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ABSTRACT

The evaluation report is one of seven produced for the Occupational Exploration Program (OEP), a series of simulated occupational experiences designed for junior high school students. Describing the pilot testing of the simulation dealing with education, the report contains sections describing the simulation context, evaluation procedures, results, and a Reviser's Information Summary (RIS). In the simulation students worked on the design and development of a school for the Spaceship Scorpio, about to take a long voyage in space. The occupational roles simulated included educational researchers, consultants, community members, and other student-selected educational roles. The experimental design involved two Colorado schools, with a total of four experimental and four control groups involving 97 eighth and ninth graders. Instrumentation included knowledge and affective testing, student and teacher questionnaires, and a panel review. Analysis of variance and other descriptive statistics were employed and reliability estimates were calculated. Analysis of variance results revealed that the simulation had a positive impact on student occupational knowledge, but no impact on student occupational preferences. The RIS records and extrapolates trends related to the strengths, weaknesses, and recommendations from all data sources. Appended materials include the evaluation instruments used and the teacher log. (MW)

PLANNING EDUCATIONAL PROGRAMS
AN EVALUATION REPORT FOR THE
OCCUPATIONAL EXPLORATION PROGRAM

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ABSTRACT

PLANNING EDUCATIONAL PROGRAMS

EVALUATION REPORT FOR THE OCCUPATIONAL EXPLORATION PROGRAM

By: James W. Altschuld; Sandra Pritz

This report is one of seven evaluation reports produced for the Occupational Exploration Program. The Occupational Exploration Program (O.E.P.) is funded by the National Institute of Education and is a joint development effort of The Center for Vocational Education (The Ohio State University) and the Jefferson County, Colorado public schools. O.E.P. is a series of experiences designed to provide junior high school students with the opportunity to explore occupations. One of the major vehicles for exploration is the simulation technique. In 'FY' 1974, 12 simulations were developed and seven of those twelve were pilot tested. This report describes the pilot testing of the simulation dealing with education. The report contains sections describing simulation context, evaluation procedures, results and a Revisor's Information Summary (RIS). The RIS is useful for a variety of purposes and includes the strengths of the simulation as well as its weaknesses. Below is a synopsis of the specific content of the report.

SIMULATION CONTEXT: In this simulation, students work on the design and development of a school for the Spaceship Scorpio. Students are told that Scorpio is going to be on a long voyage into space. The ship will not only have crew members aboard but due to the length of the voyage, families of the crew will also come along. The problem situation confronting students then is to develop or design a school for the spaceship. In this simulation, the occupational roles include educational researchers, educational consultants, community members and other educational roles which students select for the spaceship's school. EXPERIMENTAL DESIGN: For evaluating this simulation, two schools, one in Jefferson County, Colorado and one in Denver, Colorado were used, each school having two experimental and two control groups. A teacher facilitated the implementation of the simulation with each experimental group. The experimental and control groups consisted of 8th and 9th graders; the four experimental groups totaled 38 students and the four control groups totaled 59 students. INSTRUMENTATION: A 45 item multiple choice knowledge test, "What Do You Know?", and as item affective test, "What Do You Like?", were administered as pre- and posttests measuring student occupational knowledge gain and attitudinal change. The student post module questionnaire, "What Do You Think?", administered to the experimental group after completion of the simulation, measured student perceptions of the module. Teacher questionnaires and a panel review were designed for the purpose of obtaining teacher perceptions of the simulation. ANALYSIS: The knowledge test and affective test results were derived through analyses of variance. Other descriptive statistics were employed where appropriate (i.e., frequency, percentage). Reliability estimates were calculated to obtain the internal consistency estimates of the knowledge test and to determine inter-coder and intra-coder agreement for the attitude

scale. RESULTS: The ANOVA results reveal that the simulation had a positive impact on student occupational knowledge in the education field ($p \leq .05$); but, no apparent changes in student occupational preferences were noted. Generally, the simulation was perceived to be successful from student and teacher comments collected from questionnaire data. REVISOR'S INFORMATION SUMMARY: The RIS was designed to not only assist revisors to assimilate information collected during the pilot-test, but also as a unique way of summarizing the data. The summary is a record of the strengths, weaknesses and recommendations for revisors from all data sources (i.e., student tests, student questionnaires, teacher questionnaires, etc.). Trends have been extrapolated which list the most apparent strengths and weaknesses of the simulation as well as recommendations to be considered in the revision of the simulation.

Acknowledgements

An evaluation report is usually a product of the endeavors of many individuals. The authors of this report therefore wish to thank:

1.) Roberta Adams for helping to develop the "What Do You Know?" achievement test used in this evaluation;

2.) The teachers, administrators, and students in Jefferson County, Colorado and Denver, Colorado who, by participating in the use of educational materials and in the testing of those materials, made this evaluation report possible;

3.) Jon Schaffarzick, Michael Hock, and David Hampson of the National Institute of Education for their support of this effort; and

4.) The ten project staff members identified on the cover, who, by their support, expertise and/or direction contributed to the production of this report.

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I. Brief Description of the Module

The education module consists of a preview, a preparation section, five major tasks or activities and a summary section. The Preview is a slide tape presentation designed to motivate the student as well as to create a mental set for participating in the module. The presentation continually depicts man's primitive past in juxtaposition to or interspersed with pictures of recent space achievements. The student is told that in this simulation he/she will be working on designing or developing a school for a spaceship. The preview is scheduled for about a period.

The Preparation section is a slide-tape presentation describing Spaceship Scorpio. After viewing the presentation students examine a diagram of the spaceship that is included in the Preparation Handbook Resource Packet. For the Preparation, students are told that Scorpio is going to be on a long voyage into space. The ship would not only have crew members aboard but, due to the length of the voyage, families of the crew would also come along. The problem situation confronting students then is to develop or design a school for the spaceship. The preparation section is scheduled to last approximately one period.

Handbook 1, Identifying People and Courses deals with describing the Scorpio community and determining the educational needs of the community. Students are divided into two groups, educational researchers and educational consultants. The groups conduct a mock survey of the Scorpio community—the researchers focus on the age, sex, occupation, etc., of the Scorpio space family, and the consultants study educational needs, hobbies, etc., of the population. As a result of the survey, the curriculum for

the Scorpio Space School is decided upon. Roles in this task include the educational consultant, the educational researcher, and community members. The survey and designing the curriculum occupy about two or three periods.

In Handbook 2, Deciding What Staff is Needed, the students form a planning committee for the purpose of determining what staff is needed in the school. The students study careers now existing in the schools to see what particular staff members they would like to include in their school. Due to the limited size of the ship, only ten educators or individuals in education-related careers will be allowed to participate in the voyage. Roles in this task include only membership in the planning committee of the school. Time required is about one period.

In Handbook 3, Hiring the Staff, the students are required to fill out applications for the ten educational roles and to then interview for the position of their choice. At the end of the task students are in roles and ready to begin planning the school's facilities and supplies. Roles here include being members of the interviewing committee and roles in education as designated or chosen by students.

Following upon the experiences of Handbook 3, the students in Task 4 are required to Plan Facilities and Supplies. To accomplish this they work both individually and in small groups to lay out the physical design of the Space School and to determine the supplies that will be needed. Roles in this task are the same as those chosen by the students in Task 3. Task 3 and 4 require about three to four and one to two periods, respectively. In Task 5, Evaluating the School Program, students compare the school and school program that they have designed against the survey results that they tabulated and analyzed in Task 1. Again roles are

identical to those chosen by students in Task 3. Suggested time for Task 5 is one class period.

The Summary Phase consists of the students conducting a "Tomorrow Show" in which they assume the role of space travelers returning from an extended space voyage. They relate to others (students, teachers, etc.) their perceptions of the educational work they did while aboard the ship. Roles are essentially identical to those in Tasks 3, 4 and 5. This task is somewhat flexible and may take as many as two class periods.

The overall length of this simulation was to be approximately fifteen periods. Aside from the roles of the educational consultants and researchers, the other educational roles were flexible depending upon the individual interests of students and their perceptions of what constitutes a school for space.

II. Description of Evaluation Procedures Employed

A. Specific Sample Used

1. Schools - for this module one Jefferson County and one Denver school were used. In each school there were two experimental and two control groups. The schools and the teachers were selected via discussion with administrators and teachers in each of the districts. A brief description* of the schools follows.

   Alameda Junior High School (Grades 7-9), Jefferson County.

   Alameda Junior High School is a small school with approximately 700 students in grades seven through nine.

*Descriptions were obtained by John Radloff of the Jefferson County project staff.

It seems to have a fairly stable school population in that school records indicate that over seventy percent (72%) of the ninth grade population have been in this particular school for three consecutive years. Additionally, very few of the ninth graders have attended more than two elementary schools. Lorge-Thorndike tests administered at the school indicate a fairly normal distribution of student ability. The distribution of parental occupations shows that 48 percent of the mothers are working and that almost 54 percent of the fathers are in managerial, professional or skilled positions. The school population is primarily caucasian (93 percent) with the remaining seven percent coming from other minority groups.

Hamilton Junior High School (Grades 7-9), Denver.

Hamilton Junior High school is a large school with approximately 1,600 students enrolled in grades seven through nine. The area served by the school is quite large and over sixty percent of the students at Hamilton are bussed in each day. The students generally come from the middle income range but there are some students from upper income areas. Student achievement seems to be relatively high. (According to the assistant principal, over half of the seventh grade students maintain a B or higher academic average.) The racial make-up of the school is estimated to be 80 percent caucasian and about 20 percent in minority groups. Further specification of the population was not available for this school.

2. Sample within Schools

a. Teachers

In Alameda Junior High School one female and one male teacher volunteered to participate in the teaching of the module. The following demographic data on the teachers was collected:

Years of Teaching Experience

1 year (N=1), 2 to 4 years (N=1)

Subject Area Usually Taught

English (N=2)

Prior Experience with Simulation Techniques

As an observer (N=1)

No data available (N=1)

In Hamilton Junior two male teachers volunteered to participate in the teaching of the module. The following demographic data on the teachers was collected:

Years of teaching experience

2 to 4 years (N=1), 6 to 8 years (N=1)

Subject area usually taught

Social Studies (N=2)

Prior experience with simulation techniques

As both a teacher and participant (N=1)

No prior experience (N=1)

b. Students

The nineteen students from Hamilton Junior High School (Denver) who participated in the module were volunteers from physical education classes. The overall balance with regard to sex was eight males and eleven females in the experimental classes. The students were all eighth graders.

The seventeen students from Alameda Junior High (Jefferson County) who participated in the module were mostly volunteers from eighth grade language arts classes. The overall balance with regard to sex was six males and eleven females.

The control groups in Denver were students selected from other than regular classroom settings. For analysis purposes and to accommodate the need to have two comparable control groups, the students were randomly assigned to either Denver Control Group #1 or Control Group #2. The total number of students involved in the control groups is twenty-two with the male-female balance being twelve and ten, respectively.

The control group in Jefferson County consisted of the two eighth grade language arts classes. The number of students involved is thirty-seven with the male to female balance being fifteen and twenty-two, respectively.

In summary, the sampling was far from ideal. It was impossible to conduct more systematic sampling due

to program and organizational constraints within buildings. As will be described later in the experimental design results section, initial pretest group differences were present.

It also should be noted that experimental results are based only on students who took both the pre and posttest. There was sample loss in the testing of the module as follows:

- Denver experimental groups, all nineteen students who started the experimental program completed it (zero percent loss);
- JeffCo experimental groups, two of the nineteen students who started the program did not complete the posttest (eleven percent loss);
- Denver control groups, nine of the thirty-one students who took the pretest, did not complete the posttest (twenty-nine percent loss);
- JeffCo control groups, six of the forty-three students who took the pretest, did not complete the posttest (thirteen percent loss).

Sample loss is always difficult to account for in an experimental situation. Some students may have been sick or otherwise out of the classroom during the pre or posttesting time. The logistical set-up for the test of this module required that an administrator be present at each testing session. Provisions for follow-up testing of students who missed a session were not feasible given the available manpower in the field. Some students may simply have avoided taking the tests. The sample loss in this instance does not seem to be large enough to invalidate the results of the experimental design and efforts will not be made to study the loss in any detail.

B. Types of Classes and Groupings

Knowledge of the type of class or group setting in which the module has been tried is important information in regard to interpreting the module results. In Denver, the students who participated in the module were able to experience it in a manner close to that intended by developers. Small (N=9 and 10) groups of student volunteers were used in the pilot test. They used the module independently of or without the distraction of other groups of students. No doubling up on roles was necessary.

In Jefferson County, a similar situation prevailed. Students, for the most part, volunteered to participate in the simulation. Two small groups were thus formed. The groups used the module independently of the rest of the class. In addition, they were kept physically separated from other students in the class.

C. Experimental Design as Implemented

Given the small size of the experimental groups it was decided not to partition the design by sex as specified in the proposal. This eliminates the possibility of studying the test scores of males and females. Aside from this one small change, the design is basically that stated in the proposal. Schematically the design could be depicted as below:

Figure 1 - Schematic of the Experimental Design For The Education Module

		Pretest	Posttest
Hamilton (Denver)	Experimental Group #1	S_1*	S_1 ⋮ S_N
	Experimental Group #2		
	Control Group #1	S_1 ⋮ S_N	S_1 ⋮ S_N
	Control Group #2		
Alameda (Jefferson County)	Experimental Group #1		
	Experimental Group #2		
	Control Group #1		
	Control Group #2		

*In order for a student's scores to be included in the analysis, he/she would have had to participate in both the pre and posttest.

The analysis will be the same as designated in the project proposal for the Occupational Exploration Program (FY'74) with the exception that the sex variable has been deleted. Of key interest will be the interaction between the experimental-control variable and the pre and posttest variable. If the module has had an impact upon students, a significant interaction would be expected with the source of the interaction being a sizeable experimental group gain on the posttest. Separate analyses will be run for the total cognitive test scores as well as for one dimension of the attitudinal scale. The analyses will be in accordance with the abbreviated summary table shown below.

