBJECT RELATIONSHIP

Because the experimenter is viewed as an authority
figure who "knows what's going on" and the subject is a
naive, and usually younger, volunteer, there is an inherent
power differential in this relationship. I discuss this
situation with the students and help them to understand the
importance of not abusing the power they have as
experimenters. Subjects should be treated with respect and
in a professional manner.

INFORMED CONSENT

In order to insure that students are adhering to the
principle of informed consent, I have developed guidelines
for student research in my classes. When students sign up
subjects in their classes, they must explain what the study
is investigating, what the subjects will be asked to do, and
how long the experiment will take. All students doing
research in the department are required to have subjects
sign a standard informed consent form. In addition,
students are continuously reminded that subjects are
volunteers who can leave at any time without being
penalized. They can not be coerced into participating
(fraternity brothers can not require pledges to be in an
experiment) or penalized for not showing up for a study (no
demerits).

CONFIDENTIALITY

Stress that individual responses must be kept anonymous and confidential. Students must be taught how to be professional. Don't assume that even your best students will know how to behave. No laughing at subject's behavior, no gossiping to friends or other members of class about subjects, use code #s - no names. Obtain written permission if subject will be videotaped or audiotaped and special permission to show tape to the professor or the class.

INVASION OF PRIVACY

In my class lecture, I focus on the different types of invasions of privacy - observational studies, personal questions asked on surveys, field experiments, disguised projective tests.

There are many good research examples to discuss in class:
Middlemist, Knowles, and Matter (1976), urinal study. Humphreys (1975), tearoom trade - observations of homosexual activity in public restrooms. This study is also good for discussing deception and informed consent.

DECEPTION

Many textbooks make the distinction between passive deception (withholding information about the experiment) and active deception (providing misinformation). Active deception is usually seen as more harmful to the subject.

One of the problems I have encountered when supervising student research is that students love to include deception in their experiments. Students who have taken my experimental social psychology course even want to use deception in cognitive and perception experiments where it is not needed at all. Consequently, I have really tried to reduce the use of deception and especially active deception in their research.

Kelman (1967) provides a good discussion of the implications of deception in the experiment-subject relationship and compares it to deception in any other relationship. This usually gives students a new perspective on deception. I then talk about whether deception actually "works" and we discuss alternatives to deception such as role-playing and simulation studies.

PROTECTION FROM HARM

A distinction is made between physical and psychological harm. Most students can recognize physical harm and understand why subjects should not be exposed to it, although they all have an affinity fo the frustration-aggression shock experiments. I have found that they usually don't think of the psychological harm that their manipulations may cause. Certain experimental procedures may cause a loss of self-esteem, embarrassment, etc.

There are various procedures that may cause psychological harm: failure experiences - subject obtains low score on test that supposedly predicts ability to get along with people, opportunities to cheat, lie, or steal during the experiment, exposure to sexually arousing stimuli, embarrassing questions on surveys.

The following studies are good examples to discuss in class:

Milgram (1974), obedience study - or as a philosopher friend called it, that horrible shock study.

Darley (1979), subjects were told that they would be receiving painful shocks, but that the results of the experiment would aid in alleviating suffering from hearing loss. This was actually a fear and affiliation study.

Hetherington and Feldman (1964), subjects given the opportunity to cheat. Their cheating behavior was associated with various person and situational variables.

Lovaas, Schaeffer, & Simmons (1965), use of electric shock in treating autistic children.

Farr & Seaver (1975) report subjects' ratings of various experimental procedures in terms of invasion of privacy and discomfort. Interestingly the ratings for most procedures were fairly low. Providing students with these ratings may be helpful as a guide to determine what subjects consider stressful. However, people may react differently to actually being in the situation.

DEBRIEFING

The goal of debriefing is to fully inform subjects about the experiment, especially if there was any deception. One problem I have in educating students about proper debriefing procedures is that we are at a small school were gossip travels very fast. Students usually don't want to

and will not fully debrief unless they are carefully
monitored. Consequently, they are required to provide me
with a copy of the written debriefing. It must include an
explanation of the hypothesis stated in simple terms, an
·explanation and justification for any deception, and an
assurance that individual responses will be anonymous and
totally confidential, only group averages will be reported.
        Subjects are also given the opportunity to receive a
copy of the results at end of semester. I instruct students
that it is their responsibility and part of their ethical
obligation to the subjects to do this. I also check with
them repeatedly to make sure they have sent the information
to the subjects.

RISK/BENEFIT ANALYSIS OF RESEARCH

        Finally, having students engage in ethics committee
role play gives them critical experience in making decisions
about ethical issues in research. The Activities Handbook
for Teaching of Psychology, #73 and #77, provides advice and
exercises on this. A group discussion of published studies
can also be beneficial. Milgram's obedience study can
always be used along with Baumrind's criticisms. Schulz
(1976) and Schulz and Hanusa (1978) studied the effects of
control and predictability using residents of a nursing home
who were visited by student volunteers. The 1978 study is a
follow up to determine the effects of the earlier
manipulation. These studies are also good for discussing
informed consent, deception, and debriefing, in addition to
an analysis of the risks vs. benefits of the research.

II. Teaching the Ethics of Animal Research

A substantial number of psychological research studies examine the behavior of nonhuman animals. The use of animals in research raises a considerable number of ethical issues. It is essential that students are accurately informed about the nature and the purpose of psychological research with animals. I will discuss a classroom role-play exercise that I have found to be effective in teaching students about ethical issues in animal research. The exercise highlighted below is a modification of an exercise developed by Herzog (1990). This exercise gets the students actively involved in discussing ethical issues, and I have found the exercise to be more effective than merely lecturing on the topic of ethics.

The Exercise:

During the class preceding the role-play exercise I provide the students with a copy of the American Psychological Associations Guidelines for the Care and Use of Animals. During this class session we review the guidelines and discuss the ethical boundaries that exist when conducting research with animals. It is essential that students are aware that guidelines presently exist to ensure that the animals utilized in research are protected against unnecessary discomfort.

During the next class session the class is divided into groups of 5-6 students, with each group acting as an Ethics Review Committee. Each student is given a copy of a research proposal application form which contains information about a proposed research project. Contained in this application is a description of the proposed

research; that is, a statement of purpose, a description of the methodology, an estimate of the risks and benefits of the proposed research, and a statement of the researchers experience with the research topic. The research topics can be modified to suit the needs of a particular course. The group is to decide whether or not the research proposal should be approved or rejected by the committee. Each group must list the costs and benefits of conducting the study as well as prepare a list detailing the implications of not conducting the research project. A consensus must be reached within each group regarding the proposal. Each group then presents its decision to the class along with a brief description of the process and discussion the group engaged in during the decision-making process.

This role-play assignment works very well at getting students involved in the ethics of doing research with animals. A secondary benefit of the exercise is the ability to link the research proposal topic to a fundamental issue or question in psychology. For example, I distributed a proposal to my students in a conditioning and learning course which discussed an experiment on taste aversion in rats. The premise of this proposal was that rats exhibit bait-shyness and tend to avoid poisonous foods. The researcher's were interested in examining how rats learn to avoid such foods. They proposed feeding rats food with a specific taste, and then injecting lithium chloride to induce nausea in the animals. The researchers proposed to then examine avoidance behavior for that specific food in the rat. Half of the groups received a proposal without a statement of a specific practical benefit, whereas the remaining groups received a modified proposal which included a discussion of the link between

conditioned taste aversions in rats and aversion learning, which seems to be a component of the etiology and maintenance of anorexia in humans. The groups that were exposed to the statement of explicit human benefit were more likely to have fewer problems with and doubts about the proposed study. This finding allowed for a discussion of the distinction between basic and applied research. The notion of human benefit from research with animals as well as animal research in its own right can be easily incorporated into this exercise.

