R E P O R T  R E S U M E S

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A STUDY OF SOME EFFECTS OF A PROGRAMMED ORIENTATION ON LEARNING OUTCOMES OF A HUMAN RELATIONS LABORATORY. PAPER PRESENTED AT THE NATIONAL SEMINAR ON ADULT EDUCATION RESEARCH (CHICAGO, FEBRUARY 11-13, 1968).

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TO TEST THE EFFECTIVENESS OF ADVANCED PREPARATION IN THE HUMAN RELATIONS LABORATORY PROGRAM OF THE UNITED CHURCH OF CANADA, SEVEN DELEGATES TO A LABORATORY HELD IN JUNE 1967 RECEIVED A 27-PAGE PROGRAMED ORIENTATION TWO WEEKS PRIOR TO THE LABORATORY. ANOTHER EIGHT DELEGATES SERVED AS A CONTROL GROUP. IT WAS HYPOTHESIZED THAT THE TEST GROUP WOULD PARTICIPATE WITH MORE FUNCTIONAL BEHAVIOR THAN THE CONTROL GROUP, WOULD KNOW MORE COGNITIVE ELEMENTS INCLUDED IN THE CURRICULUM, POSSESS MORE FAVORABLE ATTITUDES TO CHARACTERISTICS OF THE LABORATORY, AND WOULD HAVE DEVELOPED GREATER SKILL IN MEMBERSHIP PARTICIPATION AND INTERPERSONAL RELATIONSHIPS. ALL HYPOTHESES EXCEPT THE ONE REGARDING ATTITUDES WERE REJECTED, DUE IN PART TO THE LABORATORY DESIGN, READINESS AND LEARNING SET OF INDIVIDUAL DELEGATES, AND SOME CHARACTERISTICS OF ONE SUB-GROUP. EXPERIMENTERS RECOMMEND THAT THE UNITED CHURCH LABORATORY PROGRAM PRODUCE A REVISED PROGRAMED ORIENTATION, GENERATE PRETEST ITEMS SO THAT COGNITIVE LEARNING SCALES COULD BE DEVELOPED AT SHORT NOTICE, AND INVESTIGATE PROBLEMS CREATED BY ORIENTATION PRACTICE AND THE SCREENING EFFECT OF THE PROGRAM ORIENTATION. (CHARTS SHOW SAMPLING PLAN AND DESIGN AND SCORES FOR TEST PARTICIPANTS.) THIS PAPER WAS PRESENTED AT THE NATIONAL SEMINAR ON ADULT EDUCATION RESEARCH, CHICAGO, FEBRUARY 11-13, 1968. (RT)

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# A Study of Some Effects of a Programmed Orientation on Learning Outcomes of a Human Relations Laboratory.

by

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## The Problem.

The experiment tested one possible solution to a problem associated with present orientation and delegate preparation practice in the Human Relations Laboratory program of the United Church of Canada. Some graduates of the program believe they would have learned more from the laboratory if they had been prepared in advance for the experience. Over 80% of a random sample (n = 22) of trainers in the program share this belief in part or in whole. The solution tested is that of preparing delegates through a programmed orientation prior to their attendance at the Human Relations Laboratory (in Group Development), Five Oaks Christian Workers Center, Paris, Ontario, June 13 - 23, 1967.

A search of research reviews on laboratory training failed to uncover specific research on orientation to laboratory training. It is believed, therefore, that the study makes a beginning in an area which needs investigation.

## Objectives of the Investigation.

Objectives of the investigation are:

(1) To investigate various aspects of a problem created by present practices of preparing and orienting delegates for training in Human Relations Laboratories which are sponsored by the United Church of Canada,

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This report is based on a study by Stanley H. Searle, a graduate student in the Department of Extension Education, Ontario Agricultural College, University of Guelph, from September 1966 to September 1967. The study was conducted under the guidance of Professor G.L. Warlow of the Department of Extension Education.

or in which the United Church of Canada shares sponsorship.

(2) To investigate some effects upon member behavior, during a Human Relations Laboratory at Five Oaks Christian Workers Center, Paris, Ontario, June 13 - 23, 1967, of a previously administered programmed orientation, by observing the effects on member participation, learning, attitudes, and skill development.

(3) To investigate the relationship of theories of laboratory orientation and laboratory learning to theories of set, readiness, learning, creative behavior and work-emotionality.

(4) To test the effectiveness, for investigating laboratory training outcomes, of an experimental design, the basic principles of which are random assignment of individuals to test and control groups from pre-determined strata, and post-treatment measurement only of dependent variables.

(5) To investigate some processes for developing measurement procedures which produce valid reliable measurements of member participation, attitudes, cognitive learning, and skill development in a Human Relations Laboratory.

