SESSION 3 COURSEWARE APPLICATIONS

Chaired by Margaret Anderson, State University of New York at Plattsburg

Using a computer simulation in the research, training, and evaluation of school psychologists

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A computer program, School Psychologist Simulation, is described. The program presents users with information and events such as might be encountered in a real school setting regarding schoolchildren referred to the school psychologist; users can practice the skills needed by a school psychologist in the assessment of the case. The participant then submits a report detailing assessment, recommendations, and reasoning for the case in either essay or multiple-choice format. An additional program permits the instructor to customize the material presented to the user by modifying the case material of a specific child and/or by altering the forms displayed to the user in all cases.

School psychology trainers have often found that coursework alone provides insufficient experience for students to integrate their skills into real-world problem-solving situations. Students may pass qualifying exams but be unable to survive an internship in the public schools because they lack concrete experience with decision making. Opportunities to develop good judgment are limited by multiple factors, including record confidentiality, time constraints, and access to children. Public schools are reluctant, for ethical reasons, to make children's records available and to permit the evaluation of their pupils by relatively untrained graduate students (American Psychological Association, 1981; Bersoff & Hofer, 1990). Practicum placements may permit students to "look at but not touch" young children.

Usual methods of training through lectures, books, or seminars frequently do not allow sufficient time for the interaction and feedback that are necessary to adequately train graduate students. In addition, there is a need to help practicing school psychologists to keep abreast of new developments.

Newer methods for presenting standardized case material to school psychologists for training and research purposes are needed. McDermott (1980, 1981), using printed material, found little agreement among school psychologists regarding diagnosis of a standardized set of information; in fact, a negative correlation was found between amount of training and experience in the field of school psychology and levels of agreement among practitioners. Ward, Ward, and Clark (1991) similarly used printed material in an effort to assess similarity of judgments by school psychologists on the basis of the type of referral they received and their experience in the field.

A diagnostic management problem (DMP) procedure has proved quite useful in medicine and other fields in evaluating diagnostic competencies (e.g., McGuire, Solomon, & Boshook, 1976; Rimoldi, 1961; Slater & Slater, 1971). Gredler (1990) used the DMP format to assess diagnostic agreement in the field of school psychology by presenting 46 "diagnostic bits" of information to subjects on 3×5 in. cards. Participants selected the data by name. The order and the name of the index card selected was checked off by the subject on a master index sheet, subjects being allotted up to 1 h to complete the activity. They then were asked to give plans for management of the problem, along with their conclusions and reasons for the child's behavior and learning difficulties. Efficiency and proficiency scores were computed based on an "expert" solution of the case.

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Computer simulation is a technique currently being used to replace or at least supplement printed material in many areas. A cursory glance through one commercial catalog, Chariot Software Group's Higher Education Software Collection (1991), for example, lists such applications as Interactive Physics, MacChemistry, Beaker, MacSurvey, SimZym, and Airline as simulations in areas ranging from physics to sociology. In a simulation produced for Harvard Law School, student lawyers pursue case information while encountering the difficulties and limitations faced by actual practicing lawyers (Hoelscher, 1988). It is clear that simulations create opportunities for trainees to learn, integrate, and apply the knowledge of their discipline without the costs of time, money, or injury to others that might occur if actual people were involved.

The benefits of computer simulation over methods utilizing printed material lie in the added realism of the visual input and animation that computers permit, the ease in replacing data and information if desired to continually update the simulation, the precision in activity tracking and record keeping that computers permit, and the enjoyment that users report when interacting with a "game" rather than a more formally structured investigation.

School Psychologist Simulation, a computer simulation program for use by school-psychology students and professionals, was developed to take advantage of these benefits. The simulation can be run on any Macintosh computer that has HyperCard 1.2.5 (or later version) and at least 2 MB of RAM. The program does not require students to have much computer knowledge; basically, all that is needed is the knowledge of how to begin an appli-

cation on the Macintosh and how to use the mouse. A small training program in using the mouse and choosing from menus on the Macintosh is an option included in the program's introduction for those users who desire it.