Additional issues can be addressed within this framework. The use of animals to provide insights into complex mechanisms in humans (i.e., animal models) can also be discussed. This can be related to the notion of comparative simplicity, which states that there is some degree of commonality between species. The question of generalization across species for behavioral processes can also be addressed, as well as questions pertaining to evolution of the body and mind. Any number of other issues and topics can be considered. The resulting exercise both involves students in an active consideration of ethical issues involved in animal research as well as necessitates their articulating what their personal beliefs are, creating further material for discussion.

III. <u>Ethical Issues In Teaching About Applied Health</u>
<u>and Social Research</u>

The purpose of this section of the paper is to
briefly introduce topics pertaining to ethical issues
in applied health and social research. Five topics
will be touched upon: Informed consent, deception,
debriefing, the relationship between participant and
researcher, and dissemination of results. While they
by no means comprise an exhaustive list of ethical
issues, these topics can serve as organizing questions
for students to consider as they study applied
research.

<u>Informed consent in applied settings</u>. Under what
amount of "pain and suffering" is research
participation justifiable? Psychological or physical
distress is often present in applied research settings,
so guidelines may be needed to determine if a given
patient should participate in a study. A related issue
concerns consent more directly: Who agrees to a
patient's participation? The patient, the patient's
family or guardian, or the attending physician?
Finally, the mechanics of actual data collection become
a concern, particularly when some thought must be given
to whether study participants will be approached before
or after a medical procedure. As applied research
designs become more longitudinal in nature, a
reassessment of a patient's willingness to participate

may also be important.

Deception. When deception is used in traditional social psychological research, ethical questions are often balanced against the desire for valid results. However, it might be persuasively argued that deceiving a healthy college sophomore is somewhat different than deceiving a terminally ill patient. Standards for the use of deception are needed, or alternatives should be identified.

Some deception-like strategies are common place in medical research. Does the use of placebo groups, for example, constitute a form of deception? Students often question whether random assignment is a "fair" way to determine who receives an experimental drug versus an inert substance.

Recent research in social and health psychology also poses a particularly controversial question: What if some forms of deception prove to be beneficial to participants' health and well-being? If a therapeutic intervention is shown to foster positive illusions, for example, is it ethical to avoid debriefing those subjects who benefit from it?

Debriefing. How will debriefing following participation be conducted? Will it be done person to person or through written contact (e.g., the mail)? Traditional laboratory research allows for some form of immediate debriefing, usually after the dependent

72

measures have been administered. Health research
interventions, however, may require considerable time
for effects to manifest themselves. As a result,
debriefing may have to be postponed for some time.
Patients may also return home or go to another
facility, making the desirable face-to-face contact for
adequate debriefing difficult to achieve.

Additionally, students should be informed that
debriefing is an educational as well as compassionate
act. Research participants should be reminded of their
valuable assistance and the help it may provide to
others.

Relationship between participant and researcher.
Should researchers discuss specific participant cases
with medical staff? Consider medical non-compliance.
Suppose a participant reveals a failure to follow
medical instructions, a reluctance to take prescribed
medication, a desire to discontinue exercise, or a
decision not to report symptoms -- should the
researcher remain silent?

Non-intentional coercion is also an important
concern, particularly when working with geriatric
populations. Researchers need to assure potential
participants that their refusal to participate in a
project will not deny them medical care or staff
attention. Given that many persons often view health-
care providers as "larger than life", the danger of

inadvertent coercion should not be overlooked.

How can researchers reasonably ensure confidentiality of participants' data? The issue of privacy is increasingly a problem as research teams grow in size and become interdisciplinary. Normally private records are apt to be examined and discussed by many persons.

Finally, should researchers do more for participants than just serving as "good listeners?" Perhaps some form of counseling should be provided to participants in exchange for their cooperation with the research.

Dissemination. Research results should be shared with medical staff who work directly with participants. Describing the results to the people who helped to collect the data serves an important educational function and is one important way to thank them for their assistance with the project. Many medical staffs who have aided researchers in the past complain about the lack of follow through regarding conclusions. Communication not only breeds cooperation, it also satisfies what should be an ethical imperative.

Research results should also be published in journals where they will be read by interested audiences (e.g., medical) beyond the psychological community. Data should not be left to languish unread in psychology's professional journals; they need to

appear in specialized journals to gain the attention of professionals equipped to use the information. One obvious strategy is to submit appropriate facets of a project simultaneously to psychological as well as more specialized periodicals (Adler, Taylor, & Wortman, 1987).

Conclusions. As applied/health research continues to proliferate, more careful attention needs to be paid to the ethical issues arising from it. The five topics presented in this section are useful in getting students to think more critically about the ethical implications of research conducted outside the confines of traditional laboratory settings.

TEACHING ETHICS
IV
RESEARCH ETHICS

The Problem of Fraudulent Research

One aspect of teaching students about research ethics is to show them the influence of changing or fabricating data on the development of science. There is an unfortunately large number of examples that can be presented. You can start back with names that students might be familiar with, such as: Kammerer, Lysenko, Mendel, and Sir Cyril Burt. It is important to point out not only what these people did, but how their actions influenced scientific theory and society. There is a very good Nova videotape about the more recent problems at Harvard and Sloan-Kettering and the Chronical of Higher Education has been publishing the results of the investigations of the Department of Health and Human Services' Office of Scientific Integrity (see the July 3, 1991 issue, page A7). These examples can be related back to the issue of unreproducible data. Science should·be self-correcting as other researchers try to replicate published results. However, scientists may waste a great deal of time and effort trying to replicate faked data.

David Martin's book Doing Psychology Experiments provides an excellent chapter on the many ways in which a scientist may "cheat". The following is a brief review of the issues covered in his chapter entitled "Cheating Science". Martin starts with what he calls "blatant" cheating. Blatant cheating includes changing or faking data as was shown in the previous examples and lying about credentials. Fraudulent credentials can include not only false or inappropriate degrees and licenses, but also "padded" vitas. Does someone really go and look up all the 65 articles a person may claim to have written?

Blatant cheating is rather extreme and students are more likely to be able to find examples of or find themselves falling into "moderate" cheating.* Moderate cheating includes unsuitable experimental designs, such as those that do not take into account experimenter demand characteristics or counterbalance for learning and fatigue.

* Every year I do an informal survey in my class. To my dismay almost all of my students admit to having faked data in their chemistry lab. Even worse, they see nothing unethical about doing this. Their explanation is that the correct answer is known and if you do not write down the correct answer you get points taken off. Therefore, they write down the "correct" answer even if it does not correspond to their laboratory results.

Moderate cheating also includes data collection techniques that may encourage rounding and number transfer errors. There are many ways to "cheat" with statistics. The importance of fulfilling the assumptions of the statistical tests needs to be made very clear to students. Students also tend to want to do inappropriate statistical tests, such as multiple t-tests rather than an analysis of variance. This is a good place to show students how graphs can be used to influence the appearance of the results. Regardless of the statistical results, the labeling of a graph can make a difference between means look either huge or nonexistent. One problem that fits into the category of moderate cheating and seems difficult for students to get a good understanding of is subject elimination techniques. There are some fairly clear published techniques, however, when actually doing experiments students often come up with cases that seem very questionable. For example, in a memory experiment where only 20% of the recognition stimuli were previously viewed and you get a subject who says no to all the stimuli. Is this subject just not trying or do they truly not remember even one of the stimuli?