Table 1 - Partial Anova Summary Table
For The Education Module

Source*		df	Potential F Test
	Between Students	abcn-1	
Term No.	Between Classes	abc-1	
1	A	a-1	1/4
2	B	b-1	2/4
3	AB	(a-1)(b-1)	3/4
4	C/AB	ab (c-1)	4/5**
	Within Classes	abc (n-1)	
5	E/C/AB	abc (n-1)	
	Within Students	abcn (d-1)	
6	D	(d-1)	6/10
7	AD	(a-1)(d-1)	7/10
8	BD	(b-1)(d-1)	8/10
9	ABD)	(a-1)(b-1)(d-1)	9/10
10	CD/AB	ab (c-1(d-1)	10/11**
11	ED/C/AB	abc (d-1)(n-1)	
	Total	abcdn-1	

*A brief discussion of the variables will be included in the text immediately following this table.

**The results from the two starred F tests are important in that if the test yields an insignigicant F ratio, then the two terms 4 and 5, and 10 and 11, could be respectively pooled and used for the remainder of the appropriate F tests.

The independent variables for this module are described below:

Variable	Description	Type
A	Treatment (experimental vs. control)	Fixed; between levels of C
B	Schools (Denver vs. Jefferson County)	Fixed; between levels of C
C	Classrooms (N=8)	Random; nested within AB
D	Testing (Pre. vs. Post)	Fixed; within S's (repeated measure)
E	Students	Random; nested within ABC

D. Instrumentation - Instrument Specifics

1. Knowledge Test - What Do You Know? (The test is appended to this report)

The knowledge test for education consisted of 45 questions. The test included 16 multiple choice questions; 6 True and False questions; a matching question with 10 parts; a question containing a situation followed by 7 statements related to the situation (the student had to check as many statements as he felt would be helpful to the situation); and a 6 part question which required the student to arrange the 6 parts in terms of order. For purposes of analysis, each part of a question with more than one part was treated as though it were a single question. Thus, the test contained 45 total questions.

In general, the questions were at a low comprehension level in relation to the Bloom Taxonomy. Two basic thrusts or areas were emphasized in the tests - process and responsibility. An example of a process question is as follows:

Test Question #10

When evaluating a plan for an educational program, the most important concern should be:

*a. Whether the plan serves the needs of the community
b. Whether the plan provides for new textbooks every five years
c. Whether the plan includes the teaching of world geography at grade 8 or grade 9
d. Whether the plan calls for the involvement of a parent-teacher organization.

Process questions generally deal with understanding the nature of steps involved in doing work such as planning an educational

*Indicates correct answer.

program, understanding what information might be necessary to perform a certain function, etc.

Responsibility questions, on the other hand, deal generally with who or what group has responsibility for getting a certain job done, or who has responsibility for making decisions at a certain point in time, etc. An example of a responsibility question is given below.

Test Question #25

Which of the following groups is responsibile for operating a school?

a. Parent-Teacher Association
*b. Board of Education
c. National Education Association
d. All of the above

2. Affective Test - What Do You Like? (The Test is Appended To This Report)

The affective test was designed to measure attitudinal change on the part of the student. The first five questions consist of asking the student if he/she would like to try doing an activity. The student could respond in one of four ways to the item.

-Yes, I would like to try this
-No, I would not like to try this
-I'm uncertain about trying this
-I don't have enough information to know if I would like to try this.

The scale is scored so that the stronger the preference for trying to do an activity, the higher the score. Thus, yes and no responses receive the same scale value of 3, uncertain responses receive a 2 and not enough information types of responses receive a value of 1. These values are then summed and used in the analysis of variance described earlier. Summed scores can vary from zero (no response whatsoever)

*Indicates correct answer

to 15. Note the scale is scored so that strength of preference, rather than direction of preference is the important factor (i.e., yes and no responses while being in opposite directions, represent the same strength of preference and therefore receive the same score).

In addition to the scaled responses, students were encouraged to state reasons for their preferences. These reasons were classified and in conjunction with the scaled responses, were coded and transferred to machine scorable forms. Inter-rater and intra-rater agreement checks were made on the scoring process (See results section).

There were 8 other questions included in the What Do You Like? scale. The 5 questions following those just described were similar in nature to the earlier ones, but they required the student to supply or fill in the type of activity that he preferred or did not prefer to do. Given the totally open-ended nature of this set of questions, it was difficult to develop an adequate and relatively exhaustive scoring scheme. In addition, given the state of development and the early trial nature of the pilot test, a decision was made to exclude results from these questions in the analysis of variance.

(The last 3 questions on the test were open-ended and asked the students about the experiences one should have before deciding on a job, the types of things that one should consider before taking a job, etc. The responses were classified and scored. Due to some difficulties in scoring these questions results will not be presented.)

3. Student Post Module Questionnaire - What Do You Think? (The Questionnaire is Appended To This Report)

This questionnaire was administered to students after they had

completed the module and the module posttest. This instrument was administered only to the students who participated in the module. The content of the questionnaire relates directly to student perceptions of the module. The first twenty questions are in a scaled format. Questions in this set relate to a student's perception of the clarity of directions, the extent to which the module interested him/her, etc. For analysis and use, the results will be grouped and descriptively reported by the subject area to which they pertain. Other questions in the questionnaire deal with parts of the module the student liked best, parts he/she liked least, role(s) played in the simulation, etc. These questions will be descriptively summarized and included on the Reviser's Information Summary (RIS).

4. Teacher Evaluation Log - The Teacher Evaluation Log consists of five instruments packaged in one booklet and an additional instrument to be used after the module was completed. The sixth instrument is entitled "General Module Evaluation." The instrument order within the log parallels the ordering of the module. In other words, after students had completed the Introduction to Simulation, teachers would fill in the questionnaire regarding that part of the module. After students had completed the preview, teachers would fill in the questionnaire pertaining to the preview, and so on. Below is an instrument by instrument description of the five instruments contained in the log.

LISTING AND DESCRIPTION OF TEACHER LOG

No.	Questionnaire	General Description
I.	Introduction to Simulation	What materials were used; effectiveness in terms of student understanding and interest, technical quality, suggestions, etc.
II.	Module Preview	What materials were used, effectiveness in terms of student motivation, technical quality, etc.
III.	Preparation Phase	Similar to above questionnaires with the addition of questions regarding integration or fit with the rest of the module and questions pertaining to the role selection process.
IV.	Participation Phase	A questionnaire similar to a daily log wherein teachers primarily identified student and teacher problems in getting tasks done.
V.	Summary Phase	Questions relating to the summary in terms of it being a reasonable culminating activity, etc.

The General Module Evaluation questionnaire solicited teacher opinions of the module as a single entity through questions related to the overall adequacy of materials, the sequencing of materials, module implementation, student participation and learning, and recommendations. The first several pages of the questionnaire dealt with teacher and student background.

5. Teacher Post Module Panel Review

After a module was completed, the teachers who had participated in the pilot test were convened to discuss the module. Per each individual section of a module teachers were asked about: the particular strengths of that section; the weaknesses; classroom solutions they used to overcome weaknesses; and what recommendations or suggested changes they had for revising the module. Emphasis during the review was placed upon probing into their perceptions of the module and looking for consensus among the teachers.

A. 1. Knowledge Test - Internal Consistency

Internal Consistency (K,R, #21)
By Total Groups and Testing Time
For Total 45 Item Test

Group \ Testing Time	Pretest	N	Posttest	N
Total Experimental Group	0.73	36	0.88	36
Total Control Group	0.64	59	0.80	59
Total (Exp. and Cont.) Group	0.68	95	0.84	95

Interpretation/Comments

As clearly indicated in the table, the knowledge test for education is very reliable. The reliability for the posttest is considerably higher than the pretest reliability. This would be expected both on the basis of experimental group growth in knowledge as well as the effect of the pretest on both experimental and control group understanding. The total test scores for this module can be interpreted with a high degree of confidence.

A. 2. Knowledge Test - Validity

See Reliability Table for upward bounds or estimates of potential validity coefficients. (These would be equivalent to the square root of the reliability coefficients.)

Interpretation/Comments

Although no direct attempt was made to develop strategies or methods for determining validity, certain factors which would contribute to test validity should be kept in mind. First, in test development, care was taken to eliminate items which were not career oriented. Items dealing with trivial detail were omitted. Secondly, three individuals reviewed the drafts and final version of the test. The test was considered to have reasonable face validity.

Other types of validity such as predictive, concurrent, construct, etc., were beyond the scope of this pilot test. For example, if a factor analytic study was attempted in order to determine construct validity, the values derived would be questionable with the sample size used in the pilot test. As a general rule of thumb, 200 cases are necessary for a factor analytic study. This is more than double the obtained sample size of 95.

A. 3. Knowledge Test - Total Score Results

Group Means and Standard Errors
By Total Groups and
Testing Time for Total 45 Item Test

Group \ Testing Time	Pretest			Posttest		
	Mean	S.E.	N	Mean	S.E.	N
Total Experimental Group	26.1	3.2	36	28.5	3.0	36
Total Control Group	25.9	3.3	59	26.4	3.2	59
Total (Exp. and Contr.) Group	26.0	3.2	95	27.2	3.1	95

Interpretation/Comments

From this table several major facts emerge. First, the reliability estimates given earlier and the standard errors shown in this table suggest that the knowledge tests operated similarly in all groups, exclusive of where the actual mean values fell. There is a sizeable, difference in means with the experimental group showing a large pre-posttest gain. The control gained somewhat as would be expected, based upon exposure to the pretest.

A second key factor to note is that the experimental group gained 2.4 points on a very reliable test with a high pretest test mean score (approximately 26.0). Undoubtedly, the gain is in items of higher difficulty. This will not fully appear in the experimental analysis but should be noted by the reviser, i.e., the module does appear to be having a rather sizeable positive impact on the knowledge of students.

A. 4. Knowledge Test - Subtest Results

Subtest Means and Standard Deviations by Total Group and Testing Time

Testing Time / Group	Sub* Test	Pretest Mean	Pretest S.D.	Pretest N	Posttest Mean	Posttest S.D.	Posttest N
Total Experimental Group	A	14.1	4.2	36	15.9	5.34	36
	B	11.9	2.6	36	12.5	3.9	36
Total Control Group	A	14.1	3.8	59	14.7	4.4	59
	B	11.8	2.5	59	11.7	3.8	59
Total (Experimental and Control) Group	A	14.1	4.0	59	15.2	4.8	95
	B	11.9	2.5	95	12.0	3.8	95

*SubTest A = 26 Process Questions
SubTest B = 19 Responsibility Questions

Interpretation/Comments

In Table A-3 the overall gain in knowledge test scores was depicted. In this table (A-4) the scores are partitioned in accord with the subtests included in the total test. As indicated in the table, most of the pre- posttest gain is found in the experimental group. Moreover this gain is predominant in the subtest dealing with "process" questions. Among the many interpretations possible, several are given below:

- the module primarily delivers cognitive content in the area of the planning process as it related to education;
- insufficient time was allowed for student to experience the responsibilities of various educational roles and hence, limited learning occurred in this regard;
- if the module focussed heavily on the planning process subtest B, perhaps there was an inappropriate measure of the module.

As noted, many interpretations are possible. The reviser (and evaluator) should judge the information provided by the subtests in relation to other information collected in the evaluation. For instance, if the subtest results are corroborated by other information sources, there should be a close examination of the question of whether the focus or intent of the module should be more or less directed toward the planning process.

B. 1. Attitude Scale - Reliability

Inter and Intra Coder Percentage Agreement For Randomly Selected* Pre and PostTest Attitude Scales (Questions 1-5)

Type of Agreement	Testing Time: Pre	Post
Inter-Coder	89%	91%
Intra-Coder	96%	91%

*N = 15 test booklets randomly selected from groups tested.

Interpretation/Comments

The figures in the table were devised by a) dividing the total number of disagreements in coding between two coders by the maximum number of responses coded (inter-coder reliability), and b) dividing the total number of disagreements in two sets of codings given by the same coder by the maximum number of responses coded (intra-coder reliability). Very few differences between coders or codings were observed. For questions 1-5 on the education attitude scale, as can readily be seen from the table, there is a high degree of agreement between two independent coders (inter-coder reliability).

Thus, reliability of the scoring for the attitude scale was achieved. (Reliability of the scale itself has not been measured in that the scale consisted of only 5 items. Reliability estimates of such a brief scale with a relatively small sample would not be too meaningful.)

B. 2. Attitude Scale - Validity

DATA

NOT

AVAILABLE

Interpretation/Comments

Data regarding the validity of the scale was not collected in the pilot test. The scale, however, was reviewed by staff members who were familiar with the content and goals of the module. Changes were made in accordance with comments they made about the scale. Thus a measure of full validity was achieved. (Also see the discussion of the ANOVA results for the attitude scale, Tables E-1 and 2).

B. 3. Attitude Scale - Preferences

Means (Strength of Preference)* by Group and Testing Time (For Questions 1-5)

Group \ Testing Time	Pre	Post
Experimental	12.7	12.6
Control	12.3	12.4

*There were five questions each with scale value of from zero (no response) to a strong preference value of 3 (yes or no). Hence the scale range is zero to 15.

Interpretation/Comments

In terms of strength of preference, it is apparent from the table that only chance differences resulted from the analysis of this scale. Given the very small magnitude of the changes, several conclusions are suggested:

- the module had no appreciable effect on strength of preference;
- the students were knowledgeable about this area and already had pre-formed and thus difficult to change preferences;
- the scale with only 5 questions was not sensitive enough to change.

These three suggested interpretations are not the only ones possible but are offered as three of the most plausible.

B. 4. Attitude Scale - Number of Reasons

Means (Number of Reasons)* by Group and Testing Time (For Questions 1-5)

Group \ Testing Time	Pre	Post
Experimental	4.4	3.9
Control	3.9	3.9

*Students were requested to state the reasons for their preference choice. The numbers in the table represent the mean number of reasons given for the first five questions for a group.

Interpretations/Comments

The only change indicated in the table is that the experimental group gave approximately one-half less reason per five questions on the posttest than it did on the pretest. The analysis of variance conducted (see table G-2) shows that the F ratio obtained is insignificant.

