

## A Behavioral Approach to Sex Education

Therese Zylla

G. David Demetral, MA

*ABSTRACT:* In line with the current trend toward normalization of developmentally disabled individuals, various institutions are implementing training programs for effective living skills-sex education being one such program. The purpose of the present study was to investigate the effects of a modified PSI training program on the sexual knowledge and behavior of three developmentally disabled females. Results indicated significant increases in the acquisition of sexual information, and follow-up data illustrated effective retention. Procedures used to control for potential weaknesses of the design are discussed. The possibilities for and implications of peer teaching of the program are also discussed.

A major trend in the treatment of the developmentally disabled is toward normalization. Inherent in this trend is the right to live as normal a life as possible. If developmentally disabled persons are to have rights, they also must have the knowledge required to exercise those rights in normal everyday living situations. Thus, there is a need for training programs in various aspects of effective community living.

Sex education is one such needed program. Many developmentally disabled women leave institutions with no information about sex or birth control (Bass, 1975).<sup>1</sup> This lack of knowledge may be explained by the general public attitudes toward handicapped people. Many people don't acknowledge that individuals with handicaps have sexual needs. How different from "normals" are they really, or how different do we make them by our attitudes toward them? (Kempton, 1975).<sup>2</sup> We deny them the right to express themselves sexually, when we the "normal" population, can't imagine ourselves living without expressing our sexuality.

The developmentally disabled especially need sex education because of their particular position and characteristics. Important consider-

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The authors are affiliated with the Drake University, Valley Mountain Regional Center, 850 N. Hunter St, Stockton, CA 95202. Requests for reprints should be addressed to G. David Demetral, 130 S. First St., Ann Arbor, Mich. 48103.

ations include their inability to obtain knowledge in normally utilized ways, their accessible position for exploitation, and their lack of knowledge of appropriateness of sexual expression (Kempton, 1976).<sup>3</sup>

Would a method of teaching utilized in normal populations be effective with institutionalized developmentally disabled persons? It has been indicated that special consideration must be given to the developmentally disabled since they learn slower (Bass, 1971; Gordon, 1972; Kempton, 1975).<sup>4,5,2</sup> It is suggested that they be taught with short, simple statements and pictures. Fischer, Krajicek, and Porthiek (1976) feel an individualized teaching method would be most effective in meeting the special needs of developmentally disabled persons.<sup>8</sup>

The PSI (Personalized System of Instruction) method of teaching has been heavily researched and many studies cite its superiority to traditional teaching methods in producing better learning (Sheppard & Mac Dermot, 1970) and better retention (McMichael & Corey, 1969).<sup>6,7</sup>

Previous authors (Bass, 1971; Demetral, Blackburn & White-Blackburn, 1977; Fischer, Krajicek and Porthiek, 1976)<sup>4,8</sup> have indicated that PSI would seem to be more effective than traditional teaching methods when training the developmentally disabled, because a PSI format breaks down material into small steps and requires students to master one small group of steps to criterion before progressing to the next set of steps (Keller, 1968).<sup>9</sup>

Demetral et al. (1977) have developed a modified PSI program for teaching sex education to developmentally disabled persons. Although they have reported impressive results with their program, it is questioned whether the results could be replicated by someone who has not had extensive training in the area of sexuality and the handicapped.

The purpose of this study was to investigate the effects of a modified PSI sex education training program on the sexual behavior and knowledge of three developmentally disabled adults.

## METHOD

### *Subjects*

Three female, developmentally disabled residents of Stockton State Residential Facility served as subjects. Subjects were referred for sex education training only if they met the following four criteria: 1) be able to follow simple directions; 2) never have had sex education before; 3) give informed consent or be over 18; and 4) have no extreme behavior problems which could interfere with the training. The subjects for this study were randomly selected from the population of all eligible females who met the criteria.

Subject 1 was 24 yr with an IQ of 58 as measured by the WAIS; Subject 2 was 30 yr with an IQ of 50 as measured by the WAIS; Subject 3 was 18 yr with an IQ of 63 as measured by the WAIS.

### *Materials*

The Sex Education Family Planning Course for People (Demetral et al., 1977)<sup>1</sup> was used. The program consisted of seven modules of independent material: 1) Gender identification; 2) Biological identification; 3) Sexual intercourse; 4) Pregnancy; 5) Hygiene; 6) Contraception; and 7) Venereal disease. Each module consisted of a separate manual with descriptive illustrations and concise statements of a concept and questions relating to the illustrations and statements. Each module also contained parallel forms of a pretest and posttest with 8-10 questions on material covered in the module. Parallel forms of a review test, with 36 questions covering all seven sections, were also used.

Supplementary materials, used in conjunction with specific modules, included a feminine hygiene kit, contraceptive samples, a feminine hygiene film, model dolls, and slides.