Finally Martin talks about what he calls "common" or accepted cheating. This type of "cheating" does not cover unethical practices, but rather deals with the fact that in every day life even science does not necessarily go along the nice, neat, orderly fashion that we may have led the students to believe. For example, a scientist may reformulate a theory or hypothesis after an experiment is run. In writing up a journal article it is expected that you will leave out the experiments that did not work or were not well designed. In addition, you may reorganize the experiments when you write them up for publication. The experiments are presented to the reader in a logical order, even if that is not how it occurred to you to do them in the lab. The issues covered as "common" cheating are good for giving the students a sense of scientists as real people who do not always have things go perfectly. It gives students an idea of the gap between what they read in published articles and what really happens in the lab. For each of the issues it is important to have concrete examples. I tell my students about the 21 experiments I ran for my Master's Thesis; seven of which appeared in the thesis and only four ended up published.

After talking about a scientist's ethical responsibility to science, you can then move to a discussion of a scientist's ethical responsibility to society. This is the issue of how far a scientist's responsibility extends. Are scientists responsible for the way society uses their findings? You can talk about how many of the scientists who worked on the Manhattan project (developing the first atomic bomb) felt terrible personal guilt about the bomb. Most students are aware of the issues concerning

51

genetic engineering, but may be unaware of the government
regulations limiting the research.   To make the issue more
relevant to their own situations one can talk about what would
happen if the psychology research evidence showed that men
(whites, blacks, asians) really were intellectually superior.
Students can easily discuss the social implications and usually a
heated argument develops over whether the discovers of the
"facts" have any responsibility concerning the social
repercussions of their findings.

REFERENCES

Activities Handbook for the Teaching of Psychology.
    Vol. 3, Washington, DC: American Psychological
    Association.

Adler, N.E., Taylor, S.E., & Wortman, C.B. (1987) Basic
    field research in health psychology. In G. Stone,
    S. Weiss, J. Matarazzo, N. Miller, J. Rodin, C. Belar,
    M. Follick, & J. Singer (eds.), Health psychology:
    A discipline and a profession. Chicago, IL: University
    of Chicago Press.

American Psychological Association (1982). Ethical
    principles in the conduct of research with human
    participants. Washington, DC: Author.

American Psychological Association (1985). Guidelines for
    ethical conduct in the care and use of animals.
    Washington, DC: Author.

Barber, B. (1976). The ethics of experimentation with
    human subjects. Scientific American, 234, 25-31.

Baumrind, D. (1964). Some thoughts on ethics of research:
    After reading Milgram's "Behavioral study of
    obedience." American Psychologist, 19, 421-423.

Baumrind, D. (1985). Research using intentional deception:
    Ethical issues revisited. American Psychologist, 40,
    165-174.

Beauchamp, T.L., & Walters, L. (eds.) (1982).
    Contemporary issues in bioethics. 2nd ed.
    Belmont, CA: Wadsworth.

Broad, W., & Wade, N. (1982). Betrayers of the truth:
    Fraud and deceit in the halls of science. New York:
    Simon & Schuster.

Campbell, S.K. (1974). Flaws and fallacies in statistical
    thinking. Englewood Cliffs, NJ: Prentice Hall.

Casebook on ethical principles of psychologists. (1987).
    Washington, DC: American Psychological Association.

Christensen, L.B. (1989). Experimental methodology.
    4th ed. Newton, Mass.: Allyn and Bacon.

Cournand, A. (1977). The code of the scientist and its
    relationship to ethics. Science, 198, 699-705.

83

Darley, J.M. (1979). Fear and social comparison as determinants of conformity behavior. Journal of Personality and Social Psychology, 4, 73-78.

Diener, E., & Crandall, R. (1978). Ethics in social and behavioral research. Chicago, IL: University of Chicago Press.

Farr, J.L., & Seaver, W.B. (1975). Stress and discomfort in psychological research: Subjects' perceptions of experimental procedures. American Psychologist, 30, 770-773.

Franks, F. (1982). Polywater. Cambridge, Mass.: MIT Press.

Feeney, D.M. (1987). Human rights and animal welfare. American Psychologist, 42, 593-599.

Friedman, H.S., & DiMatteo, M.R. (eds.) (1982). Interpersonal issues in health care. New York: Academic Press.

Gallup, G.G., Jr., & Beckstead, J.W. (1988). Attitudes toward animal research. American Psychologist, 44, 474-475.

Gardner, M. (1957). Fads and fallacies in the name of science. 2nd ed. New York: Dover.

Grady, K.E., & Wallston, B.S. (1989). Research in health care settings. Beverly Hills, CA: Sage.

Hetherington, E.M. & Feldman, S.E. (1964). College cheating as a function of subject and situational variables. Journal of Educational Psychology, 55, 212-218.

Herzog, H.A. (1990). Discussing animal rights and animal research in the classroom. Teaching of Psychology, 17, 90-94.

Huff, D. (1954). How to lie with statistics. New York: Norton.

Hull, D.L. (1978). Altruism in science: A sociobiological model of cooperative behavior among scientists. Animal Behavior, 26, 685-697.

Humphreys, L. (1975). <u>Tearoom trade: Impersonal sex in public places</u>. Chicago, Aldine.

Hunt, R., & Arras, J. (eds.) (1977). <u>Ethical issues in modern medicine</u>. Palo Alto, CA: Mayfield.

Keith-Spiegel, P., & Koocher, G.P. (1985). <u>Ethics in psychology: Professional standards and cases</u>. Hillsdale, NJ: Lawrence Erlbaum Associates.

Keller, E.F. (1983). <u>A feeling for the organism: The life and work of Barbara McClintock</u>. San Francisco: W.H. Freeman.

Kelman, H.C. (1967). Human use of human subjects: The problem of deception in social psychological experiments. <u>Psychological Bulletin</u>, <u>67</u>, 1-11.

Kelman, H.C. (1972). The rights of the subject in social research: An analysis in terms of relative power and legitimacy. <u>American Psychologist</u>, <u>27</u>, 989-1016.

Kilner, J.F. (1988). Selecting patients when resources are limited. <u>American Journal of Public Health</u>, <u>78</u>, 144-147.

Kimmel, A.J. (1988). <u>Ethics and values in applied social research</u>. Beverly Hills, CA: Sage.

Kuhn, T. (1962). <u>The structure of scientific revolutions</u>. Chicago: The University of Chicago Press.

Lovaas, O.I., Schaeffer, B., & Simmons, J.Q. (1965). Building social behavior in autistic children by use of electric shock. <u>Journal of Experimental Research in Personality</u>, <u>1</u>, 99-109.

MacDougall, C.D. (1983). <u>Superstition and the press</u>. Buffalo, NY: Prometheus Books.

Martin, D.W. (1985). <u>Doing psychology experiments</u>. Monterey, CA: Brooks/Cole.

McCain, G., & Segal, E.M. (1988). <u>The Game of Science</u>. Pacific Grove, CA: Brooks/Cole.

Middlemist, R.D, Knowles, E.S. & Matter C.F. (1976). Personal space invasions in the lavatory: Suggestive evidence for arousal. <u>Journal of Personality and and Social Psychology</u>, <u>33</u>, 541-546.

Milgram, S. (1974). <u>Obedience to authority</u>. New York: Harper & Row.

81

Miller, A. (1969). Role-playing: An alternative to deception? *American Psychologist*, 27, 623-636.

Miller, N.E. (1983). Understanding the use of animals in behavioral research: Some critical issues. *Annals New York Academy of Sciences*, 83, 113-118.

Miller, N.E. (1985). The value of behavioral research on animals. *American Psychologist*, 40, 423-440.

Rosnow, R.L. (1990). Teaching research ethics through role-play and discussion. *Teaching of Psychology*, 17, 179-181.

Schulz, R. (1976). Effects of control and predictability on the physical and psychological well-being of the institutionalized aged. *Journal of Personality and Social Psychology*, 33, 563-573.

Schulz, R., & Hanusa, B.H. (1978). Long-term effects of control and predictability-enhancing interventions: Findings and ethical issues. *Journal of Personality and Social Psychology*, 36, 1194-1201.