While on initial inspection the .5 change may seem large, it must be remembered that across 5 questions a half a reason change is really not that much of a difference. Several possible explanations of the table are offered below:

- the module had little impact in students' statements of reasons;
- the use of number of reasons may not be the most sensitive measure of impact of the module.

These explanations are but two of many possible ones. The reviser and evaluator are reminded to keep that fact in mind.

B. 5. Attitude Scale - Type of Reasons

Type* Of First Reason Given By Group and Testing Time For The First Five Questions

Group	Testing Time / Reason	Pre Freq.	Pre %**	Post Freq.	Post %**
Experimental	1	31	20	39	29
	2	2	1	13	10
	3	1	1	-	-
	4	19	12	16	12
	5	51	33	34	25
	6	-	-	-	-
	7	12	8	5	4
	8	5	3	3	2
	9	35	23	25	19
Control	1	48	23	74	36
	2	4	2	11	5
	3	-	-	1	1
	4	27	13	16	8
	5	57	27	36	17
	6	3	2	1	1
	7	21	10	15	7
	8	4	2	11	5
	9	45	22	42	20

*Reasons were classified into nine basic types. These are:

Interpretation/Comments

Several factors are readily apparent from the table. First, there is some pre- posttest shifting of categories of response. For example, for response type number one the experimental group changed from 20 percent in the category(pre-test) to 29 percent in the category (posttest). While the change is fairly substantial, change (13%) is observed in the control group. Further examination of the table indicates that the same general pattern of results pervades both the control and experimental groups. There is change but it is very similar in both instances. Secondly, the three main categories of response are identical for both groups—enjoyment, desire to learn new things, and other reasons.

These results can be interpreted in a variety of ways. A few possibilities are given below:

- the module had little impact on the students in terms of the reasons given for picking a preference;
- the measures used (i.e., the preference scale, reason types, etc.) were not sensitive enough to pick up the impact of the module;
- students already had pre-formed opinions and perceptions that would not be easily changed within the short time span of the module.

For the reviser's and evaluator's benefit, it should be pointed out that other analyses on these data could be done. But, given the lack of overall difference between experimental and control groups, these will not be undertaken.

Table B-5 (continued)

1 = liking or enjoying (fun)
2 = past experience
3 = financial reasons
4 = interest/ability
5 = to learn new things
6 = desire for responsibility
7 = ignorance of job
8 = undecided
9 = other reasons

**Frequency in row divided by total frequency in respective column, multiplied by 100.

C.1 - Student Questionnaire - Reliability and Validity

DATA

NOT

AVAILABLE

Interpretation/Comments

The Student Questionnaire was administered to experimental group students after they had completed the module. Since there was only one test administration, the use of a test-retest coefficient was not possible. Furthermore the questionnaire consists of many different types of questions (including open-ended questions) regarding various aspects of the simulation experience. The meaning of internal consistency coefficients calculated for this type of instrument would be extremely questionable and hence they were not utilized.* Validity was basically ascertained by having the writers of the simulation review the instruments and by incorporating their comments and suggestions into the final form. In terms of face validity the instrument was judged to be a reasonable means of assessing the student's perspectives of the module. Secondly, comparisons between subsets of questionnaire items and achievement test data do tend to support the conclusion that the instrument is at least partially valid. As a group, students did well on the achievement tests and reported that the module did answer questions they had about jobs and did provide much information about jobs

*When testing the last 4 modules, "check" questions were added to the questionnaire as a way of determining the consistency or stability of student responses.

Table C-1 (continued)

The reviser and evaluator should also keep in mind one other important fact about the student questionnaire. The questionnaire was not designed to evaluate students but as a means for students to provide the project staff with their opinions of the module as well as their suggestions for revision. Students were informed about the use of the questionnaire. It was hoped that their responses would be open and honest.

C. -2 Student Questionnaire - Results From Questions Dealing With Perception of Learning

Question Dealing With Perceptions About Learning by Response Category in Frequencies and Row Percentages*

Question \ Response Category	Positive	Uncertain	Negative	No Answer
1. I learned quite a bit about jobs from the simulation.	13(57%)	9(39)	1(4%)	-
2. I learned quite a bit about how to work with other people from the simulation.	9(39)	7(30%)	7(30%)	-
3. The simulations helped to answer some of the questions I have about jobs.	15(65%)	4(17%)	4(17%)	-

*N = 23

Interpretation/Comments

Across the three questions a positive trend in student responses is observed. Of a maximum total of 69 responses approximately 54% of the responses were in the positive category.* Apparently students felt that the module provided them with much information either about jobs or how to work with other people. This result is corroborated by the achievement test results which indicate a moderately high gain in knowledge.

The results from question no. 2 in the table are not nearly as strong as those from the other questions. Students were considerably more divided in their opinion regarding this item stem. This information may have utility for module revision but it is difficult to relate it to specific points in the module.

*A chi square statistic could be computed for the data, but the trend is so apparent that to do so seems superfluous.

.3 Student Questions - Results from Questions dealing with Overall Perceptions of the Module

Questions Dealing With Overall Perceptions of the Module By Response Category, Frequencies and Row Percentages*

Questions \ Response Category	Positive**	Uncertain	Negative	No Answer
3.The Simula- was boring	17(74%)	2(9%)	4(17%)	-
4.Would recom- ment Simu- lation to friends	8(35%)	9(39%)	6(26%)	-
5.Would like to go through more simu- lations	15(65%)	3(13%)	5(22%)	-
6.Would rather some- else with this time.	11(48%)	6(26%)	6(26%)	-
8.Simulation took too long.	16(70%)	6(26%)	1(4%)	-
9.Simulation was over too soon.	12(52%)	2(9%)	9(39%)	-

Interpretation/Comments

Across the eight questions 107 or 58% of the total possible responses (N = 184) fell into the positive category. This is to be contrasted with approximately 23% of the responses falling into the negative category. In general the module seemed to be well received. It should be noted, however, that three questions seemed to go somewhat against this trend. They are questions 4, 9 and 15. The wording in Question 15 may have made it difficult for students to correctly identify how they were going to respond to the question. The response for questions 4 and 9 are difficult to interpret. Obviously the students are mixed in their opinions

Table C.-3 (Cont.)

12. Enjoyed working with others	17(74%)	3(13%)	3(13%)	-
15. Simulation a good way of getting out of class.	11(48%)	2(9%)	10(44%)	-

*N=23

** For questions with negative stems, the positive response consisted of disagreeing with the stem. This fact should be kept in mind when reviewing the table.

C.-4 Student Questionnaire - Results from Questions Dealing with Specific Module Parts

Questions dealing with Specific Module Parts by Response Category in Frequencies and Row Percentages*

Question \ Response Category	Positive**	Uncertain	Negative	No Answer
10. Tasks too Complicated or Hard	17(74%)	4(17%)	2(9%)	-
11. Summary Helped Pull Things together	13(57%)	7(30%)	2(9%)	1(4%)
13. Activities were Exciting to me	11(48%)	5(22%)	7(30%)	-
14. Had Trouble Knowing What to do Next	13(57%)	7(30%)	3(13%)	-
16. Too Many Tests and Forms to Fill Out	14(61%)	3(13%)	6(26%)	-

Interpretation/Comments

Across the entire set of questions approximately 61% of the responses fall into the positive category. The response pattern is very consistent in that in only one case did the actual response fall below 50%, i.e., in question thirteen about 48% of the students responded favorably. While these results are of value from an overall perspective, they do not help to identify specific problems within the module. For that purpose, the reviser/reviewer should study these results against a backdrop of teacher comments obtained from the panels and teacher logs.

17. Pretest and Post-test were Difficult for Me	15(65%)	2(9%)	6(26%)	-
18. Simulation Parts Fit Together Well	14(61%)	7(30%)	2(9%)	-
19. Preview, Etc. Helped to Prepare Me for Simulation	15(65%)	4(17%)	4(17%)	-
20. Liked the Way I Selected My Role(s) in Simulation	15(65%)	4(17%)	4(17%)	-

* N-23

**For questions with negative stems, the positive response consisted of disagreeing with the stem. This fact should be held in mind when reviewing the table.

5 Student Questionnaire - Results from Other Important Questions

Other important Questions by Response Category in Frequencies and Row Percentages*

Question	Yes, All of the Time	Yes, Most of the Time	No, Not Usually	No, Not At All	No Answer
22. Did You Perform Well in Your Roles	5(22%)	14(61%)	2(9%)	2(9%)	-

Question	More Interested	No Change	Less Interested	No Answer
28. Did your Feelings About Work in Planning Educational Programs Change?	14(61%)	4(17%)	4(17%)	1(4%)

Question	Yes	No	No Answer
29. Did you Discover Any New Interests	8(35%)	14(61%)	1(4%)

*N=23

Interpretation/Comments

The results here are similar to those found in other tables generated from Student Questionnaire data. Students were positive about how they performed in their roles and did experience a positive change about work in the planning of educational programs. Note, however, that the simulation did not have a huge impact in terms of discovering new interests.

III. Results

C-6 Student Questionnaire - Collated Open-Ended, Responses to Questions #30 and #31.*

30. Name some of the things you liked most about the simulation and some of the things you liked least about the simulation.

Liked Most	Liked Least
Filling out questionnaires	Reading the books
I liked everything	
Being on TV The Simulation	Tests
I liked most helping and understanding better	I can't explain
The TV shows Being counselor and making up people	Doing the post test and getting confused
Planning the program and ordering equipment	Evaluating the program
Slides Video-Tape	Shortness
Introduction	These things I am filling out now
Helping get together	Watching the football picture at the end
Simulating	Get out of gym
Directing	Too short - wanted to perform roles
Job application form Interviews "Tomorrow Show"	

30. (Continued)

Liked Most	Liked Least
Writing out forms and making out the plans	Film strips and booklets
Planning things	Filmstrips, booklets
Working without Mr. Young, working in groups	Being on the audio visual machine, doing the talk show.
Teacher, counselor, principal	Janitor, secretary librarian
The talk show sort of	The writing part
Counselor, audio visual, school teacher	Custodian, personnel, researcher
It showed me things I didn't know (no response = 4)	Nothing

31. Write down some of your ideas on how the simulation might be made better.

More things like the "Tomorrow Show".

More time to think about your job to understand it. To work with more instructional materials.

Have more visual aids. Put more of the forms in the packets.

If the class was longer and we could try out the jobs we picked and had more booklets to fill out.

If they all had more and more equipment to help people understand better.

At first if they would tell you what you were really going to be doing. I thought that going on a space ship was a little babyish - it could have something else, not a space ship. Possibly have a few more people, not just 9 - more like 15 or so. Maybe it could be an elective, and not during a class, and tell the people what they are going to do. If they may tell you if you wanted to know, what was going to happen the next day.

More time to try each job.

I didn't mind doing this for you and I hope I can do it again. I thought it was great!

There is none.

It was perfect.

Where we could play our roles instead of <u>just</u> picking it.

More organization.

More films - better films - longer and go into the program better.

By showing more video tape reels
You could show more movies and give more work.
No homework. Teach a trade in the class.
Have more to it. More films or filmstrips.
We were pushed too fast into new unit of the program
and didn't know what was going on.
Have better apartments, more rooms, more stores,
more workers, bigger space scripts.
Don't have any.
You could have done more things than filmstrips.
Better information on the space ship and how you
will do your job.

D. 1	Teacher Logs and General Module Evaluation	-	Reliability and Validity

DATA

NOT

AVAILABLE

Interpretation/Comments

The Teacher Log and General Module Evaluation is a set of six questionnaires filled in by teachers as they observed students progressing through a module. The questionnaires varied considerably, depending on the part of the module the teacher was to evaluate. Much space was provided for teachers to supply comments about the materials and to make recommendations for change. The variable nature of the question format and the question content make it most difficult to determine the reliability of the questionnaires. Further, even if a reliability coefficient could be calculated the small sample size (N = 4 experimental teachers) would render the coefficients meaningless.

Validity was determined by having product developers review the Teacher Log and General Module Evaluation. The developers considered the instrument to be a viable means of collecting teacher observations especially with regard to problems incurred in implementing the module. Face validity seemed high. The developers did have some question about overall length of the questionnaire.* (See Table III - D. II).

*For the 4 Modules tested in the Spring of 1974, the questionnaires were extensively modified and shortened.

D. II Teacher Logs and General Results Module Evaluation - Composite Results

COMPOSITE RESULTS AVAILABLE UPON REQUEST FROM THE OCCUPATIONAL EXPLORATION PROJECT EVALUATION STAFF

Interpretation/Comments

Due to the extensive length of the questionnaires, tables will not be included in this report. A composite set of teacher responses on the Teacher Log (5 individual questionnaires) and the General Module Evaluation will be maintained by CEP evaluation staff. These composite responses will be available upon request.

Several factors should be kept in mind when reviewing the composite results. First there were only 4 teachers who were facilitating or managing experimental group experiences. In many cases only two or three teachers responded to a question. Second, teachers, on several instances, commented about the length of the Log, hence length probably influenced response frequency.* Third, favorable teacher comments were heard regarding the General Module Evaluation. Apparently, from the perspective of teachers, this instrument was of better quality than the other five. Fourth, it would seem that a fair amount of faith can be placed on the truthfulness of teacher responses. The questionnaires were designed to evaluate the program not to evaluate teachers. Teachers were informed on several occasions of the intent of the instrument package.

Lastly, the responses on the instruments were summarized and only the main thoughts or ideas were stated on the Reviser's Information Summary Sheet. These summarizations should be studied with other sources of data in view.

*For the four modules tested in the Spring of 1974, these questionnaires were extensively modified and shortened.

E. 1 Teacher Post Module - Reliability and Validity Panel Review

DATA

NOT

AVAILABLE

Interpretation/Comments

The panel review procedure and reporting format was generated from similar efforts undertaken for the School Based Component of the Comprehensive Career Education Model (CCEM) in 1973. CCEM Project Staff felt that panel reviews provided an important source of data for revising curriculum materials. The process is purposely designed as an open-ended one to insure that teachers have the opportunity to freely discuss any concerns or comments they have about the module. Reliability in this instance is difficult to assess. It should be noted, however, that, teachers were frequently asked during the review about the extent to which they agreed upon particular points. Thus, the panel report, in many cases, represents a convergence of teacher perspectives or opinions.