### *Design*

A single subject, pretest-posttest design (Cook & Campbell, 1975), modified to be a single subject, pretest-posttest multiple baseline across behaviors design (Baer, Wolf & Risley, 1968) was used. Baseline data was obtained from pretest measures on the seven independent behaviors. The tests were repeatedly administered as a pretest, posttest, and as a review and follow-up, to provide multiple baseline data.

### *Procedure*

Two one hour training sessions per week for three months were given to each subject. The training was conducted utilizing the modified PSI format. A subject was first given the pretest covering material on the module. Only an obtained quotient of 100 percent permitted a client to avoid training in a particular module. If the test indicated a deficit, training for that module was offered. Training involved progressing through a graded series of concepts by means of descriptive illustrations and statements with related questions. In all cases the subject was required to actively respond to each question. If a student gave a correct response to a question, social reinforcement was promptly supplied, in the form of descriptive praise, a smile, and/or a pat on her hand or arm. Reinforcement was quickly made intermittent to facilitate greater amounts of learning.

The program provides for incorrect responses by supplying the trainer with a remediation statement. An example of this from the program is:

Teacher: "Is this a picture of man or a woman?"

Student: "A woman."

Teacher: "No, this is a picture of a man because he has hair on his face, has a strong looking body, and is wearing men's clothing."

After a remediation is given, the question is repeated and the student will be more likely to make the correct response. An essential feature of the program is its emphasis on repetition and overlap. Material is presented repeatedly in an effort to facilitate not only acquisition but also retention of the concepts taught.

Upon completion of training in a module, a posttest was administered. If a student reached 100 percent proficiency on the test, she was ready to move to the next module. Three recyclings are permitted for each module before the client is terminated from training.

After training in all modules is completed, a review test was administered. A parallel form of the test was administered 14 days later, as a follow-up.

Reliability of test scores was calculated by a second observer after each independent observer recorded the verbal responses of the client. Agreement between observers was calculated by dividing the number of agreements by the number of agreements plus disagreements and then multiplied by 100.

## RESULTS

The average quotient obtained on all module pretests was 44 percent. The average quotient obtained on all module posttests was 100 percent, (it was a requirement of the program to earn 100 percent before progressing). The average number of sessions needed to complete a module (from pretest to posttest) was 2.7, with an average remediation rate of 1.1 per section.

Figure 1 illustrates Subject I's progression through the program. She had pretest scores of 55 percent, 33 percent, 10 percent, 40 percent, on modules 4, 5, 6, 7, respectively (She came to us knowing the first three modules). As indicated above, and shown in the graph she earned 100 percent on each posttest. Her review test score was 80 percent, and her follow-up test score was 94 percent.

Figure 2 illustrates Subject II's progression through the program. She had pretest scores of 100 percent, 25 percent, 27 percent, 33 percent, 30 percent, 30 percent on modules 1, 3, 4, 5, 6, and 7, respectively. As indicated above, and shown in the graph, she earned 100 percent on each posttest.

Figure 3 illustrates Subject III's progression through the program. She had pretest scores of 100 percent, 50 percent, 62 percent, 55 percent, 67 percent on modules 1, 2, 3, 4, 5, respectively. She earned 100 percent on each posttest.

## DISCUSSION

In using a modified version of the single subject pretest-posttest design it is important to be aware of its several potential weaknesses