Swencionis, C., & Hall, J. E. (1987). Ethical concerns in health psychology. In G. Stone, S. Weiss, J. Matarazzo, N. Miller, J. Rodin, C. Belar, M. Follick, & J. Singer (eds), *Health psychology: A discipline and a profession*. Chicago, IL: University of Chicago Press.

STUDENT BRAINSTORMING:

UNDERGRADUATE TEACHING - PERSONAL DIMENSION

Albert H. Gardner

University of Maryland
College Park, Maryland

STUDENT BRAINSTORMING:
Undergraduate Teaching-Personal Dimension
Albert H. Gardner
University of Maryland

Alex Osborn (1957) is credited with introducing brainstorming as a creative problem-solving technique for use in small groups, i.e., from five to ten persons. The basic ground rules for brainstorming are (1) withhold criticism of ideas (2) try to generate as many ideas as possible, and (3) encourage the expression of wild or unusual ideas.

Purpose

College Students

The purpose of this investigation was to use brainstorming as a technique to obtain college students' ideas of how to improve college teaching.

Method

The participants were students enrolled in a course on human development and learning taught by the author as part of the teacher education program at the University of Maryland-College Park. The students, most of whom were preparing to be secondary school teachers in a variety of disciplines, were in their early twenties, juniors and seniors, along with several recent graduates seeking teacher certification. The course was concerned with the application of educational psychology to classroom teaching.

There were 52 students (29 from a 1990 summer class, and 23 from the following fall semester); 37 females, 15 males.

Procedures.

Toward the end of the course in each of the two semesters, students were randomly assigned to groups of four or five (there were six groups in the summer, five groups in the fall). Students were told that their instructor was to attend a meeting on college teaching, and that he would like to have their ideas on the subject generated from a brainstorming session.

While material on brainstorming had been part of their assignment reading and had been discussed briefly in class, the students had not previously participated in such an exercise in this class.

The instructor reviewed the components of brainstorming as mentioned in the introduction. The students were instructed to brainstorm for 15 minutes to get as many ideas as possible about improving college teaching. One student in each group acted as recorder. The instructor remained at the front of the classroom during the brainstorming sessions.

The students appeared to be actively involved in the exercise. At the end of the 15 minutes the papers were collected and there was brief discussion, but no attempt was made to clarify or explain the ideas.

Results.

A total of 121 ideas were generated from the 11 groups (66 ideas from the summer, 55 from fall). The number of ideas from the groups ranged from a high of 19 to a low of 7; the median number

of ideas was 11.

There was some duplication of ideas, i.e., 36 of the ideas were mentioned more than once by the various groups. Allowing for duplication, there were 85 different ideas presented for improving college teaching. The ideas, classified by category, are found on Tables 1 through 5, where it will be noted that the ideas are reported in phrases as taken from the notes of the recorder in each group.

Idea Categories.

The author categorized the 85 ideas into six areas: (1) teacher-student relationships; (2) teacher focus; (3) institutional structure; (4) lectures; (5) other methods/things to do, and (6) exams/evaluation.

Descriptions of the categories and examples of ideas assigned to each are as follows:

(1) Teacher-Student Relationships. These 15 ideas were concerned with the students' perceptions of relationships with teachers, and of teachers as approachable and accessible people. The students thought that college teaching could be improved by ideas such as: don't be an elitist; don't ridicule students; more teacher-student interactions; and, teachers should get to know their students. Table 1 indicates ideas in this category, and their frequency.

(2) Teacher Focus. There were 10 statements culled from the recorded ideas that appeared to be general suggestions for

86

90

improvement which were focused on the act of teaching. These were ideas that seem more concerned with a broad orientation toward teaching, rather than on specific details of teaching. Examples are, as taken from Table 2, teachers should: learn teaching methods, give more attention to teaching, and, be more practical and less theoretical.

(3) Institutional Factors. The 12 ideas in this category concerned issues that students thought would be conducive to better teaching, but consisted of matters that are institutional, i.e., administrative or organizational in nature, and, thus, generally less likely to be under the control of professors. Sharing the top of this list, appearing in Table 3, is the pleas for smaller classes and the teaching vs. research issue; also, for example, there is the suggestion that there be recourse against poor teachers; and, to give teachers more money, and to put less emphasis on TA teaching.

(4) Lectures. Since the lecture is perhaps the most common teaching technique of college professors, it is not surprising that a category emerged which was devoted to that area. Examples of some of the 16 ideas related to the lecture method, as shown in Table 4, are: invite guest speakers with opposing views; don't talk to the board; and, one idea stressed that the lecture is the "best way to convey some information."

(5) Other Methods/Things to Do. This category contained a variety of ideas, a potpourri of approaches to teaching and

87

miscellaneous "things-to-do" in the classroom. It was not surprising, therefore, that the greatest frequency of ideas, 19, was found in this category. The list in Table 5 includes such suggestions as more class discussions, better books, a good syllabus, hands-on-projects, and one student suggested that there be "contact with dead psychologists to discuss their theories with them."

(6) Exams/Evaluation. The 13 ideas found in Table 6 were directed toward the means and process by which students are evaluated. There was a proposal that there be different types of tests and, another, that application of knowledge be evaluated in ways other than tests. There was also the plea for passable exams, and student access to previous tests. One idea asked: "Is memorization of facts essential?"

Discussion

The results of these brainstorming exercises suggest the effectiveness of this technique in generating ideas for problem solving. It was found that in the relatively brief time of 15 minutes, a total of 121 ideas were expressed by 52 students. After allowing for duplication, there were 85 different ideas. The diversity of ideas and their potential for implementation in college teaching provide support for this activity.

One might note that the average of 2.3 ideas per student is not impressive if viewed as a per-student-productivity figure. It should be pointed out that this average is deceptive in that it

represents <u>group</u> productivity where, in a given group, a specific idea is counted only once even though it might have been expressed by several group members.

<u>Classroom Application</u>.

Brainstorming would seem to be a useful procedure for addressing many problems or situations in the classroom. Ideas could be generated, for example, on such classroom matters as:

(a) different forms of class evaluation,

(b) ways of presenting class material, either for the teacher, or for individual students or groups,

(c) field trips or outside observations.

(d) research topics,

(e) cooperative learning experiences, and

(f) teacher-student relationships.

Not only is brainstorming seen as a productive method for generating solutions to problems, but it also has potential as an effective classroom technique for other reasons. For example, as a means of enhancing group cohesion or comradery. It would seem also that brainstorming would be a good change-of-pace technique which involves direct student involvement in the classroom. It might be helpful, for example, to combine role-playing with brainstorming wherein students would respond to problems or issues as if they were of the opposite gender, of a different racial or ethnic group, of a certain occupational group, or as if they were living in a different country or in a different time period.

<u>Limitations</u>.

Since it was the author's intention to obtain ideas from students on ways to improve college teaching, it is felt that this purpose was accomplished given the lengthy list of suggestions that resulted from the exercise.

However, it should be remembered that the students were in teacher education and, consequently, might have been more perceptive of the teaching process, especially since the exercise was conducted in an educational psychology class which was focused on classroom learning.

The fact that over 70% of the sample was female (37 female, 15 male) may have had some impact on the results. No attempt was made to differentiate by gender either in the formation of groups or in expression of ideas.

It may have been helpful to give students an opportunity to clarify and/or expound on some of their ideas. This would help in reducing ambiguity and in providing greater detail about an idea for possible implementation.

Finally, forming categories and classifying qualitative data is often an onerous and uncertain process. In this investigation the design would have been strengthened by obtaining interjudge reliability for assignment of ideas to categories

<center>References</center>

Osborn, A. (1957) <u>Applied imagination</u>. New York: Scribner.