Validity is judged by the degree to which the revisers and evaluators will find the data collected from the panels useful for illuminating strengths and weaknesses within the module and helpful in determining revisions to be made in the module. Validity judgments will have to come sometime after the generation of this report.

Due to the open-ended nature of the panel review, Table III - E-11 is simply a copy of the actual panel review. The report, which is a summary of the panel discussion, was written by OEP staff. (Interpretation is felt to be necessary for the panel review.) For the Reviser's Information Summary (RIS) the main ideas of the panel review have been abstracted and placed in the approprate cells of the RIS.

III. Results*

E.II - Teacher Post Module - Panel Review Report
Panel Review

Title of Module: Planning Educational Programs
LEA: Jefferson County, Colorado and Denver, Colorado
Panel Leader: John Radloff
Panelists: Bert Fish, Jerry Forkner - Denver
Alys Boulier, Roger Young - JeffCo
Observer Participants: J.W. Altschuld CVTE
A.F. Terry, Jr. CVTE
Date(s) Panel Met: December 6, 1973 and December 11, 1973
Number of Hours: (3+ Hours Total)

*Interpretation has not been provided.

Title	Strengths	Weaknesses	Classroom Solutions	Revision or Suggested Changes
1. Introduction to Simulation	-Teachers did not identify any strengths in the introduction (It seemed to receive a neutral reaction at best)	-No effect at this time -Not designed for first activity -Did not repeat key ideas emphatically enough -Cannot play roles without understanding what simulation is. (Role identification process not entirely clear)	-One teacher showed the introduction second time after the students had seen the preview (How well this worked was not clear)	-Say more than once what it is you want to say -Have a slide toward the end that asks what is simulation and have the student write that definition to see if it needs more reinforcement. -Transfer of what simulation is into roles or preparation for roles -Needs to be active rather than passive -Color in books -Have simulation included with preparation handbook or part of handbook -Use programmed instruction types of ideas
2. Module Preview	-Music good -Interest picks up here (unanimous	-Poor quality of tape (not the voice) was noted by one teacher		-Wanted eventual "on the job type" training in the final role (expand task 4 or have some other task between 3 & 4 or 4 & 5), in other words the teachers wanted preview to provide more of a lead into simulation and simulation tasks -Have all future type slides; **Nothing to do with slides of** 1973 was the suggestion of one teacher, other teachers did not necessarily agree

Title	Strengths	Weaknesses	Classroom Solutions	Revision or Suggested Changes
3. Preparation	-Visual of the space ship showing decks (seemed to turn kids "on")	-Vocabulary level of the "hi, John" is a bit corny -Break in flow somewhere between preparation and first task		-Take the teacher survey in the context of space -Have the interviewing later done in the context of space or on the space ship itself -Improve the wording on the slide tape
Handbook 1 -Identifying People and Courses	-Teachers generally regarded the activity as having the potential to get kids into exploration process, however, there were major implementation problems (See weaknesses)	-Confusing for the facilitator and learner, pages 7 and 8 (Wording and directions poor) -The two tasks in this handbook are not clearly separated -Did not rely on the data to plan the program nor is this point clear to all students -Curriculum should be selected before the staff (See above comment) -The word consultant was misunderstood by some students	Teachers felt that they had to intervene frequently to help students through, moreover, they had to point out the need for adult education. Students, at this age level, tend to focus on concrete problems and are somewhat unable to see beyond where they have been (elementary school) and where they are now (8th grade in junior high school)	-Task card to handle directions of what a researcher or consultant does -Divide task one into such things as setting up families, conducting the survey, tabulating results, and have more instructions -Some structure should be given on how to use the data such as a form that listed classes for grades K-4, 5-8, 9-12, college, etc.. This might stimulate student understanding -Role cards might be employed
Handbook 2 and 3 -Deciding what staff is needed	-Video tape on interviewing is excellent	-Not enough cues to respond to role playing -Slide on tape presentation is boring (not worth a damn) very sterile (reference D.O.T.)	Have kids independently fill out applications	-Send kids to places in the educational setting (counselor, principal, etc.) to find out about what it is they are applying for

Title	Strengths	Weaknesses	Classroom Solutions	Suggested Changes
-Hiring the staff		-Only competition for a role provoked an interview--all should do this -Not enough directions for actually filling out application -Some roles may not, as it is presently structured, fit the spaceship, e.g., librarian; custodian -The continual shifting of roles (family member researcher, consultant, etc.) is difficult for kids to follow	-Generate some competition for jobs and hence the need for interviewing	-Reconsider some of the 20 jobs i.e. learning theorist (difficult for teachers and kids to understand) -Teachers who teach these modules should be trained through simulation
Handbook 4 -Planning facilities and supplies	-O.K. on planning the facility	-Lack of budgetary constraints may or may not be a weakness, depending on your value system **The Handbook did not lead students to the frame of mind to accept the evaluation parameters. (All)**	-One teacher had kids use answer materials handbook	-Build in budgetary restriction rather than "carte blanche" in planning the facility (probably using a large amount of money and stress the loading up before the space trip)
Handbook 5 -Evaluating the school program	-Major strength was the potential to tie together the researcher/ consultant roles from the first task with the evaluation in this task. (all teachers agreed)	-Unclear directions which caused difficulty in shifting to evaluation role (all (teachers) -The purposes for the task were inadequate (two teachers) -The evaluation forms: --not consistent with handbook directions as		-Many potential revisions are indicated in the weaknesses -The last page of the booklet should be a part of the evaluation instrument (one teacher)

Title	Strengths	Weaknesses	Classroom Solutions	Suggested Changes
	-But there were many weaknesses as indicated in next column	directions related to a sample family and the forms were appropriate for individuals --criteria for use of 5 point scale missing --no reasons required for student ratings --no previous warning was given in simulation about basis upon which the program would be evaluated (two teachers)		
Summary	-Students were highly motivated by Tomorrow Show but problems do exist	-Little continuity existed with the rest of the module (all teachers) -Directions for host have to be more explicit, old journalism approach might be considered; Who?, What?, When?, Where?, How? (all teachers agreed) -The guest roles were largely identical in terms of tasks performed, leaving some little to say that was new. They had to fake their school roles as they had no real experiences as teachers, counselors, etc. -The host seldom gave guests the opportunity to respond beyond sections I and II of	-To do show well required more time than was available (all teachers)	-As implied by the weaknesses the teachers described

Title	Strengths	Weaknesses	Classroom Solutions	Suggested Changes
		the guest roll card. - Section III was largely ignored. In some instances Section III was prepared by guests but they were not prompted to use the material by host questions. Student leadership did not bring out the salient points. (all agreed)		

SUMMARY/OTHER COMMENTS

Teacher Evaluation Instruments

1. Teacher Log: (All agreed)

   - was confusing and too highly structured.
   - it was difficult to distinguish between parts.
   - if specificity is to be retained there the logs should be unit specific.
   - teachers recommended a more open ended approach (diary).

2. Module Questionnaire

   - good instrument which appeared quite satisfactory from teachers' point of view

Teacher and Pupil Preparation

1. Teachers should actually perform in a simulation setting.

2. Consideration should be given to teachers actually working through the simulation they are to test. (all agreed)

3. Students should have some "hands on" experiences as a part of their introduction to simulation.

F. Knowledge Test - Analysis of Variance for Total Test Scores

SUMMARY TABLE*

Source	df	Ss	Ms	F
Between Students	94			
Between Classes	7			
A	1	21.64	21.64	.33
B	1	965.26	965.26	14.65***
AB	1	84.56	84.56	1.28
C/AB	4	144.84	36.22	.54
Within Classes	87			
E/C/AB	87	5851.20	67.26	
Within Students	95			
D	1	93.11	93.11	5.22**
AD	1	34.49	34.49	1.93**
BD	1	1.62	1.62	.09
ABD	1	3.2	3.16	.18
CD/AB	4	6.6	1.65	.09
ED/C/AB	87	1616.65	18.58	
Pooled Error Term				
CD/AB+ED/C/AB	91	1623.23	17.84	
TOTAL	189	8823.14		

*Where
A=Treatment (Experimental vs Control)
B=Schools (Denver vs JeffCo)
C=Classrooms (N=8)
D=Testing (Pre vs Post)
E=Students

**p. $\leq$ .05

***p. $\leq$ .01

Interpretation/Comments

As described earlier in the text of this report the key term to be observed in the analysis is the AD interaction. If AD interaction occurs and it occurs in such a manner that the experimental group shows high posttest gains, then most likely the module had an impact on student career knowledge in this particular field. Tables A-1 and A-4 confirm in a descriptive fashion that the interaction did take place as expected. Table F indicates that the interaction is statistically significant at the .05 level. Indeed, there is conclusive evidence to demonstrate the effect of the simulation.

There are other terms in the table that are significant. This was anticipated as a possibility in setting up the design and in no way detracts from the significant difference obtained in the major area of concern.

G. 1 Attitude Scale - Analysis of Variance for Strength of Preference Scores (Questions 1-5)

SUMMARY TABLE *

Source	df	Ss	Ms	F
Between Subjects	96			
Between Classes	7			
A	1	3.18	3.18	.45
B	1	3.19	3.19	.45
AB	1	8.80	8.80	1.25
C/AB	4	28.11	7.03	1.44
Within Classes	89			
E/C/AB	89	433.12	4.87	
Within Subjects	97			
D	1	.00		.00
AD	1	.64		.16
BD	1	13.53		3.38
ABD	1	1.24		.31
CD/AB	4	16.01	4.00	.84
ED/C/AB	89	425.77	4.78	
TOTAL	193	933.59		

*See footnotes in Table F.

Interpretation/Comments

An examination of Table G.1 reveals no significant difference with respect to the AD interaction. This could be viewed as an indication that the program does not affect student preference judgements to any sizable degree, e.g. students have given degrees of preference for the related jobs which are not conducive to change by the program. However, the program may still have equipped students with an expanded data base through which these preferences were expressed. Note also that yes and no responses receive the same scale value of 3 indicating the same strength of preference (See Section II. D.2).

G-2. Attitude Scale - Analysis of Variance For Number of Reasons Given

SUMMARY TABLE*

Source	df	Ss	Ms	F
Between Subjects	96			
Between Classes	7			
A	1	2.27	2.27	.48
B	1	.02	.02	.00
AB	1	5.90	5.90	1.26
C/AB	4	18.80	4.70	.98
Within Classes	89			
E/C/AB	89	425.20	4.78	
Within Subjects	97			
D	1	3.08	3.08	1.02
AI	1	3.54	3.54	1.17
BD	1	6.48	6.48	2.15
ABD	1	4.57	4.57	1.51
CD/AB	4	12.08	3.02	1.16
ED/C/AB	89	231.09	2.60	
TOTAL	193	713.03		

*See footnotes in Table F.

Interpretation/Comments

As described earlier in the text of this report the key term to be observed in the analysis is the AD interaction. If AD interaction occurs in such a manner that the experimental group shows high posttest gains, then most likely the module had an impact on the number of reasons students gave for supporting a preference. Table B descriptively confirms that this interaction did not take place to any sizeable degree. Table G-2 indicates that the interaction that did occur was not statistically significant.

IV. Reviser's Information Summary (RIS)

A. Description of the Summary

The Reviser's Information Summary was developed for the purpose of assisting revisers to assimilate information collected during the pilot test of a module. To accomplish this, information from each source available was first reviewed and then only major thrusts or ideas from the source were summarized. (These key thrusts or ideas were determined by the judgment of the authors of this evaluation report.) The summary was then transferred to the appropriate location on the large sheets which constitute the RIS. Lastly, each column was studied and trends were drawn and so recorded at the bottom of the sheet. In ascertaining trends the authors used their familiarity with data, the module, and the data collected.

In general there will be one Reviser's Information Summary sheet per part of the module and one-two sheets covering the overall nature of the module. On sheets which pertain to module parts, only some of the data sources provided information pertinent to that part. Hence, the sheets do have some blanks or missing data cells. The reviser should exercise extreme care in interpreting the information on the sheets and should always keep in mind that comments on the sheets represent only a summary of key points. In addition, it sometimes was most difficult to determine a trend in the information obtained.

B. Use of the RIS

One way the reviser might use the RIS is as follows:

1. Read the module - become thoroughly familiar with it;
2. Read the first part of this report (Sections I and II) thoroughly. Skim the results compiled in tables (Section III, parts A, B, C, D and E.) Read section E-2, the teacher panel review report, closely;

3. Read and study the Reviser's Information Summary. (Consult original data sources, if necessary.); and

4. Generate a set of revision specifications based upon knowledge of the module, the Reviser's Information Summary, project developmental criteria and other information, if appropriate.