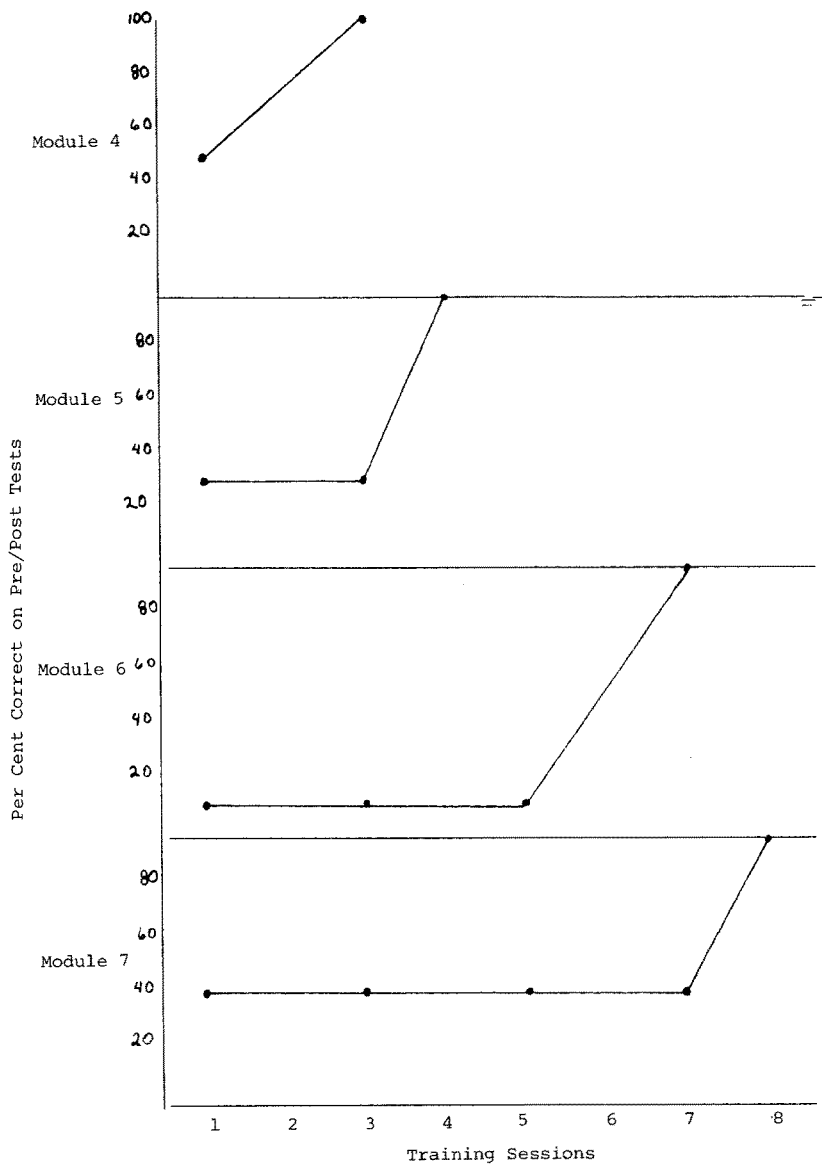


Figure 1. Per Cent Correct Scores on Modules 4-7 (subject 1).

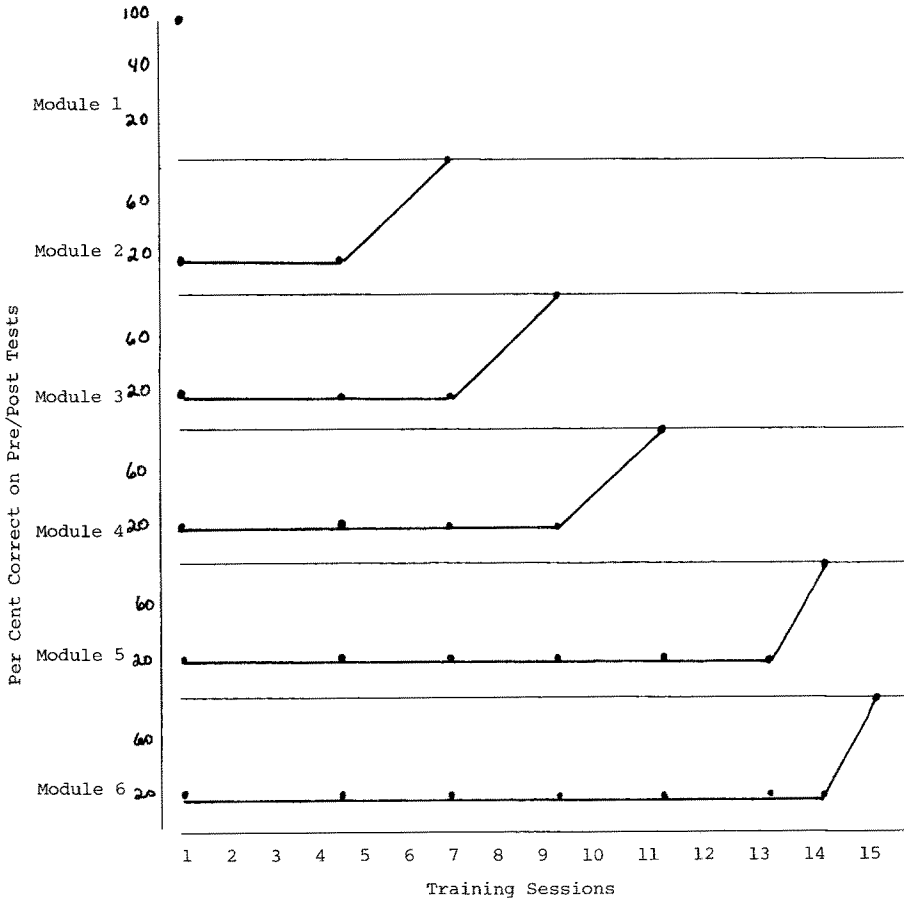


Figure 2. Per Cent Correct Scores on Modules 1-6 (subject 2).