Table 1

Student Brainstorming Ideas Relating to

TEACHER-STUDENT RELATIONSHIPS

Be available and accessible (office hours, telephone) (3)*

Get to know your students (3)

Be more approachable (3)

More respect for students (2)

Don't be an elitist/above your students (2)

No "weed-out" attitude (2)

Remember that students have other classes, give reasonable
assignments (2)

Better advising; inform about student services (2)

Don't ridicule students

Be more personable

More teacher-student interaction

Personal feedback to students

Incentives to meet prof outside of class

Be patient and helpful

Mandatory conferences

Attention to student interests

---

*Number refers to idea frequency.

Table 2

Student Brainstorming Ideas Relating to

TEACHER FOCUS

Be more practical, less theoretical (3)

Give more attention to teaching (2)

Show more enthusiasm/dynamic style; interest in subject (2)

Work on communication skills, vocabulary; speak English

Set more goals to accomplish each day

More knowledgeable

Really look at student evaluations of teaching

Prof should learn teaching methods

Encourage students to form own opinions

Arouse student curiosity

Table 3

Student Brainstorming Ideas Relating to

INSTITUTIONAL FACTORS

Smaller classes (4)

Teaching over research; don't require researchers to teach (4)

Recourse against poor teachers

Different intro classes for majors and non-majors

Less emphasis on TA's

Reduce teachers' extra-curricular activities

Revise tenure laws

More attention to merit pay

More money for teachers

Easier sabbaticals

No unnecessary classes, e.g., after exams are over

No class lasting more than 30 minutes

Table 4

Student Brainstorming Ideas Relating to
LECTURES

Involve students; in-class activities (3)

Invite guest speakers with opposing views (3)

Use current examples; real-life application (2)

Use films and other audio-visual aids (2)

Discussion sessions with professor (2)

Best way to convey some information

Give lecture notes as handouts, students can just listen

Explain ideas in different ways

Present different sensory levels (AV, movement)

Humorous lectures, don't be dry

Use demonstrations

Change environment: music, seating, lectern arrangement

Use board less often

Don't talk to the board

Have review sessions

Use memorization strategies to help memorize material

Table 5

Student Brainstorming Ideas Relating to

OTHER METHODS/THINGS TO DO

Classroom discussions: large and small groups (3)

Rol :-playing, dramatizations (2)

Field trips, observations (2)

Hands-on projects (2)

Student presentations (2)

Analyze tape recordings of anonymous patients

Small group work: problem-solving, brainstorming

Explore other dimensions of the mind (guided meditation)

Conduct labs and experiments in the classroom

Projects: apply theories to our lives; develop and debug a

study; independent study; critical analysis of subject matter

viewed in different ways

More innovative class designs

More application of material

Leave room so students can discuss their ideas

More outside reading sources

Better books

Good syllabus

More hand-on learning

More discovery learning

Contact dead psychologists and discuss their theories with

them

Table 6

Student Brainstorming Ideas Relating to

EXAMS/EVALUATION

TA's often grade harder; those who grade exams should be involved in teaching (2)

Let students make up questions or give input (2)

Give different types of tests (2)

Give passable exams

Test on own material, not departmental exams

Include fair representation of class material

Consider other ways of thinking in grading exams

Don't ignore required texts on exams

Application of knowledge in ways other than tests

Give clearer guidelines for tests

Access to previous tests

Team teaching has weaknesses in coordination of grading

Is memorization of facts essential?

Thomas Rywick

State University of New York College at Fredonia

Introduction to SYMLOG and Its Uses

in an Experiential Group Dynamics Course

Introduction to SYMLOG and Its Uses

in an Experiential Group Dynamics Course

Thomas Rywick

State University of New York College at Fredonia

My purpose in this presentation is to relate my experiences attempting to combine an in-depth self-analytic group experience with a more traditional survey of small group topics, in my undergrduate group dynamics course.

Since my sabbatical leave in 1982 with Robert Freed Bales, I have been using his SYMLOG system of group analysis (Bales and Cohen, 1979) in my group dynamics classes. SYMLOG is both a theory of group interaction (especially of forces producing polarization or unification in the group) and a set of methods for reliably recording the behavior of group members. Thought to be a "potentially seminal contribution to social psychology" (Gibbard, 1981), SYMLOG has been used by Bales and others in experiential college group dynamics courses. In some semesters, I have utilized Bales's approach in its entirety in my group dynamics classes. Briefly, this means that after two or three weeks of training in SYMLOG, the remainder of the semester is organized as follows. On Monday and Wednesday of each week students hold one and a half to two hour unstructured discussions. "Topics for discussion grow out of spontaneous contributions, interests, concerns, experiences, or observations presented by members" (Bales and Cohen 1979, p. 508). A subset of the group serve as observers and record the group interaction using Bales's SYMLOG system. At a Friday group meeting, the observers report to the entire group, presenting tabular and graphic results of their observations. So although the Monday and Wednesday interactions are highly unstructured, on Friday students receive highly structured, and I am sure, extremely useful, feedback about

their behavior earlier in the week. Based on the observers' reports, the Friday meetings become analytic sessions in which the students attempt to better understand their own personal behavior and the behavioral dynamics of the group as a whole. (For this reason, Bales refers to his groups as "self-analytic"groups.)

A major advantage of this approach is that students learn a useful set of methods and a related theoretical framework in detail. In addition, students appreciate this SYMLOG based experience, and learn much about their own interaction skills and how they are perceived by others. However, I have felt that this approach does not allow students to become familiar enough with the full range of factors that might influence group behavior. Therefore, I have sometimes taught a more traditional course, i.e., a lecture-discussion course which serves primarily to expose students to existing theory and research in Group Dynamics. Although I cover SYMLOG as one of many units in this approach, it focuses primarily on traditional topics such as leadership, norm formation, conformity, goal setting, and social loafing. This approach also has not been as satisfying as I would hope, principally because the students miss the in-depth self-analytic experience of the Bales approach. Last semester, therefore, I organized my course so that a SYMLOG-based, self-analytic group experience was central, but was augmented by a more traditional survey of basic group dynamics principles.

The class met Mondays, Wednesdays and Fridays from 3 to 4:30 PM. For five weeks we held lecture-discussion sessions in which we surveyed the traditional methods and theories of group dynamics. I assigned about two-thirds of Forsyth's (1990) Group Dynamics and some other readings. (My students were forewarned that they would have alot of reading to do during this five week period.) Students took an essay exam on this material after the five weeks

had passed.

The following two weeks were spent learning the SYMLOG system of recording group interactions. Students read a 70 page SYMLOG Primer that I had written, and they practiced scoring many behaviors, including much of the film Twelve Angry Men.

The final seven weeks were spent in a Balesian self-analytic group[1]. Since the instructor plays a subdued role in this group, it often takes weeks for a self-analytic group to resolve its discomfort with the lack of traditional leadership, and come to grips with the necessity for others to take on leadership roles. I was concerned that this process might take up so much of the seven week period that nothing else would be accomplished. Luckily, the fact that the students had worked together for seven previous weeks, albeit in a more typical academic setting, seemed to speed their progress through this early stage of group development. The group went on to be highly successful. Final papers, which I always assign in such groups, included better analyses of the group experience than I saw in previous semesters, since students not only had SYMLOG concepts to relate to, but also the wide variety of other concepts covered earlier in the course. Like students in my earlier self-analytic groups, however, these students also benefited from the intense self-analysis they undertook and came away with a very good knowledge of the highly useful SYMLOG methodology.

During my next offering of this course I plan to make only a few changes:

(1) I will use three exams instead of only two;

(2) I will integrate the coverage of SYMLOG into the survey of tradi-

----

1. Although I gave students the option of taking part in a more traditional academic "project" group, no one elected this alternative.

tional methods and theories;

(3) I will allow for an eight week self-analytic experience rather than seven weeks.