C. REVISER'S INFORMATION SUMMARY

DATA SOURCE	STRENGTHS	WEAKNESSES
STUDENT TESTS	On a highly reliable achievement test, the experimental group of students gained nearly 2 1/2 points as their mean score increased from 26.1 to 28.5. (Out of a total of 45 items). The gain was high in relation to a comparable control group. Further specification of this gain indicates that the majority of the change was occuring on questions related to the educational planning process. (For further details see Tables III-A-3 and III-A-4.)	Students did not show any appreciable gain related to job responsibilities in educati ly was influencing their understanding of not their understanding of specific occupa Tables III-A-3 and III-A-4.) Study of att dicates that there was no overall change i preferences and number of reasons given by Further probing of the type of reason give similar patterns of response for both expe groups. As noted in Table III-B-5, severa could account for these results.
STUDENT QUESTIONNAIRES	There were strong positive responses to all questions about the module overall, as indicated by the following percentages: Learned about jobs 56% Wasn't boring 74% Like to do another simulation 65% Answered job questions 65% Not too long 70% Not too complex 74% Instructions led OK 56% Not too many tests, forms 61% Fits together well 61% The activities which the students reported liking the most were the planning, talk show, and writing out forms.	Students reported that the filmstrips, boo the least liked elements.
TEACHER LOGS	1. In general the reading level was OK for the students and the module was considered appropriate for 8th and 9th grade students. 2. Students were receptive to simulation and to the module content and found parts of the module exciting. 3. The quality of the module was rated good to very good. 4. One teacher noted an improvement in teacher-student relationships.	1. Two of the teachers felt that transiti the module should be improved. 2. Two teachers mentioned that interest a time went on. 3. Hard for kids to follow continual shif

erall Considerations

	RECOMMENDATIONS FOR REVISION
ains on knowledge questions ation. The module apparent- of planning in education but upations in education. (See ttitudinal test data in- e in strength of the student by students for a preference iven for a preference reveals xperimental and control eral different explanations	Evaluator's tentative suggestion for revision: 1. Module emphasis should be more firmly defined, i.e., is it an educational planning simulation or a simulation dealing with "trying on" educational roles (teacher, administrator, etc.) If the decision is made to emphasize educational roles, then more expanded detailed descriptions of those roles would be necessary. (As is noted in this summary, the descriptions cannot be sterile in nature and still be effective.)
ooklets, and tests were	The students suggested more films of a better quality, videotapes, better instructions, and allowance of more time to play roles.
tion from phase to phase of and attention decreased as ifting of roles.	1. Provide more information and structure in planning program and evaluation of program. 2. Teachers should be prepared by going through the module just as the students will. 3. Make-up of the group should be recognized as important; a homogeneous group of low-achievers or those with little motivation would have difficulty. Important for the group to work together.

DATA SOURCE	STRENGTHS	Education Module: Overall C WEAKNESSES
TEACHER PANELS		
TRENDS	It is clear from all of the above sources that the module was successful. Students gained much cognitive information as verified by their perceptions and test scores. Additionally, they felt the module fit together, wasn't too complex, etc., i.e., the module "was making it" from the student viewpoint. The student perception of the module is confirmed by teacher comments in the LOG/General Module Evaluation. The teacher comments strongly parallel student responses. However, there were weaknesses across the module as well in specific parts which have been noted in the RIS pertaining to those parts. For example, teachers felt that there were serious problems with Task 5 especially as it related to the rest of the module.	A strong pattern in regard to roles and op role emerges. Students simply did not inc of job responsibilities and they commented to really experience a role. Teachers als of transition between module parts and the had in continually shifting roles. This m in a decrease in interest as students prog There were major difficulties toward the e under Task 4, Task 5, and the Summary. Also problems with booklets, media, etc. a where they occurred in the module.

1. Teachers should work through the simulation themselves, so that they have a better understanding of the module before they start teaching it.
2. Students should be introduced to simulation with some "hands on" experience.

opportunity to enter into a
increase their understanding
td about the lack of time
also commented on the lack
the difficulties students
s may have manifested itself
ogressed through the module.
e end of the module as noted

. are noted in the section

As noted above and as noted in the sheets defining specific module parts, the reviser will have to make decisions concerning the roles included in the module and the amount of time to play those roles effectively. This will probably necessitate a restructuring of part of the module. Students and teachers were in agreement with regard t the need for improved instructions, more information and a clearer idea of structure (perhaps intent) and form of the module. It was suggested that the introduction to simulation be a somewhat more acti "hands on" experience.

With regard to facilitating the module, teachers felt that they shoul work through the entire simulation prior to leading students. Teache expressed concern whether different types of students could successfully use the module.

DATA SOURCE	STRENGTH	WEAKNESSES
STUDENT TESTS		
STUDENT QUESTIONNAIRES	From an incremental test done in the Fall of 1973 the following results were obtained: 87% (N=15) or more of students using the materials felt that they understood the materials and that the vocabulary was easy to understand.	When students were questioned with regard enjoyment with the introduction, the quali etc. the picture became somewhat more mix -Only 53% of the students were firm in t statement of enjoying the booklet or th -About 1/3 of the students were strongly liking the illustrations.
TEACHER LOGS	1. Both the slides and the booklet were rated very good as to technical quality. 2. The students were able to understand the concepts presented most of the time and were stimulated by the presentation somewhat.	1. One teacher commented that the student cepts to the task. 2. It was too simple for the 8th grade.
TEACHER PANELS		1. Had no effect at this time; not designe did not repeat key ideas emphatically e 2. Role identification process not entirel
TRENDS	Both students and teachers seem to agree that the concept as presented in the slides and the booklet did come across to those using the materials. There was some difference in perception regarding the quality of the illustrations. (See Student Questionnaires-Weaknesses.)	First, it did not seem to be as motivating should be. Students had mixed feelings abo Teachers also identified the same type of p the materials did not emphasize or repeat k emphatically enough. Related to this is th the introduction with the module that follo students did have mixed feelings about the

d to their overall lity of the materials, xed in nature. their he slides y positive in terms of	-Slightly over one-half of the students recommended that the slides and booklet be used together, with the slides coming first.
ts did not relate the con-	
ed for first activity; enough. ly clear.	1. Repeat ideas. 2. Needs to be active rather then passive; use programmed instruction types of ideas. 3. Include in preparation or another handbook; transfer concept of simulation into role preparation. 4. Have a slide toward the end that asks what simulation is and have th student write that definition to see if it needs more reinforcement. 5. Use color in book.
g as a first activity bout the presentation. problem. Secondly, key ideas the problem of integ ting astly, the rations.	In the recommendations above there is a strong emphasis on repeating the key ideas more than once. The students and teachers both seem to be commenting about this. (Especially see teacher recommendations.) Also the reviser should pay careful attention to the integration of the introduction with the rest of the module.

DATA SOURCE	STRENGTHS	WEAKNESSES
STUDENT TESTS		
STUDENT QUESTIONNAIRES	**Sixty-five percent of the students felt that the preview helped to prepare for the simulation.**	
TEACHER LOGS	**The slide-tape was rated very high with comments that the music was good and the educational quality outstanding.** One teacher commented that the pupils liked this activity.	
TEACHER PANELS	1 Music good 2. Interest picks up here (unanimous)	1. Poor quality of tape (not the voice) w
TRENDS	From both the viewpoint of the teachers and students, the preview slide/tape received high ratings with especially positive comments on the music and on the interest-generating qualities. Teacher comments on these points were consistent between the logs and panels.	The only weakness noted reflects on the poo tapes sent out. This could be prevented b fore delivery to the field.

1. Two of the three teachers favored dropping the slides of "today" people in favor of a real science fiction approach.

) was noted by one teacher.

1. Let preview provide more of a lead into simulation tasks.
2. One teacher suggested using all futuristic slides.

poor quality of one of the
by checking all tapes be-

The following minor suggestions for improvement were offered by the teachers: delete slides of "today" people and substitute for these futuristic or science-fiction types of slides; also add more concrete leads into what the simulation tasks will be. The teachers were consistent in their comments.

DATA SOURCE	STRENGTHS	WEAKNESSES
STUDENT TESTS		
STUDENT QUESTIONNAIRES		
TEACHER LOGS	1. The slide-tape was rated high in technical quality, but not as high in educational quality as the preview. 2. The booklet was rated high in technical quality also.	1. The slide-tape needed more detailed ex work. 2. The vocabulary level was too simple. 3. Trouble understanding roles necessitate direction. 4. The booklet was rated medium in overall because of confused directions and inac
TEACHER PANELS	1. Visual of the space ship showing decks turned kids on.	1. Corny vocabulary ("hi, John") 2. Break in flow between preparation and
TRENDS	In the judgement of teachers, the slide tape had high technical quality but there were some weaknesses in educational quality which led them to judge it inferior to that of the preview (see next column). This should be attended to in revision. The visual of the space ship was regarded by the teachers to be a strong point of the preparation and no changes were suggested.	1. Teachers noted that on the slide tape was needed and that the art work could other comments made by the teachers, t probably relates to what the students simulation and, specifically, their ne 2. Rereading the handbook confirms the te a break in flow between the preparatio task. Specifically, there are no dire indication of the role(s) he will play 3. Teachers commented about simplistic an most likely should be altered in revis whether this comment pertains to only slide/tape and handbook.

	RECOMMENDATIONS FOR REVISION
explanation and better art ted teacher ll educational quality adequate explanations.	
d first task.	1. **Use the space context for teacher survey and later interviewing.** 2. **Improve the wording on the slide tape.**
e more detailed explanation ld be improved. Judging from the explanation requested s are to do throughout the next step in the simulation. teacher comment that there is ion handbook and the first rections for the student or y. nd corny vocabulary which ision. It is not clear the slide/tape, or to both	1. Since there is only one source of information on this point, no trends can be established. However, the teacher comments suggest that we could capitalize more on the space context for later surveying and interviewing and could improve the wording on the slide/tape.

Education: **Task 1 Identifying People and**

DATA SOURCE	STRENGTHS	WEAKNESSES
STUDENT TESTS		
STUDENT QUESTIONNAIRES	Sixty-five percent of the students liked the role selection.	
TEACHER LOGS	1. **Recommended time was appropriate.** 2. **Had a good time with it.**	1. **Teacher had to work closely with stude** 2. **Students didn't seem to grasp purpose.**
TEACHER PANELS	**Has potential to get kids into exploration process.**	1. **Wording and directions confusing for b learner (pages 7 & 8); word "consultan** 2. **Curriculum should be selected before t that data is not used to plan program; handbook are not clearly separated.** 3. **Teachers felt need to intervene to hel and to point out things beyond** the stu (i.e., need for adult education)
TRENDS	1. Both students and teachers seemed to react positively to this task. (It should be noted that since there are two role selection points in the module, it is unclear to which of these the students were referring.) 2. Apparently the survey technique was fun for the students and has the potential to get them into the exploration process	Both in panels and on logs teachers pointed fusion. This is evidenced by the fact that they had to intervene frequently and that t was not clear. Confusion seemed to center wording and directions (examine pp. 7 & 8); data collected is to be used in other s the actual tasks involved in carrying out t teacher recommendations). A second problem relates to whether or not point out things beyond the student's pers example).

dents to avoid confusion. e.	1. Make it more purpose directed.
both facilitator and nt" misunderstood by some the staff; it is unclear ; the two tasks in this lp students frequently udents present perspective	1. Use role or task cards for directions (esp. for researcher, consultant). 2. Divide task one into such things as setting up families, conducting the survey, tabulating results, and have more instructions on each. 3. Give some structure for the data (such as a form listing classes for various grade levels).
ed out that there was con- t the teachers felt that the purpose of the task on several issues: the); the idea as to how the simulation activities, and the survey (see specific teachers should intervene, spective. (See above	The teachers' comments regarding weaknesses in Task 1 consistently lead to the recommendations that have been made above in this column. The reviser should continue to use the activity of surveying a hypothetical community, but build in a clear subdivision of activities and their sequence with clear directions for carrying them out. Attention should be paid to how the data collected in the survey would or could be used in later tasks and to provide better forms for the students to use in analyzing tha data.

DATA SOURCE		
STUDENT TESTS		
STUDENT QUESTIONNAIRES	Sixty-five percent of the students liked the role selection.	
TEACHER LOGS	**The time and level were appropriate for the students** and the task integration was ok.	1. **Students didn't know where or how to** 2. One teacher felt that charts and exa helpful. He drew an organization ch duties of various non-teaching staff students would know more about actua Another teacher resorted to a 1-2 nu
TEACHER PANELS	**Video tape on interviewing is excellent.**	1. **Slide-tape presentation is boring, ste** . . **Hard for kids to follow continual shif** 3. Some roles may not fit the spaceship (others (learning theorist) are difficu to understand.
TRENDS	Seemingly both the teachers and students reacted favorably to the task as a whole. Students were positive about the role selection process. Teachers were especially enthusiastic about the video tape on interviewing, terming it excellent. They reported that the recommended time was appropriate for the task and that the level of the materials was suitable for the students. However, the teachers did note areas for possible improvement as detailed under "weaknesses."	While the students seemed positive a process, teachers expressed several 1. The slide tape presentation depi was judged to be sterile and bor worthy when compared to the exce videotape or interviewing. 2. Teachers commented on the diffic tinually shift roles in the simu simulation shows that in Task 2 into their third role. Prior to been in the roles of community m consultants. In Task 2 they bec committee for the space ship. 3. Students did not know how to sta one teacher noted that more char (Perhaps better directions for session are required).

to start.
examples would be
chart and outlined
aff members so that the
tual school operation.
numbering system.

1. **Need more structure - perhaps an example.**
2. Pupils need more than a sterile job description for all positions.
3. Give more information about actual operation of schools and duties of various staff members (teaching and non-teaching).

sterile.
hifting of roles.
p (librarian, custodian) and
icult for teachers and kids

e about the role selection
al major concerns.
epicting educational roles
boring. This comment is note-
xcellent rating given to

ficulty of students having to con-
imulation. Review of the
2 the students are entering
to this point they have
y members and researchers or
become members of a planning

start Task 2. In addition
harts and examples are needed.
or conducting the planning

Teachers recommendations are consistent with teacher comments regarding the need to give more information about educational roles as well as improving the interest value of the materials presented. For example teachers suggested more emphasis on the actual operation of schools and duties of various teaching and non-teaching staff members roles. It was also suggested that we reconsider some of the 20 roles included in the occupational descriptions.

Education: Hiring the Staff
Task 3

DATA SOURCE	STRENGTHS	WEAKNESSES
STUDENT TESTS	———	———
STUDENT QUESTIONNAIRES	———	
TEACHER LOGS	1. The time and level were appropriate for the students. 2. Integration with the other tasks was OK.	1. Students couldn't begin on their own, ceed. 2. Students had no knowledge of job requi 3. There was difficulty getting students
TEACHER PANELS	———	1. Only competition for a role provoked should be needed for all jobs. 2. Not enough directions for filling out 3. Not enough cues to respond to role-pla
TRENDS	The teachers' comments on the logs indicated that the time for the task, the level of the the materials, and the integration with other tasks were all appropriate. In general as noted in the next two columns the teachers seemed to focus more on changes to be made.	1. Students did not have enough knowledge directions for filling out application 2. Students had difficulty beginning or task, especially with regard to gettin haps more directions are needed.) 3. Interviews for all jobs seemed desirab teachers.