DESCRIPTION OF THE PROGRAM

The simulation begins with the user selecting by name one of (at present) five cases available in the program. The user is then placed at a school psychologist's desktop (Figure 1) and watches as a Committee on Special Education (CSE) form is placed by an animated hand into the "In" box on the desk, then taken to the desktop and opened (Figure 2). It is a referral to the CSE from a teacher who has been having problems with a child, and it describes in brief form the problem as reported by the teacher. After the user has completely read the information on the form, it is "filed" by being moved over to the nearby file cabinet, and the desktop is left ready to be utilized by the participant.

The user can then choose to perform many actions: letters can be sent, phone calls made, or personal visits conducted with the child's parents or guardians and/or the child's teacher for interviews; past school record files can be checked in the file cabinet; the child's behavior in the classroom can be observed; and an appointment can be made for the child to be evaluated. Tests to be administered at the test session can be chosen by the user from more than 50 standard academic, personality, intellectual, and behavioral tests. After administration of a test, results are shown to the user in the form suitable

School Psychologist Computer Simulation

Figure 1. Desktop of the School Psychologist Simulation program.

CSE REFERRAL FORM

Child Study Team Report ☒ Completed ☐ Not Comp
 Parental Consent Form ☐ Completed ☒ Not Comp

Date 3-17 Referral for Child Study Team ☒
 Date Referral for Psychological Services ☐
 Date 4-1 Referral for Committee on Special Education ☒

I. Child's Name David Coronado Sex M Age 6 - 2
 Address 531 South Main Street Telephone
 Father or Guardian Jesus Coronado Occupation factory work
 Mother or Guardian Maria Coronado Occupation homemaker
 School Patterson Grade K
 Date of Referral 4-1 Referred by Miss Williams

II. Presenting Problem (What do you see as the problem(s)?
Significant delays in receptive and expressive language

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Figure 2. First page of the CSE form in the SPS program.

for the test; they may be numerical results, projective pictures drawn by the child, or the examiner's notes of the child's behavior during that test. Notes taken of the student's behavior during the testing session as a whole are displayed after the examination is completed.

At any time during the program, the user can make notes to himself on a "Notepad" that can be consulted and edited. Help is available at any point by pressing a "Help" button. Written "Participant's Instructions" are also available to the trainer that can be distributed in advance of the simulation.

Since many options are available to the user at all times, effectively and efficiently choosing among them requires a range of professional skills, including decision making

ability, diagnostic competency, and knowledge of varied intervention strategies.

When satisfied that enough information has been gathered to complete the assessment, the participant creates a report on the case to the CSE as the final product. The report may be typed directly onto the computer screen in an unstructured format or chosen by the user from various multiple-choice categories predesigned by the instructor or both, as required by the trainer. An option is available to permit the report to be printed immediately if a printer is attached to the computer.

Throughout the session, the computer saves a list of each of the student's decisions as they are made as well as a copy of the CSE final report. The final report is valu-

INSTRUCTOR'S AID®

Case name/New case Current Case
Denis George

Redo a Document/Test Button Help

Redo Assessmt Recom.

Redo Assessmt Forms

Export Changes to SPS

Delete a Case QUIT

Allows you to modify the assessment forms which the student completes at the end of the SPS simulation.

Figure 3. Opening screen of the Instructor's Aid program.

able as the summary assessment and recommendation document by the user; the decision-path text provides additional information for feedback and evaluation as to how the student arrived at these conclusions. Trainers and students can review the student's choices versus the alternatives that were available and suitable but not chosen by the student.

An accompanying Instructor's Aid program allows the trainer to modify both the specific case material and the format of the assessment instruments to meet the particular needs of the state or district in which the training is taking place (Figure 3). This is crucial since states and districts have differing criteria that must be met in order for schoolchildren to receive help, as well as varying definitions of the diagnostic conditions themselves and the forms on which the information must be submitted to the appropriate agencies. The Instructor's Aid program permits the format of the evaluation instruments to be easily modified so that they can be tailored to state or local requirements and to revisions in tests as they occur. It also allows trainers to modify the specific case material to make a diagnosis clearer or more ambiguous, to permit varying levels of difficulty for different stages of the training sequence.

Simulations such as this one appear to offer interesting and efficient aids in the training of professionals, in maintaining the skills of those already in the field, and in es-

tablishing standardized material suitable for research purposes.

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