References

Bales, R. F., & Cohen, S. P. (1979). SYMLOG. New York: The Free Press.

Forsyth, D. R. (1990). Group Dynamics. Pacific Grove, CA: Brooks/Cole.

Gibbard, G. S. (1981). A framework for the integration of social psychology. Contemporary Psychology, 26, 14-15.

Using Role-plays to Enhance Empathy for Patients in the Study of Abnormal Psychology

Amy Herstein Gervasio

Hamilton College

Abstract

Students in a large, undergraduate (40-60 person) lecture class in Abnormal Psychology are given

the option of role-playing a person with a DSM-III diagnosis. They are asked to research case

studies and create their own case persona. The role-player is then interviewed for five minutes by a

student (who the role-player usually does not know) in a counseling methods class that uses

microcounseling techniques. Interviews are videotaped. Students who role-play also write a

research paper reviewing five outcome studies of the kinds of treatment used for the role-played

disorder. Anecdotal evidence suggests that the role-play procedure enhances empathy for people

with psychological disorders.

Using Role-plays to Enhance Empathy for Patients in the Study of Abnormal Psychology

Many students enter undergraduate courses in Abnormal Psychology with media-generated stereotypes of psychological disorder. While people such as abused children may be viewed as objects of extreme pity, others--such as schizophrenics--may be seen as incomprehensible zoo animals. Merely visiting a mental institution once, or showing a series of films on disorders does not completely dissipate these attitudes. Computerized case simulations can be a very effective tool for learning information about disorders (Lambert & Lenthall, 1988), but do not provide "real life" interaction. Furthermore, if the professor wants to convey the concept that mental illness occurs on a continuum, and that some symptoms are exaggerated examples of every day life experience, films or simulations of a "typical patient" rarely illustrate that continuum.

Role-playing is a device for simulating complex interpersonal behavior. It has been used to teach such diverse topics as research ethics for undergraduates (Rosnow, 1990), building empathy in head injured patients (Carberry & Burd, 1983), and learning to admit mistakes in the Alcoholics Anonymous (Anderson & Gilbert, 1989). Role-plays are most typically used in beginning graduate courses in clinical and counseling psychology to teach and evaluate rudimentary counseling skills, including accurate empathy (cf. Collins, 1990; Evans, Hearn, Uhlemann, & Ivey, 1989). In such courses, the focus is on the behavior of person playing the role of the therapist, rather than on the client role. Role-plays in which the students in Abnormal Psychology must act out the part of a person with a specific diagnosis have the potential to enhance understanding of symptomatology and empathy for people with psychological disorders. To my knowledge, there is no research on the use of role-playing to enhance the role-player's understanding of diagnosis or empathy for the role of the patient.

The role-play assignment

The role-play assignment has three parts. First, students in my large (40-60 person) lecture class in Abnormal Psychology are given the option of role-playing a person with a DSM-III diagnosis. (They may do the role-play for extra credit, or as one option in conjunction with a paper.) They are asked to research the diagnosis and create their own case persona. The only restrictions are that they must make up their own case rather than act out a casebook study, and that they may not role-play a person with severe thought disorder because presenting the latter behavior is disruptive for student interviewers. (I have also found that students are not very good at role-playing a thought disorder because the media stereotype of the schizophrenic-cum-psychopath overrides the case histories they might read in preparation for the role.) I also suggest that they choose a disorder for which there is a standard treatment in order to write an accompanying paper; "intermittent explosive disorder" would not qualify. (Students may consult me in preparing their role-play, but they can also surprise me if they choose.)

Student interviewers are usually members of a counseling methods class that uses microcounseling techniques as part of a laboratory section. In this way, the role-play also benefits students who are learning beginning interviewing skills. (I have also done the role-play assignment in one clinical psychology class. Here all students present role-plays and each student interviews someone else in the class.) The role-plays are usually presented in the last half of the semester to insure that other student interviewers have learned the basic skills such as open and closed-ended questions, reflection of feeling and content, and self-disclosure. The role-player is then interviewed for five minutes by a student who does not ordinarily know the role-player.

The interviewer in the counseling methods class has no knowledge of the "case", nor is

he or she necessarily expected to guess the diagnosis. Focus on guessing sometimes impedes the performance of the interviewing skills. The role-player is under no obligation to "help" the interviewer by revealing information that would not come out in the course of the five minutes. The role-play itself is not graded.

After the interview is over, the role-player and the counseling class may discuss other case information that the role-player may not have revealed. The video-tape is played back to the class, and the interviewer's behavior (not the verisimilitude of the role-player) is discussed. Again, the focus is not on "guessing the diagnosis", but on the interviewer's ability to use particular interviewing skills. However, in practice students often want to discuss the treatment options for the particular problem.

Students in the interviewing class find the case role-plays useful because it teaches them "not to offer advice" in the first five minutes of a counseling session. The problems usually discussed in the regular sessions of class are "everyday problems in living", many of which can be dealt with in five to ten minutes. In contrast, the abnormal case role-plays are much more complex, and in trying to deal with the case history the interviewers are forced to use a wide variety of skills.

Finally, students in the Abnormal Psychology class who choose to do a role-play as part of an assignment also write a research paper reviewing five outcome studies of the kinds of treatment used for the role-played disorder. In this way they link knowledge gained through formal study of research with experiential knowledge.

Over the years I have found that as many as half the students choose to do role-plays. The student performances are remarkably good and unstereotyped. Some students enter dressed for the part. One student portraying a child with attention deficit hyperactive disorder brought in a teddy bear and wore her hair in pig tails. Another student with a fear of germs brought in rubber surgeon's gloves and Kleenex. During the role-play students find ways of slipping in crucial information even when the interviewer has not asked for it.

For example, a person role-playing major depression may note that,"I've been waking up around 3 am and can't get back to sleep, but I don't know why."

Anecdotal evidence suggests that students do become more empathic towards patients with the disorder they role-played; they are able to see how they can "stretch" their own experiences to understand unusual behavior. Many students note how saddened and frustrated they felt as they "took on the role". Still others found that they had a better understanding of relatives and friends with problems such as depression, dementia, and eating disorders.

Students almost always give permission for their video taped role-plays to be used as examples in other classes. At the end of the term I show the role-plays to the rest of the students in Abnormal Psychology, and we point out important diagnostic features. (Examples of suggested diagnostic categories are presented in Table 1). The impact of the role-play as a learning experience seems to remain with the students, many of whom years later refer to the class as "the one in which we did the role-plays".

Table 1

Suggestions of disorders to use for role-plays

Anxiety disorders

    simple phobia

    generalized anxiety

    obsessive-compulsive disorder

    panic disorder

    PTSD

Affective (Mood) disorders

    major depression

    bipolar disorder (manic phase)

    adjustment reaction with depressed mood

Delusional (paranoid) disorder

    paranoia (without thought disorder)

Substance abuse disorders

Personality disorders

    anti-social

    dependent

    compulsive

    paranoid

Table 1 (continued)

Developmental disorders   Somatoform disorders

    ADHD   hypochondriasis

    anorexia and bulemia   somatization

    conduct disorder

Organic mental disorders

    dementia

    organic personality disorder

References

Anderson, J.G. & Gilbert, F.S. (1989). Communication skills training with alcoholics for improving performance of two of the Alcoholics Anonymous Recovery Steps. Journal of Studies on alcohol, 50, 361-367.

Carberry, H. & Burd, B. (1983). Social aspects of cognitive retraining in an outpatient group setting for head trauma patients. Cognitive Rehabilitation, 1, 5-7.

Collins, D. (1990). Identifying dysfunctional counseling skill behaviors. Clinical Supervisor, 8, 67-79.