MENDATIONS FOR REVISION

, confused about how to pro- uirements. s into roles.	Send pupils to interview school personnel.
an interview; add interviews ut applications. laying.	1. Have kids fill out applications independently. 2. Send kids to places in the educational setting (counselor, principal, etc.) to find out about what they are applying for.
dge of job requirements or ions for the job. r initiating activity in this ting into their roles (Per- rable in the judgement of the	1. Teachers commented consistently on both panels and logs that a good way for students to obtain information regarding roles in the educational setting is by simply interviewing school personnel. This activity could easily be incorporated into the simulation. 2. Provide competitive setting for students to get into roles so that interviewing becomes a necessity. One solution here might be to have students independently apply for the same job.

Education: Task 4 Planning Facilitie

DATA SOURCE	STRENGTHS	WEAKNESSES
STUDENT TESTS		
STUDENT QUESTIONNAIRES		
TEACHER LOGS	The time and level were appropriate for the students.	1. Students didn't see much purpose; no mo 2. Students "hired" but never got to "work going downhill.
TEACHER PANELS	Planning the facility is o.k.	No budgetary constraints.
TRENDS	As noted above, time and level seemed appropriate to the teachers, but some weaknesses were noted. These weaknesses become more apparent when tasks 4 and 5 are jointly reviewed. The simulation seems to be falling down at this point.	Lack of student perception of purpose of sulted in insufficient motivation. 2. Students were hired in educational roles opportunity to experience or engage in 3. Budgetary constraints were not given to planning the facility.

motivation. ork;" things really began	Budget limits need to be built in.
	Build in budgetary restriction in planning the facility (use large budget and stress loading up before space trip).
of the task, perhaps re- les but never really had the n role activities. to students for use in	The only recommendation is to build in budgetary restrictions. (see above)

DATA SOURCE	STRENGTH	UNASSESSED
STUDENT TESTS		
STUDENT QUESTIONNAIRES		
TEACHER LOGS	The level was appropriate for the students	1. One group needed more time. 2. Students showed lack of interest in eva because there had been no challenge. 3. Confusion on directions.
TEACHER PANELS	Potential to tie together the researcher/ consultant roles from the first task with the evaluation here.	1. All teachers agreed that unclear direct in shifting to evaluation role. 2. Purposes for the task inadequate, no re 3. Students not led to the frame of mind t parameters. 4. The evaluation forms: -were not consistent with handbook dire -were missing criteria for use of 5 poi -used criteria about which no previous
TRENDS	While teachers commented in the logs that the level of the task was appropriate for the students, the thrust of comments from the logs and panels indicates that there is potential for meaningful evaluation which was largely unrealized due to the difficulties expressed in the next column.	1. There seems to be a trend in teacher co no clearcut idea that they were ever to planned. Since the students did not ha of the importance of evaluation, they f accept the evaluation parameters and pro teacher observed that the lack of inter have resulted from the fact that studen a "neat" thing to do rather than as a c 2. Directions for accomplishing task 5 wer ted to the problems the students had in role. 3. The "how to" of evaluation (the criteria specified in Task 5. Pay special atten forms were not consistent with handbook definition was given in the handbook fo found on the form.

- - MENDATIONS -OR REVISION

	Form should be revised.
evaluating themselves perhaps .	
irections caused difficulty o reasons for student ratings. nd to accept the evaluation directions point scale ous warning had been given.	One teacher felt that the last page of the booklet should be part of the evaluation instrument.
r comments that students had r to evaluate the school they t have a full understanding ey found it difficult to process. Moreover, one nterest in evaluation may udents perceived the module as a challenge. were not clear and contribu- d in shifting to the evaluation eria) is not well defined or ttention to the fact that the book directions, i.e., to k fo. the term "specia	Recommendations: 1. Teachers noted that there is potential for tyin together the research roles (Task 1) and the evaluation (Task 5). T might provide increased integration, give the students early warning what to expect, and provide a purpose for the task which might motiva student interest more. 2. One teacher commented that the last page of the booklet should be part of the evaluation instrument which may be indicative of a ne to improve the directions.

DATA SOURCE	STRENGTH	WEAKNESS
STUDENT TESTS		
STUDENT QUESTIONNAIRES	Eighty-six percent of the students felt that the summary helped to "pull things together."	
TEACHER LOGS	One teacher was especially enthusiastic about the Summary and commented that it was very effective, well integrated with the other tasks, and that the kids really looked forward to this. The other two teachers were less positive, and their comments are noted under weaknesses.	One teacher felt that the Summary was not rest of the simulation and that it bore no roles the students had played. Discussion "social" aspects of life in space rather t teacher noted had been discussed earlier i
TEACHER PANELS	Students highly motivated by "Tomorrow Show."	1. Little continuity with rest of simulati 2. Not enough time to do show well. 3. Directions for host not explicit enough 4. The guests had performed the same tasks say that was new, had to fake their sch 5. Didn't go beyond Sections I and II beca lead them further.
TRENDS	1. A majority of the students felt that the summary helped to pull things together, and one teacher commented in the log that it seemed to be a very effective culmination to the simulation experience and that the students looked forward to it. 2. There was disagreement among teachers as to how well the Summary was integrated with the rest of the simulation. One teacher saw it as a strength, another as a weakness. 3. Teachers indicated in panels that the students were highly motivated by the "Tomorrow Show"; however, they pointed out significant weaknesses that demand revision attention.	1. A possible lack of continuity with the bothered one of the teachers. 2. There was not enough time to do the tal teacher panels, and students tended (pe lack of time) to discuss "social" aspec than role-related information. 3. Teachers felt that the directions for t explicit enough and that the host did n discussion of Section III of the guest 4. Teachers commented in panels that many had performed the same tasks, so indivi culty finding something to say that had tioned.

ot well integrated with the
no relation to the education
ion seer d to center on the
r than on roles (which another)
r in the interviews).

ation.

ugh.
ks, so some had little to
chool roles.
oause host questions didn't

e rest of the simulatio

alk show, according to the
perhaps partly because of
ects of space life rather

the talk show host
not lead the group into a
role card.
of the talk show guests
ridual students had
d not already been

Might use the who, what, when, where, how approach for the host.

1. The questions of integration with the simulation and time allotted should be examined and resolved.
2. The host's directions should be amplified and made more explicit. It would be desirable to insure that the host guides the students through an overview of the simulation experiences (particularly with reference to the roles played) and that questions are asked that provide each student with the opportunity to give a meaningful response. A suggestion from the teacher panels which should be considered is to use the who, what, when, where and how approach for the host.

APPENDICES

APPENDIX A:

KNOWLEDGE TEST - "WHAT DO YOU KNOW?"

Planning

Educational

Programs

'What Do You Know?'

The project presented/reported herein was performed pursuant to a grant from the National Institute of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the National Institute of Education, and no official endorsement by the National Institute of Education should be inferred.

PLANNING EDUCATIONAL PROGRAMS

"WHAT DO YOU KNOW?"

The purpose of this test is to help us find out what you and other students like you know about the planning of educational projects. This test does not in any way affect your grade.

DIRECTIONS: To complete the test first fill in the information requested at the top of the next page. For most questions on the test there are several short phrases or statements listed. Pick the one that best describes your answer and circle the letter in front of it. For several questions special directions will be included with the questions. Please follow those directions.

If you don't know the answer to a question, GUESS. When you have completed the test return it to your teacher.

Thanks for your help.

You may turn the page and start as soon as you have completed reading the directions.

PLANNING EDUCATIONAL PROGRAMS

"WHAT DO YOU KNOW?"

FILL IN THE FOLLOWING INFORMATION.

Name_____ Date_____

School_____ City_____

Age_____

Grade (circle one) 8th 9th other (please specify)

Sex (circle one) Male Female

Subject taught in this class _____

START THE TEST

1. What of the following should educational programs be designed to serve most:

   a. The U.S. Employment Service
   b. The community in which the school is located
   c. The faculty of the school
   d. The Board of Education

2. What information included in a community survey would be most beneficial in the planning of school curriculum?

   a. The job plans of high school seniors
   b. The ages of the residents and their long range educational goals
   c. The number of college graduates in the community
   d. The hobbies and recreational interests of the majority of the community

3. The English Department in a large high school feels that they are not meeting the individual learning needs of students. Which person would the principal most likely contact to work with the Department?

   a. Counselor
   b. Curriculum Supervisor
   c. Director of Audio-Visual Services
   d. Registrar

4. What can educators do in order to decide on an educational program for their community?

   a. Look at the programs of other communities to see how satisfied the residents are
   b. Collect the opinions of educational experts and the Board of Education
   c. Survey the community, talking to a large number of residents
   d. All of the above

5. When a person is applying for a job in a school system, what information is considered before the applicant is hired?

   a. Information provided on forms and transcripts
   b. Information provided by character references
   c. Information provided in an applicant interview
   d. All of the above
   e. a and c only

6. Which of the following tasks is most likely to be done by persons in charge of planning educational programs?

   a. Preparing a curriculum outline
   b. Preparing lesson plans
   c. Preparing athletic schedules
   d. Preparing tests

7. A large number of Spanish-speaking Americans in the community would like their children to learn to read Spanish in the elementary grades. They have elected some representatives to meet with the school superintendent. If you were the superintendent which would you ask to attend this meeting?

   a. Curriculum supervisor
   b. Director of audio-visual services
   c. Counselor
   d. Learning theorist

8. The Johnsville Neighborhood Council is setting up a Summer Learning Center for Junior High School students. The director of the neighborhood council is very interested in this project and wants the Learning Center to be a real asset to the neighborhood. Which of the following techniques do you think he should use in deciding what will be taught at the center? (Check as many as you think would be helpful.)

   _____ Arrange to get all discarded textbooks from the Junior High.
   _____ Survey the junior high students in the neighborhood to find out what they want to learn.
   _____ Plan to build as many facilities as possible and then what can be taught in them.
   _____ Meet with the school board and arrange to have some courses switched to the neighborhood center.
   _____ Meet with parents of Junior High students to find out what they would like their children to learn.
   _____ Find out what kinds of courses are offered in other similar learning centers.
   _____ Find out what courses used to be taught in Junior High and plan to give those that are no longer taught.

9. After an educational program is designed and is being used in the schools, educational planners continue to work on it. Which of the following should concern them most at the end of the first year?

   a. Identifying people and courses
   b. Hiring the staff
   c. Planning facilities
   d. Evaluating the program

10. When evaluating a plan for an educational program the most important concern should be:

   a. Whether the plan serves the needs of the community
   b. Whether the plan provides for new textbooks every 5 years
   c. Whether the plan includes the teaching of world geography at grade 8 or grade 9
   d. Whether the plan calls for the involvement of a parent-teacher organization

11. Several teachers in the Rosebud School would like to change to a different system of teaching first graders to read. The principal and curriculum supervisor are not sure that the new reading program is very good. Which of the following individuals might be able to help them decide?

   a. Librarian
   b. Nursery school teacher
   c. Learning theorist
   d. Counselor

12. Which of the following data would be <u>least</u> useful to persons in charge of planning educational programs?

   a. The ages of community residents
   b. The ambitions of community residents
   c. The addresses of community residents
   d. The occupations of community residents

13. Which of the following steps comes first in planning an educational program?

   a. Drawing the floor plans of the school building necessary for the program
   b. Determining the educational needs of the community served by the program
   c. Determining the number of people to be served in the school cafeteria
   d. Getting the books and supplies needed for the program

14. East Apple, a town of about 4500 people, plans to open an elementary school. List the order in which you would organize the planning activities by using the numbers 1 through 6 only one time each.

_____ Opening day of school
_____ Survey community to determine needs
_____ Order supplies and equipment
_____ Choose curriculum
_____ Deciding what staff is needed
_____ Interviewing and hiring teachers and staff

15. Which of the following factors is important in choosing personnel to staff a school?

a. The amount of money available
b. The needs of the community served by the school
c. The nature of the educational program to be offered
d. All of the above

In each of the following statements, place a T in the blank beside the statement if you think it is a true statement or an F beside it if you think it is a false statement.

16. _____ Planning educational programs is done primarily by the individual classroom teacher.

17. _____ It is usually important for educational planners to design the building before they do anything else.

18. _____ Educational planners are more concerned with record keeping than with other aspects of school.

19. _____ Educational planners can dictate whatever kind of program they want.

20. _____ Educational planners are responsible for developing a broad outline of what will be taught in a school.

21. _____ Educational planners must take into account community desires.

22. John's family is planning a short trip early this spring and John must find out when spring vacation will be. His teacher isn't sure of the exact dates. Which one of the following people should John ask for this information?

a. School nurse
b. Data systems analyst
c. Superintendent
d. School secretary

23. The local Education Association is compiling an up-to-date list of school personnel and their responsibilities for the Board of Education. Some of the job titles and descriptions are given below. Match the job title with its job description by placing the letter of the description by the job title, it most closely describes. (Use each description only one time each)

Descriptions	Job Titles
A Is in charge of obtaining and distributing tapes, films and other media for the schools	____ Counselor
B Organizes and carries on leisure activities such as crafts, games, hobbies	____ Curriculum Supervisor
C Has responsibility for administering entire school system	____ Director of Audio-Visual Services
D Teaches one or more subjects in grades seven through twelve	____ Director of Food Services
E Issues transcripts and/or school records of students' courses and credits to future employers	____ Nursery School teacher
F Organizes and leads activities for pre-kindergarten children	____ Recreation Leader
G Plans for the preparation and serving of meals to students during the school day	____ Registrar
H Helps students to solve individual problems often by interviewing them and their parents	____ School Secretary
I Takes care of clerical responsibilities for the school	____ Secondary School teacher
J Works with teachers and administrators to develop courses of study	____ Superintendent of Schools

24. What part of planning is often done by researchers and educational consultants in the planning of a school program?

a. Developing the school curriculum
b. Surveying the community as to their background and educational desires
c. Recommending the kind of staff which is needed for the program
d. All of the above.