and to control for them. History, or the fact that other events beyond the control of the experimenter, could have influenced behaviors, was controlled for by repeated pretesting on all modules. The phenomena of statistical regression, which predicts that low scores should improve toward the mean as a function of regression was not evident in our data, because the pretest scores didn't significantly increase even after repeated exposure. The possibility of measurement error was controlled for by taking reliability measures during review testing sessions. Two independent scorers obtained a reliability measure of 100 percent. The possibility of regression artifact due to selection of

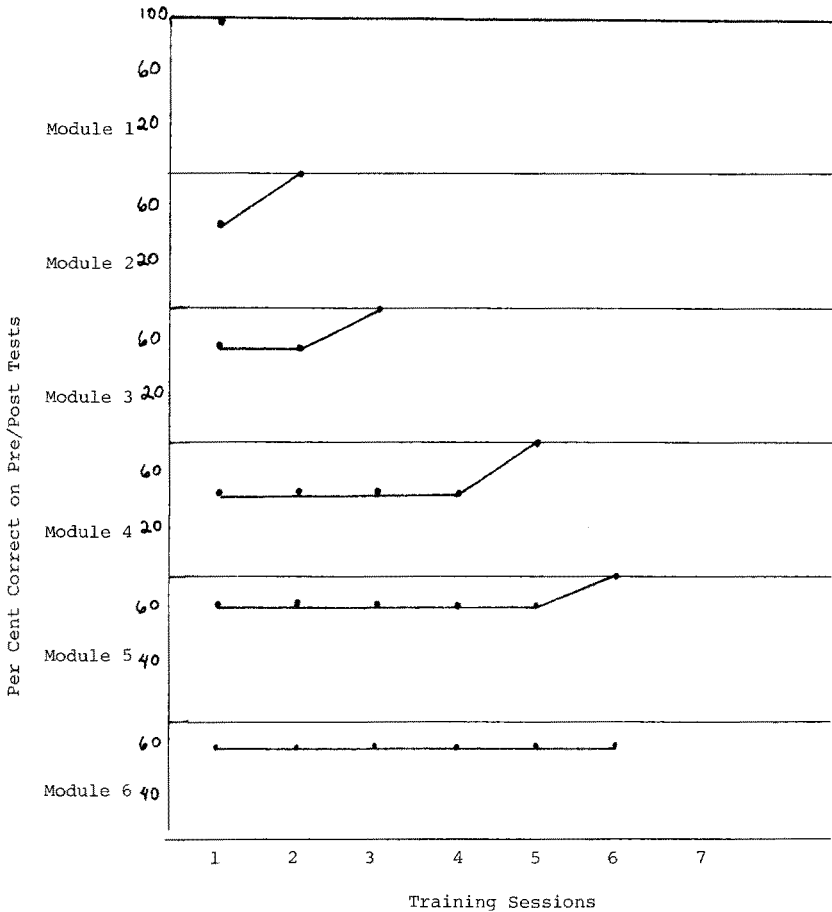


Figure 3. Per Cent Correct Scores on Modules 1-6 (subject 3).

subjects who, because they are from the extreme low end of a distribution, can only improve, was decreased by random selection of subjects. We were further assured they were not from the low extreme by the fact that they all scored high (100 percent) on pretest number 1, and no one scored 0 percent on any subsequent tests. Testing effects were eliminated as a possible confound because previous authors showed no differential effects of testing as a function of history. In light of this we also felt it would be unethical to give seven tests in one day, because it starts a student off negatively-failing several tests in succession with no correspondent learning.

The results of this study indicate success of the modified PSI program, even when carried out by an unexperienced trainer. The success of the program was seen as, at least partly, resulting from the fact that the PSI program requires a student to take an active role in learning. Students make a response and get immediate feedback, and the trainer can immediately assess whether material is to criterion before progressing. This active feedback process serves to reinforce not only the student but also the trainer.

Although there was no specific data obtained on generalization of sexual knowledge on resultant behavior, generalization effects in the form of verbalizations outside the training setting, were reported. Subjects verbalized to others on their unit what they had been discussing and learning in the training sessions. One student especially spoke of correcting misconceptions regarding various aspects of sexuality that her peers had displayed.

As an additional component of the program, subject I, upon completion of her own training, served as a supplementary trainer for subject II. This seemed to be beneficial in several ways. It served to reinforce the material she had previously mastered, and it gave the other student a new perspective on the material by providing peer support, explanation and reinforcement.

Our plan is to fade the trainer out and have the student teach more and more on her own. The major implication of this strategy is that it makes the material much more accessible. Peer teaching can have a pyramid effect, in which more and more people can learn to give the training, thus more and more people are able to receive the training. This is seen as a major benefit or positive application of the program and so accordingly deserves some further investigation.

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