Evans, D.R., Hearn, M.T. Uhlemann, M.R. & Ivey, A. E. (1989). Essential Interviewing (3rd ed.). Monterey, CA: Brooks/Cole.

Lambert, M.E. & Lenthall, G. (1988). Using computerized case simulations in undergraduate psychology courses. Teaching of Psychology, 15, 133-135.

Rosnow, R.L. (1990). Teaching research ethics through role-play and discussion. Teaching of Psychology, 17, 179-181.

Designing and teaching a course

on the Psychology of Women

Kathleen Crowley-Long

The College of Saint Rose

Albany, New York

Kathleen Crowley-Long received her doctorate in Educational
Psychology in 1987 from The University at Albany (SUNYA.)
She teaches ' wide variety of courses at Saint Rose,
including th Psychology of Women, and she has written
several papers on issues relevant to feminist psychology.

Designing and teaching a course

on the Psychology of Women

A variety of challenges need to be met when attempting to introduce any new psychology course, but this is particularly true when the course is "politically sensitive" as in the Psychology of Women. The first obstacles lie in coping with college bureaucracy, sensitive colleagues, and offended students. Next an instructor needs to cope with the pragmatic aspects of the course including choosing a text, creating exercises and lectures, designing assignments and assessing student performance. Each of these issues will be touched upon in this paper.

When I first introduced the psychology of women on my campus, I encountered a surprising amount of resistance and anger. The formal bureaucracy of the college was not too bad-- as long as students filled the seats and paid tuition all was well. However, several non-psychology colleagues (both male and female) expressed distaste for the course and decided it was not needed in the curriculum. Some objected to the course on the grounds it was "divisive," others claimed that women are no different psychologically than male and to make such distinctions was "unscientific". I met these challenges head on and I argued that women understanding themselves was beneficial for all. I pointed out that an entire division of APA (Division

35) is devoted to the Psy. of Women, and that it is a respected
and respectable sub-field of psychology. These logical
arguments met with limited success--it is difficult to cnange
emotionally based opinions with reason. In the final analysis I
guess I simply ignored the resistance of colleagues and students
as much as possible, and addressed them with good humor when
they were unavoidable.

Designing the fundamentals of the course was much easier.
I examined a variety of texts and readings and made the
following assessments:

Texts

Hyde, J. S. (1991). Half the human experience: The
  psychology of women, fourth edition. Lexington, MA:
  D.C. Heath and Company. (A truly outstanding text with
  Instructor's Guide/Test Bank.)

Lips, H. M. (1988). Sex & gender: An introduction.
  Mountain View, CA: Mayfield (A very good text with
  Instructor's Manual with test bank and Computerized
  Test Bank.)

Ruth, S. (1991). Issues in feminism: An introduction to
  women's studies. Mountain View, CA: Mayfield. (An
  introductory text to classic interdisciplinary writings
  in feminism.)

Sapio, V. (1990). Women in American society. Second

    edition. Mountain View, CA: Mayfield (An introductory

    approach to the field of women's studies.) Mountain

    View, CA: Mayfield.

Walsh, M. R. (1987). The psychology of women: Ongoing

    debates. New Haven: Yale University Press. (An

    excellent collection of essays debating current hot

    issues ranging from the usefulness of psychoanalytic

    theory to the effects of working mothers on children.

    Instructors manual.)

Related Readings/Resources

Billingham, K. A. (1982). Building a course on psychology

    of women. Psychology of Women Quarterly, 7, 32-44.

Bronstein, P. A. & Quina, K. (Eds.) (1988). Teaching a

    psychology of people: Resources for gender and

    sociocultural awareness. Washington, D.C.: The

    American Psychological Association.

Culley, M. and Portuges, C. (Eds.) (1985). Gendered

    subjects: The dynamics of feminist teaching. Boston:

    Routledge and Kegan Paul.

Hess, B. B. & Ferree, M. M. (Eds.) (1982). Analyzing

    gender: a handbook of social science research. Newbury

    Park: Sage Publications

Paludi, M. A. (1986). Teaching the psychology of gender

roles: Some life - stage considerations. Teaching of

Psychology, 13 (3), 133-137.

For audio-visual materials I used the excellent film

Killing us softly: Advertising's image of women (Cambridge

Documentary Films) to illustrate the powerful effects of media

on the self-image of women. In addition I showed home-made

videotapes of television commercials, Saturday morning fare,

music videos, and prime time programs to illustrate the pervasive

and powerful stereotyping of women. MTV, beer commercials and

kiddie TV are "must include" items for any Psychology of Women

course.

Other assignments which were very useful included a short

term paper and class on women in psychology, as well as a

traditional ten-page research paper on a topic relevant to the

course. The first paper introduces students to the

contributions made by women in psychology--most students are

unable to name even one important woman psychologist. This

assignment also provides female students with strong role models

for the very first time. The traditional research paper

provides students with a greater depth of understanding in one

area of the psychology of women.

It is important to realize that the students themselves may not

be comfortable with a feminist viewpoint. I think these

issues are handled best through direct discussion and debate. I introduced the concept of feminism, feminist psychology, and feminist research in my very first class, making it clear that the course would be taught from a feminist perspective (3 students of 35 dropped the course as a result.) Furthermore, in an effort to generate discussion and to sensitize our male classmates I required each of the five male students in class to assume female names while in class. Needless to say this idea was controversial! Nonetheless it was an invaluable technique which generated powerful discussion and debate regarding the status of women and men, and why men feel uncomfortable and embarrased to be addressed as a woman. I knew the approach was a success when news of the name changes swept the campus and became a point of discussion for students (and faculty) not even in the course.

Finally I strongly recommend that first-time teachers of the psychology of women attempt to gather student reactions to and evaluations of the course. Journals are very good for discovering the emotional and social reactions of students throughout the course. In addition I found an end of the semester questionnaire evaluating the course techniques and assignments, along with attitudinal changes, to be very useful in understanding the value and effectiveness of the course.

The psychology of women course is a wonderful course to

teach. It is relevant, exciting and, in some cases,

empowering. It deserves to be taught on all college campuses

because it represents a powerful and important perspective on

the 51% of the world which has been overlooked for much too

long.

Reading, Writing and Research: Introductory

Skills for the Empirical Psychologist

Patricia McKeegan, Ph.D.

State University of New York

College at Old Westbury

In our introductory psychology classes, we first present the field of psychology as an empirical science. Indeed, as Friedrick (1990) points out, we frequently employ a variety of strategies to actively convince our students of psychology's rightful place in the world of science. Concomitant with this emphasis, we expose the beginning student to the world of psychology beyond the course textbook by introducing the Psychological Abstracts and the almost overwhelming array of research designs in psychology. Oftentimes, this initial encounter with the professional literature and the confusing plethora of research designs leaves the undergraduate thinking she will never be able to master the rigorous thinking and writing required by the discipline. In addition, the teaching of basic research skills in psychology presents the challenges of (a) engaging student interest, (b) presenting material in such a way that students do not feel overwhelmed, (c) facilitating students' appreciation of the empirical aspect of psychology, and, (d) providing students with experience in conducting actual research. It is important, therefore, to employ a teaching methodology which engages students from the onset in an active step-by-step approach toward the learning of reading, writing and research skills.

This 80-minute workshop introduced participates to a "hands-on" pedagogy which employed the methodological cubes of research methods developed by Hendricks, Marvel and Barrington (1990). The methodological cubes were used to

guide the introduction of basic group and single-subject
design research, and to demonstrate this framework's
applicability for examining previous research and planning
future reseach. A tongue-in-cheek approach to the
"seriousness" of the research endeavor was demonstrated by
the use of "campus research" with such titles as "The Great
Pasta Run," and "The 'Best Ever' Versus the 'Easy Feat'
Method for Learning Statistics" as demonstrations of
research design.