25. Which of the following groups is responsible for operating a school?

a. Parent-Teacher Association
b. Board of Education
c. National Education Association
d. All of the above

APPENDIX B:

ATTITUDE SCALE "WHAT DO YOU LIKE?"

Planning

Educational

Programs

'What Do You Like?'

PLANNING EDUCATIONAL PROGRAMS

WHAT DO YOU LIKE?

THIS IS NOT A TEST. The purpose of these questions is to find out the types of activities and jobs in the planning of educational programs you might enjoy doing. We would also like to learn what reasons you have for liking these activities and jobs.

There are only nine (9) questions to answer. Directions for answering are found at the top of each page.

After you have completed the questions, please return this booklet to your teacher. Thanks for your help.

Please begin the questions as soon as you have finished reading the above paragraphs.

Directions: For the five questions below, place a check (✓) in the column which best describes whether you like, dislike or are uncertain about the activity described in the question. If you do not have enough information about the activity, check the last column. List reasons for your choice in the space provided at the right of the page.

Questions	Yes, I would like to try this	I'm uncertain about trying this	No, I would not like to try this	I don't have enough information to know if I would like to try this.	My Reasons For My Choice Are:
1. Would you like to try gathering information about what people in your city think about schools?					
2. Would you like to try gathering information about all kinds of new educational programs?					
3. Would you like to try taking rough ideas about educational programs and changing them into final program plans?					
4. Would you like to try evaluating educational ideas and thoughts from the viewpoints of others?					
5. Would you like to try participating in small groups where everyone contributes ideas to the planning of educational programs?					

Directions: For this question (#6) name five jobs that you know people do in schools or in education. (If you don't know five jobs, name as many as you do know.) Then check (✓) the column which best describes how you would feel about working in this job. In the space at right, list the reasons for your checkmark.

An example is given below to help you complete this question.

Question	Yes, I would like this job.	I'm uncertain about this job.	No, I would not like this job.	My reasons are:
EXAMPLE: Junior High Teacher	✓			1. I like working with many different people 2. I like helping people to learn new things
Educational Job #1				
Educational Job #2				
Educational Job #3				
Educational Job #4				
Educational Job #5				

7. What kinds of experiences or activities do you think people should have before they select a job in the world of work? Briefly describe or list your ideas below.

8. Have you ever thought about how you would go about selecting a job? What are the most important things that you feel people should consider before they select or decide upon a job in the world of work? Briefly describe or list your ideas below.

9. Pretend that you have interviewed for several different jobs in the last few days. Yesterday two employers called you and each offered you a job in their organization. Both employers want you to decide within two days whether or not you are going to accept their offer. Briefly describe below how you would arrive at your decision.

Please return this booklet to your teacher. Thank you.

APPENDIX C:

STUDENT QUESTIONNAIRE - "WHAT DO YOU THINK?"

Planning

Educational

Programs

'What Do You Know?'

The project presented/reported herein was performed pursuant to a grant from the National Institute of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the National Institute of Education, and no official endorsement by the National Institute of Education should be inferred.

PLANNING CONSTRUCTION PROJECTS

"WHAT DO YOU THINK?"

Now that you have completed this simulation, the people who developed it would like to find out what you think about your experience. Your ideas will help to make the simulation better. Remember, THIS IS NOT A TEST and your answers will not be graded. So feel free to check and to say what you think about this simulation.

DIRECTIONS: To complete the questionnaire, first fill in the information requested at the top of the next page. Then there is a list of statements which describe a feeling or an idea about the simulation just completed. Answer each statement by circling the symbol which best matches your actual feeling:

(+) means the statement agrees with your feeling

(?) means your're not sure how you feel about the thing mentioned in the statement

(-) means the statement does not agree with your feeling

For several other questions, special directions will be included with the questions. Follow those directions.

When you have completed the questions, please return this booklet to your teacher.

Thanks for your help.

You may turn the page and start as soon as you have completed reading the directions.

PLANNING CONSTRUCTION PROJECTS

"WHAT DO YOU THINK"?

FILL IN THE FOLLOWING INFORMATION:

Name _____ Date _____

School _____ City _____

Age _____

Grade (circle one) 8th 9th other (please specify) _____

Sex (circle one) Male Female

Subject taught in this class _____

Teacher's name _____

START THE QUESTIONS

Answer each statement by circling the symbol which best matches your actual feeling:

(+) means the statement agrees with your feeling

(?) means your're not sure how you feel about the thing mentioned in the statement

(-) means the statement does not agree with your feeling

	Circle one for each statement		
1. I learned quite a bit about jobs from the simulation.	+	?	-
2. I learned quite a bit about how to work with other people from the simulation.	+	?	-
3. To me the simulation was boring.	+	?	-
4. I would recommend the simulation to my friends	+	?	-

		Circle one for each statement		
5.	I would like to go through more simulations like this one.	+	?	-
6.	I would have rather done something else during the time I worked with the simulation.	+	?	-
7.	The simulation helped to answer some of the questions I have about jobs.	+	?	-
8.	The simulation took too long.	+	?	-
9.	The simulation was over too soon for me.	+	?	-
0.	Some of the tasks were too complicated or too hard for me to do.	+	?	-
11.	The summary helped me to "pull things together."	+	?	-
12.	I enjoyed working with other students during the simulation.	+	?	-
13.	The activities that I did in the simulation were exciting to me.	+	?	-
14.	I often had trouble knowing what to do next in the simulation.	+	?	-
15.	This simulation was a good way of getting out of class.	+	?	-
16.	There were too many tests and forms to fill out with this simulation.	+	?	-
17.	The pretest and posttest were difficult for me.	+	?	-
18.	The simulation preview, activities, and summary fit together well.	+	?	-
19.	The preview and the other activities at the beginning helped to prepare me for the simulation.	+	?	-
20.	I liked the way I selected my role(s) in the simulation.	+	?	-

For the next questions, either write in your answers or check (✓) the appropriate answers as indicated in the question.

21. What was your role (or roles) in the simulation "Planning Educational Programs"? (Check all that apply)

____ Adult Education Teacher
____ Counselor
____ Curriculum Supervisor
____ Custodian
____ Data Systems Analyst
____ Director of Audio-Visual Services
____ Director of Food Services
____ Director of Personnel
____ Educational Consultant
____ Educational Researcher
____ Elementary School Teacher
____ Learning Theorist
____ Librarian
____ Nursery School Teacher
____ Principal
____ Psychologist
____ Recreation Leader
____ Registrar
____ Secondary School Teacher
____ School Nurse
____ School Secretary
____ Superintendent
____ Other (please specify)
_____

22. Do you think that you performed well in this role (or roles)?

____ Yes, all of the time
____ Yes, most of the time
____ No, not usually
____ No, not at all

23. List a few reasons why you liked or did not like your role (or roles).

24. Would you choose this role (or roles) if you were going to be in the simulation again?

___ Yes
____ Not sure
____ No

25. Describe the one thing which you feel you did best in the simulation and the one thing you did least well. Be sure to say why you did well or poorly.

Best Thing	Reasons	Worst Thing	Reasons
_____	_____	_____	_____
_____	_____	_____	_____

26. What other roles in the simulation did you find interesting? (Check all that apply.)

____ Adult Education Teacher
____ Counselor
____ Curriculum Supervisor
____ Custodian
____ Data Systems Analyst
____ Director of Audio-Visual Services
____ Director of Food Services
____ Director of Personnel
____ Educational Consultant
____ Educational Researcher
____ Elementary School Teacher
____ Learning Theorist
____ Librarian
____ Nursery School Teacher
____ Principal
____ Psychologist
____ Recreation Leader
____ Registrar
____ Secondary School Teacher
____ School Nurse
____ School Secretary
____ Superintendent
____ Other (please specify)
_____

27. Why do you find this role (or roles) interesting? If you do not find any other roles interesting, can you say why?

28. Compared to your feelings about the work involved in planning educational programs before this simulation, how do you feel now?

Why?

____ I am more interested now
____ I am less interested now
____ I do not feel any different now

29. Did you discover any new interests by participating in this simulation?

____ Yes, I am now interested in _____
____ No

30. Name some of the things you liked most about the simulation and some of the things you liked least about the simulation.

Liked Most	Liked Least
_____	_____
_____	_____
_____	_____

31. Write down some of your ideas on how the simulation might be made better.

As soon as you have completed these questions, turn in this booklet to your teacher.

Thank you.

APPENDIX D:

TEACHER LOG AND

GENERAL MODULE EVALUATION

Module Evaluation

Teacher Log

MODULE EVALUATION

TEACHER LOG

Module Title PLANNING EDUCATIONAL PROGRAMS

Teacher Name _____

School _____

City _____

GENERAL INSTRUCTIONS

This instrument package is designed to obtain your reactions related to the simulation module which you are pilot testing as part of the Occupational Exploration Program. Your close association with the module places you in a unique position to evaluate overall quality, to note problems and to offer suggestions for further development and/or refinement. Hence, your candid appraisal of the module is sought by its developers. Your feedback will give direction to the revision process, which will be the next step in developing the module.

The package consists of several parts arranged in the order in which they should be used. These parts are described briefly below:

	PART	WHEN TO COMPLETE	Estimated Time Required
I.	Introduction to Simulation	Upon completion of the Introduction	5-10 minutes
II.	Module Preview	Upon completion of Preview	5 minutes
III.	Preparation Phase	Upon completion of the Phase	5-10 minutes
IV.	Participation Phase (task evaluation)	As students complete each task	5-10 minutes per task
V.	Summary Phase	Upon completion of the Phase	3-5 minutes

Part I: INTRODUCTION TO SIMULATION

SIMULATION - AN EXCITING WAY TO LEARN

Part I: INTRODUCTION TO SIMULATION

SIMULATION - AN EXCITING WAY TO LEARN

Complete this part after your students have seen the slide presentation introducing the idea of simulation, have read the booklet which covers the same ideas or have used both the slides and booklet together. This part consists of several brief questions about the introduction to simulation. To respond, circle the letter of the phrase that best describes your answer. Several questions will require that you supply a short answer. Space has also been provided for you to write in any comments you have. You are encouraged to do so.

Thanks for your help.

1. How many total students in your class were introduced to the concept of simulation by one or both of the means described above?

   _____ students

2. How many students used: (count each student only once)

   _____ The booklet only
   _____ The slides only
   _____ The slides first and then the booklet
   _____ The booklet first and then the slides
   _____ Other, please specify _____

3. Were the students able to understand concepts presented in the materials?

   a. Yes, most of the time — Comments
   b. Somewhat
   c. No, not much of the time

4. Was the vocabulary consistent with the maturational level of the students?

   a. Yes, most of it — Comments
   b. Some of it
   c. No, not much of it

5. How would you rate the quality of the illustrations used on the slides and in the booklet? (Answer both parts of the question.)

Slides	Booklet	Comments
a. Very Good	a. Very Good	
b. Good	b. Good	
c. Average	c. Average	
d. Poor	d. Poor	
e. Very Poor	e. Very Poor	

6. Overall, how would you rate the technical quality (appearance, ease of use, etc.) of the slides and booklet? (Answer both parts of the question.)

Slides	Booklet	Comments
a. Very Good	a. Very Good	
b. Good	b. Good	
c. Average	c. Average	
d. Poor	d. Poor	
e. Very Poor	e. Very Poor	

7. Overall, do you feel that this introduction was stimulating to students?

	Comments
a. Yes, very much	
b. Somewhat	
c. No, not much	

8. In what order would you recommend the use of the slides and the booklet? (Choose only one.)

	Comments
a. Use both in any order	
b. Use both with the booklet first	
c. Use both with the slides first	
d. Use the booklet only	
e. Use the slides only	
f. None of the above	

9. Would you recommend the use of the slides and/or the booklet to other teachers? (Answer both parts of the question.)

Slides	Booklet	Comments
a. Yes, with minor modification	a. Yes, with minor modification	
b. Yes, with major modification	b. Yes, with major modification	
c. No, I would not recommend it	c. No, I would not recommend it	

Please write in any other comments/suggestions you might have in the space below. (If extra space is required, use the back of this page.)

Part II: MODULE PREVIEW

Part II: MODULE PREVIEW

Complete this part when your students finish the "Preview" section of the module. Please rate each form used by your students by checking (✓) the appropriate box in each applicable cell. You are encouraged to place comments and/or descriptions of any problems you encountered in the large spaces provided in each box. (Note: Answer only for the forms of the preview that your students used and count students only one time each for the second column.)

Form of Presentation	# of students using this form	Rate the effectiveness of this form in stimulating student interest	Rate the technical quality (ease of use, appearance, etc.) of this form.	Rate the quality of this form in providing pertinent information to students making decisions about module participation	Overall, how would you rate the educational quality or worth of this "Preview" form	Write in any other suggestions you have for improving the Module Preview. Also describe what you considered to be the strong points of the preview
		High Med Low	High Med Low	High Med Low	High Med Low	
Illustrated Booklet		Comments	Comments	Comments	Comments	Suggestions
Sound-slide, film, filmstrip, etc.		Comments	Comments	Comments	Comments	
Game or similar activity		Comments	Comments	Comments	Comments	Strengths
Other, or some combination of the above forms (please specify)		Comments	Comments	Comments	Comments	

PART III - PREPARATION PHASE

PART III: PREPARATION PHASE

Complete this part after your students have finished the preparation phase of the simulation module. Questions here relate to the materials used to prepare students for participating in the simulation and the actual process of getting students into roles.

To respond, circle the letter of the choice that best describes your answer or how you feel. Some questions will require that you either check (✓) an answer or write in a short response. Space has also been provided for you to write any comments or suggestions you might have. You are encouraged to do so.

Thanks for your help.

MATERIALS

1. In the following chart: describe or name the form of material used (e.g., slide tapes, booklets, combination of forms, etc.); specify how many students used the form counting each student only once; rate the technical quality of the form; and rate its overall educational quality or worth.

   Ratings are indicated by placing a check (✓) in the appropriate box in the applicable cell. You are encouraged to place comments and/or descriptions of problems you encountered in the large space provided in each box.

Name of Form	No. of students	Rate the technical quality (appearance, ease of use, etc.) of the form	Rate the Overall Educational Quality of the Form
		High ☐ Med ☐ Low ☐ Comments	High ☐ Med ☐ Low ☐ Comments
		☐ ☐ ☐ Comments	☐ ☐ ☐ Comments
		☐ ☐ ☐ Comments	☐ ☐ ☐ Comments

2. Were the students able to understand the concepts presented in the materials?

   a. Yes, most of the time — Comments
   b. Somewhat.
   c. No, not much of the time

3. Was the vocabularly consistent with the maturational level of the students?

a. Yes, most of it
b. Some of it
c. No, not much of it

Comments

4. To what extent was the preparation phase integrated with (i.e., how well did it fit together with) the Module Preview?

a. Very well, integrated
b. Well integrated
c. Somewhat integrated
d. Poorly integrated
e. Very poorly integrated

Comments

ROLE SELECTION PROCESS

5. Did the initial role descriptions provide students with enough information for selecting roles?

a. Yes, the information was adequate
b. Somewhat
c. No, the information was inadequate

Comments

6. If schematic devices (e.g., schedule cards were available to help select roles, did students understand how to use them?

a. Yes, with little or no help
b. Yes, with some help
c. Yes, with a great deal of help
d. No
e. Not applicable

Comments

7. Were the students able to independently select themselves into roles?

a. Yes, with little difficulty
b. Yes, with some difficulty
c. No, some teacher assistance was necessary
d. No, extensive teacher assistance or direction was necessary

Comments

8. If you had to help the students select roles, please describe the nature of that assistance (e.g., asked students to draw lots when several wanted the same role; explained use of schematic device; etc.) in the space below.

9. Overall, was the role selection process described in the module an effective way of getting students into roles?

a. Yes, it was effective
b. Somewhat effective
c. No, it was ineffective

Comments

10. Can you suggest other ways in which this process could occur?

a. Yes, I would suggest _____

_____

_____

_____

_____

b. No, the process was effective

Please write in any other comments/suggestions you might have in the space below.

PART IV - PARTICIPATION PHASE

TASK EVALUATION

SKILLS PACKLT

PART IV - TASK EVALUATION

This part should be completed on a task by task basis as your students finish each task during the participation phase of the simulation module. Please write in the number of each task and answer the questions listed at the top of each column. IN THE "PROBLEM AREA" SECTION, PLACE A CHECK (✓) IN THE APPROPRIATE CELLS WHENEVER PROBLEMS OCCUR FOR A PARTICULAR TASK. Please write any comments, problem descriptions, and/or suggestions you have in the spaces provided.

A sample of a task evaluation is provided to help you complete this form.

Task number	Class time spent on task in minutes	Teacher time spent working directly with students in minutes	Is recommended time appropriate for completing task?	Did you modify, delete, or change the position of this task in the simulation? (Specify change)	MAJOR PROBLEM AREAS: Appropriateness of task to maturational level of students	Integration of task with previous, concurrent, and/or following tasks	Resource materials	Special skills required of teacher and/or instructional techniques for implementing the task.	Student understanding of task directions and/or task materials	Student implementation of task
SAMPLE 2A	150	35	TAKES TWICE AS LONG AS ESTIMATED TIME			THIS TASK REALLY FOLLOWED UP ON IDEAS FROM PREVIOUS ONE			✓ DIRECTIONS WERE UNCLEAR ESPECIALLY FOR ROLE DESCRIPTIONS	

PART IV - TASK EVALUATION

Task number	Class time spent on task in minutes	Teacher time spent working directly with students in minutes	Is recommended time appropriate for completing task?	Did you modify, delete, or change the position of this task in the simulation? (Specify change)	MAJOR PROBLEM AREAS					
					Appropriateness of task to maturational level of students	Integration of task with previous, concurrent, and/or following tasks	Resource materials	Special skills required of teacher and/or instructional techniques for implementing the task.	Student understanding of task directions and/or task materials	Student implementation of task

PART IV - TASK EVALUATION

Task number	Class time spent on task in minutes	Teacher time spent working directly with students in minutes	Is recommended time appropriate for completing task?	Did you modify, delete, or change the position of this task in the simulation? (Specify change)	MAJOR PROBLEM AREAS					
					Appropriateness of task to maturational level of students	Integration of task with previous, concurrent, and/or following tasks	Resource materials	Special skills required of teacher and/or instructional techniques for implementing the task.	Student understanding of task directions and/or task materials	Student implementation of task
					☐	☐	☐	☐	☐	☐
					☐	☐	☐	☐	☐	☐
					☐	☐	☐	☐	☐	☐
					☐	☐	☐	☐	☐	☐

PART IV - SKILL PACKETS

In some of the Occupational Exploration simulation modules it is likely that students may be asked to occasionally engage in activities with which they have little or no background. This lack of background will not significantly impede the operation of the module but students might feel somewhat more comfortable with the activity if their background could be enhanced. To help in providing that background, skill packets, (e.g., a "drawing skills" packet, metric system skill kit, etc.) have been included with several modules. Fill in the chart below for all skill packets provided with the module being used in your classroom. Write in the name of the skill packet (s), write in the number of students using the packet and then answer all questions listed at the top of each column by placing a check (✓) in the appropriate box. Please comment in the space provided with regard to any problems you might have encountered or any suggestions you might have.

Name of skill packet	# of Students using this packet	Rate this packet in terms of providing information needed by students				Rate the difficulty of packet in terms of maturational level of your students				Other Comments/Suggestions
		High	Med	Low	Comments	Too hard	Just right	Too easy	Comments	(Indicate: problems with skill packets; revision suggestions; other materials that might be used; etc.)

PART V: SUMMARY PHASE

PART V: SUMMARY PHASE

Complete this part when your students complete the "Summary" phase of the module. To respond, simply circle the letter beside the phrase that best describes your answer or supply the requested information. Space has also been provided for you to write in any comments/suggestions you may have.

Thanks for your help.

1. How effective was the "Summary" phase in providing a reasonable culimination to the simulation experience?

   a. Very effective
   b. Somewhat effective
   c. Not effective

   Comments

2. Was the "Summary" phase well integrated with the immediately preceding activities or tasks?

   a. Yes
   b. Somewhat
   c. No

   Comments

3. Did you have to modify or expand upon the "Summary"?

   a. Yes, I did the following _____

   _____

   b. No

4. How effective was the "Summary" phase in helping students learn about occupational roles performed by others in the simulation?

   a. Very effective
   b. Somewhat effective
   c. Not effective

   Comments

5. How effective was the "Summary" phase in helping students learn about tools, processes and working conditions associated with that part of the world of work simulated in the module?

   a. Very effective
   b. Somewhat effective
   c. Not effective

   Comments

6. How useful do you feel the "Summary" phase would be in helping students identify and select alternatives for further action related to other occupational exploration activities?

a. Very useful — Comments
b. Somewhat useful
c. Not useful

Please write in any other comments/suggestions that you might have in the space below.

Planning

Educational

Programs

General Module Evaluation

Teacher Form

GENERAL MODULE EVALUATION

TEACHER FORM

INSTRUCTIONS

This questionnaire should be filled out as soon as possible after the pilot test of this module has been completed, i.e., after the posttests have been given.

The questionnaire is divided into several sections. The first section deals with general background characteristics of students and teachers. This information will be used solely for the purpose of describing the students and teachers who participated in the pilot test of this module. Subsequent sections will deal with implementational problems, your perceptions of the quality of the materials, etc.

Fill in the information requested at the top of the questionnaire and then answer each question by circling the letter in front of the phrase that best describes your answer, unless given other specific directions in the question. Space has also been provided for you to write in any comments/suggestions you might have. You are encouraged to do so.

THANKS FOR YOUR HELP.

GENERAL MODULE EVALUATION

TEACHER FORM

Module Name Planning Educational Programs Date _____

Teacher Name _____

School _____

City _____

TEACHER BACKGROUND

1. What is your sex?

   a. Male
   b. Female

2. Including this year, approximately how many years of teaching experience do you have?

   a. This is my first year
   b. 2-4 years
   c. 4-6 years
   d. 6-8 years
   e. 8 or more years

3. In what kind of group setting (e.g., English classroom, math classroom, students from study hall, students from a guidance group, etc.) and at what grade level did you introduce this simulation?

   a. Group Setting (please specify) _____
   b. Grade Level (please specify) _____

4. Have you had any previous experience with simulation as an instructional technique?

   a. Yes, as a teacher
   b. Yes, as an observer
   c. Yes, as a participant
   d. No

5. If you answered yes to question 4, briefly describe the nature and extent of your previous experiences with simulation. If your response to question 4 was 'No' please proceed to question 6.

   a. My previous experiences with simulation include _____

   _____

   _____

   _____

6. Which of the following statements best describes your reasons for participating in the pilot test of this simulation module?

   a. To try out new ways of organizing instruction for students
   b. Interest in Career Education
   c. Thought material was of value for students
   d. General interest or curiosity
   e. I was requested to participate
   f. Other, or some combination of the above (please specify) _____

   _____

STUDENT BACKGROUND

7. How many students participated in the total simulation? (Include only those students who were involved in the module and received both the pre and posttests).

   _____ Students Participating

8. Of the students in question 7, how many were male and how many were female?

   _____ Males _____ Females

9. How were students selected to participate in the simulation?

   a. Most of the students were volunteers from the class
   b. The class, rather than the students, was volunteered
   c. Student volunteers from a study hall
   d. Other, please specify _____

   _____

10. If you had volunteer students participating in the simulation which of the following reasons best describes your perception of why they participated. If you did not have any volunteer students please proceed to Question 11.

a. Interest in trying something new
b. Interest in particular area simulated
c. Interest in careers
d. Interest in just getting out of class or study hall
e. Other, or some combination of the above (please specify)

_____

_____

f. I can't really guess at the reason (s)

11. Indicate any special characteristics of this class, e.g., many slow readers in class; many students with exceptionally good verbal skills; etc., which may bias the results of the pilot test of this module. Also describe how you feel the results will be biased by these characteristics.

a. Characteristics — Biases Produced

_____ _____

_____ _____

_____ _____

b. No special characteristics

SEQUENCING OF MATERIALS

12. In general, how well did the transition from phase to phase of the module proceed?

a. Very well — Comments
b. Well
c. About average
d. Poorly
e. Very poorly

13. Are there any additions, deletions or changes in the order of module parts that you feel should be made?

a. Yes, make the following changes _____

_____

_____

b. No changes are necessary

ADEQUACY OF MATERIALS

14. In general, were the directions in the module clear enough for students to understand what was expected of them?

a. Yes — Comments
b. Somewhat
c. No

15. In general, was the vocabulary of the module consistent with the maturational level of the students in the simulation?

a. Yes
b. Somewhat
c. No

16. Do you feel that the knowledge (What do you know?) and the attitude (What do you like?) tests were adequate measures of the material contained in the module? (Answer both parts of the question.)

Knowledge Test	Comments	Attitude Test	Comments
a. Yes		a. Yes	
b. Somewhat		b. Somewhat	
c. No		c. No	

17. To what extent was the knowledge test difficult for students?

a. Very difficult — Comments
b. Difficult
c. About average
d. Easy
e. Very easy

IMPLEMENTATION OF THE MODULE

18. How well did the in-service training prepare you to work with this module?

a. Very well — Comments
b. Well
c. Somewhat
d. Poorly
e. Very poorly

19. Did the in-service training provide you with a general understanding of your role in the module implementation?

a. Yes — Comments
b. Somewhat
c. No

20. While working with this module, did you have to allot (or spend) more time than you normally would for preparation (exclude the time spent in in-service training)?

a. Yes, specify additional time in hours _____ — Comments
b. Some extra time was necessary
c. No extra time was necessary

21. How sizeable was the job of managing/coordinating this simulation module for you?

a. Very sizeable — Comments
b. About average
c. Not sizeable

STUDENT PARTICIPATION AND LEARNING

22. Did your students experience problems with the reading level of this module?

a. Yes — Comments
b. Somewhat
c. No

23. To what extent do you feel students were receptive (interested in, excited by) to simulation as a way of learning?

a. Very receptive — Comments
b. Receptive
c. About average
d. Non-receptive
e. Very non-receptive

24. To what extent do you feel that students were receptive (interested in, excited by) to the content of this particular module?

a. Very receptive — Comments
b. Receptive
c. About average
d. Non-receptive
e. Very non-receptive

25. Was there any change in student interest or motivation as they progressed through the module?

a. Yes, interest changed as follows _____

_____

b. Somewhat
c. No

26. Do you feel that this module reinforced or helped to build the student's ability to make decisions?

a. Yes — Comments
b. Somewhat
c. No
d. Don't know

27. In your judgment, how much did students learn about the process of simulation and about the content of the module? (Answer both parts of the question)

Simulation Process	Comments	Module Content	Comments
a. Very Much		a. Very Much	
b. Much		b. Much	
c. An average amount		c. An average amount	
d. Little		d. Little	
e. Very little		e. Very little	

OVERALL PERCEPTIONS AND RECOMMENDATIONS

28. In general was this module

a. Exciting to students. — Comments
b. About average for students.
c. Boring to students.

29. In general did this module change the working relationships (personal interactions) between you and participating students?

a. Yes, relationship changed as follows _____

_____

_____

b. Somewhat
c. No

30. Are there any students or groups of students (e.g., some students may have difficulty working in small self-directed groups) that you feel would have difficulty participating in simulated types of experiences?

a. Yes, (please specify) _____

_____

_____

b. No

31. For what grades would you consider this module to be appropriate? (Circle as many as apply).

a. 10th or higher — Comments
b. 9th
c. 8th
d. 7th or lower
c. Other, please specify _____

32. Overall, how would you rate the quality of this module?

a. Very good — Comments
b. Good
c. Average
d. Poor
e. Very Poor

33. If possible, would you use this module with students again?

a. Yes, with no modification — Comments
b. Yes, with minor modifications
c. Yes, with major modifications
d. No

34. Would you recommend this module to other teachers?

a. Yes — Comments
b. No

COMMENTS AND/OR SUGGESTIONS FOR REVISION

Add as many comments and/or suggestions for revision of the module as you might have.

THANK YOU.