The workshop suggested designing the syllabus of the
first methodology course around the actual process of
research in psychology. The use of worksheets which take
the student from the initial stage of library research,
through forming operational definitions, to data collection
was demonstrated.

A twenty-nine page handout illustrated the Hendricks et
al.(1990) methodological cubes and several student
worksheets and homework assignments. The handout also
included a suggested list of journal articles for use in the
introductory class as illustrative of particular research
designs as well as an annotated bibliography for
instructors.

References

Friedrich, J. (1990). Learning to view psychology as a science: Self-persuasion through writing. Teaching of Psychology, 17, 23-27.

Hendricks, B., Marvel, M. K., & Barrington, B. L. (1990). The dimensions of psychological research. Teaching of Psychology, 17, 76-82.

David S. Malcolm

Division of the Social Sciences

Fordham University

College at Lincoln Center

New York, NY 10023

Using Hypertext to Provide On-line Help

for Statistical Packages.

Due to the many benefits for the students there has been a large increase in the use of microcomputers in college courses. In statistics courses the use of statistical packages can free students from the necessity of hand computations and allow the use of problem sets of a larger and more realistic nature. More importantly it frees the students from worrying over the computations and enables them and the instructor to concentrate on the more important aspects of the course: The selection, interpretation and understanding of the basic principles involved rather than "getting the right answer".

However using computers is not without its difficulties. Many of our students are not comfortable with computers and a lack of experience and "computer phobia" can prevent them from obtaining the benefits enjoyed by their classmates. Whitney and Urguhart (1990) found that students in mathematics classes who were not comfortable with computers prior to the statistics class actually did worse than comparable students in classes taught in the traditional fashion without computers.

In addition to difficulties with the computer per se students often have an additional problem using statistics programs. They often do not understand the choices and questions presented to them by the software that must be answered to complete a problem. While one solution would be to sit with each student as they used the computer this is not practical. In addition it would not foster independence

and learning for the student.

To assist students in overcoming these problems an on-line has been developed using a shareware hypertext program called PC-Browse^{tm}. With this help system the student is presented with an opening menu that allows access to information on using the help facility and information about choosing and interpreting the statistical procedures. All of this information is organized using a hypertext structure allowing the student to retrieve only the needed amount of information. For example, a student might only need a brief reminder on scales of measurement prior to choosing a test. The initial screen of information on this topic presents the basic information and in addition contains links or triggers that may be selected which then present additional information. A student may follow a series of these links to obtain the needed information and then easily return to the starting point.

Statistical packages and other applications can be set-up so they can be run by selecting them from the Table of Contents or opening menu (see Opening Screen example attached). When running an application help is available on-line through the use of hot keys. One hot key calls up HELP and displays the Table of Contents allowing the user to look up the required information. An alternative approach is to use a hot key that activates HELP in a search mode. The user inputs a word or phrase and HELP locates the screen or screens of info mation containing the word. As before the

student can look up additional information and when ready return to the application by pressing Escape.

Developing your own HELP applications is relatively easy as PC-Browse handles all of the difficult part. You write the screens of information using any word processor that will save in ASCII. The hypertext triggers and targets are delimited with pairs of characters of your choosing and may be either printing or nonprinting characters. Browse also includes a definition file that lets you specify screen colors, the size of the pop-up window and other features of the program. PC-Browse is a shareware program produced by Quicksoft, 219 First N. #224, Seattle, WA 98109. This program has many other features and uses not included in this application and is usable in situations where you wish to provide on-line help for any application not just statistics packages.

By providing an on-line help facility that is easy to use, readily available at the time it is needed, and giving only the needed level of help all of the students should be able to work more independently and benefit from the use of microcomputers in statistics.

[Below is the opening screen of STATISTICAL HELP. Explore,
Epistat & Tutor are programs that may be run from this menu]

                        <STATISTICAL HELP>
                       Version 1.4, 2-11-91
                 David S. Malcolm, Fordham University

Help with HELP   Run a Program   Statistical Information

Getting Started   Explore   Descriptive Statistics
Using HELP   Epistat   Inferential Statistics
Basic Keystrokes   Tutor   Choosing a Test
Hot Keys   Setting Alpha Level
                                           Scales of Measurement
Printing HELP   Types of Hypotheses
Hypertext   Parametric Tests
PC-Browse   Types of Errors
                                           Controlling Error Rates
                                           Interpreting Results

    Highlight topic with TAB or Arrow keys; press Enter to select.

        Read Getting Started for an introduction to HELP.

[Second Screen with Introduction to Using HELP, hypertext links are underlined]

<Getting Started>
This program is designed to assist you in choosing, computing and understanding statistical tests. It uses a program called PC-Browse which allows you to explore information easily through hypertext.

When you pop-up HELP information will be shown on the topic. You will notice certain words are highlighted on the screen. These words provide links to additional information. You can follow a series of these links until you obtain the needed information (or have satisfied your curiosity). The computer will keep track of your path through HELP and you can easily retrace your steps back to where you started by pressing one key. The best part of HELP is that you can get the information you need while you are running your stat package or other application. HELP can pop-up over your application to answer your question.

Try it now by pressing TAB to highlight "hypertext" and pressing Enter. The computer will link you to the information on this topic. After reading it press the F4 key to return to this screen. If you need help understanding the key board press TAB to highlight that phrase and press Enter. Pressing the F4 key will return you here.

To continue with this introduction press the TAB key until USING HELP is highlighted, then press Enter.

129

[Last screen of introduction to using HELP]

<BASIC KEYSTROKES>

Use these keys to move around when you are in HELP. When "Shft"
is shown below you should press and hold the "SHIFT" key along
with the other key.

SELECTING HELP TOPIC; MOVING BETWEEN HELP TOPICS
   TAB   Jump to the next trigger, press Enter to select topic.
   ShftTAB Jump to the previous trigger, press Enter to select.
   F4   Move backward, return to previous topic.
   F9   Enter text you want HELP to find. Begin search with
             F10 to find the first occurrence of text. Pressing
             Enter finds the next occurrence.
   F10   Go to Table of Contents.

LEAVE HELP
   Esc   Exit HELP, return to application.

This completes the introduction on using HELP. Remember you can
always review this information by selecting a topic from the
Table of Contents. To print any of this information see
Printing HELP.

     Now press the F10 key to return to the Table of Contents.

Ann Gilchrist

Professor of Psychology

Ulster County Community College
Stone Ridge, NY 12484

CONDITIONING SOFTWARE

131

CONDITIONING SOFTWARE

Many students taking General Psychology have difficulty understanding classical and operant conditioning. Using an authoring system, the presenter created software to alleviate this problem.

The program encourages students to learn how to apply conditioning to practical settings. The author thought that students would be highly motivated to learn if they could see how to use classroom material in their lives.

The software presents several scenarios relating to classical conditioning, and the students respond to these situations by answering multiple choice questions. In some cases, they also respond to questions about how a learned fear can be removed. Regarding operant conditioning, students answer questions relating to the solution of a described problem.

Multiple choice questions provide the control necessary to catch students when they first start to apply conditioning incorrectly. This format also allows for an immediate statement explaining why a response is wrong.

Having to select an alternative, also forces students to do some thinking about the question. If one were to use completions or open-ended approaches, the author would have to allow students to press a key for the right answer to avoid some students from becoming permanently stuck. Providing this escape mechanism, however, might tempt students to press the right answer key without even thinking about the problem.

This computerized conditioning tutorial, applies the principles of conditioning to the students' learning. The ordering of the questions shapes the students' behavior, and the feedback to responses is immediate.

Furthermore, students can proceed at a pace that is comfortable for them, and their continual selection of question alternatives makes them active in the learning process.