(6) To produce and test a programmed orientation to a Human Relations Laboratory (in Group Development) which could serve as the basis for the production of a generalized programmed orientation to Human Relations Laboratories.

Hypotheses which the Investigation Tested.

Hypotheses which the investigation tested are:

(1) A group of delegates who have completed a programmed orientation to the Human Relations Laboratory at Five Oaks, June 13 - 23, 1967, prior to attendance at the laboratory, (hereafter called the test group,) will, during the laboratory, participate with more functional, as contrasted with dysfunctional, behavior than will a group of delegates who were not exposed to the programmed orientation prior to attendance at the laboratory (hereafter called the control group).

(2) The difference in degree of functional behavior between the two groups hypothesized in hypothesis (1) will be greater in the early stages of the laboratory than in the later stages.

(3) The test group will, at the completion of the laboratory, know more cognitive elements which were included in the laboratory curriculum, than will the control group.

(4) The test group will, at the completion of the laboratory, possess attitudes more favorable to a variety of characteristics of the laboratory, than will the control group.

(5) The test group will, at the completion of the laboratory, have developed greater skill in member participation and interpersonal relationships than will the control group.

(6) The incidence of sub-grouping with members in their own group will, during the early stages of the laboratory, be greater for the

test group members than for the control group members.

Method.

The design chosen for the experiment was a post-treatment measurement of a test and a control group whose members had been assigned randomly from pre-determined strata. Where "S R" equals stratified randomization, "X" equals the treatment, and "O" equals observation or measurement, the design model is

S R X $O_1$

S R $O_2$

The design envisaged the collection of data concerning hypotheses (1), (2) and (6) during the laboratory, and the collection of data concerning hypotheses (3), (4), and (5) during a post-laboratory measurement period.

The Population.

The population was composed of fifteen delegates, seven were assigned to test groups and received a 27 page programmed orientation during a two week period prior to the laboratory.

Measurements were vigorously tested for reliability and validity.

Findings.

1. Over 80% of trainers in the program acknowledge problems arising from present orientation and delegate preparation practice. While the majority of a sample of graduates (n = 88) agree with the trainers, delegates

from three laboratories this year (1967) appear, either not to be dissatisfied, or to be satisfied with orientation and preparation as they experienced them.

2. There appears to be theoretical support for each hypothesis tested except hypothesis #6.

3. Self-screening of delegates (3 of 10 members originally assigned to a test group did not attend) and staff decisions concerning sub-group composition violated the principle of random assignment upon which the experiment depended. Post-measurement of test variables was satisfactory.

4. Programmed Orientation was an adequate treatment instrument. It was below the level of ability of several test group members. Mean unacceptable response was 5.40%.

5. Reliability and Validity of measurements.

a) Sub-grouping

i reliability - ~~met~~ test

ii validity - seriously questioned

b) Member participation

i reliability: T-group "A" rs = 0.818 (sig. .o5)

T-group "B" rs = 0.750 (sig. .05)

ii validity: rs - 0.894 (sig. .01)

c) Attitudes

1 reliability: pre-test #1 2rxx = 0.902

pre-test #2 2rxx = 0.905

test groups 2rxx = 0.872

ii validity: rs = 0.814

iii internal consistency Ø range from 0.800 to 0.504

d) Cognitive learning

i reliability: 2rxx = 0.624

ii validity: face validity estimate high

e) Skill development

i reliability: rs = 0.892. (sig. .01)

ii validity: rs = 0.854. (sig. .01)

6. Hypothesis #4 concerning attitudes was supported at the .05 level. All other hypotheses were rejected. Differences between test and control group scores are in the direction hypothesized except for sub-grouping.

Factors which contributed to the rejection of five hypotheses are found to be: the design of the laboratory, the readiness and learning set of some individual delegates, and some characteristics of one sub-group.

Recommendations.

It is recommended:

1. that the problems created or contributed to by present orientation practice within the laboratory program of the United Church of Canada be explored in depth and that this exploration include an examination of the propositions set forth above.

2. that "orientation to laboratory learning" become the theme for a seminar, sponsored by the United Church laboratory program and attended

by trainers and social scientists, for the purpose of developing theory on orientation to laboratory. The sources and propositions cited in "conclusions" above could be used to inform preparations for the seminar.

3. that Programmed Orientation be revised in the direction of a generalized orientation and in the light of the responses and experience of the test group.

4. that the United Church laboratory program generate and pretest items for a population of cognitive learning scale items so that a population of valid, reliable scale items with proven discriminatory power can be established from which specific scales can be developed at short notice.

5. that the United Church laboratory program initiate an investigation of the screening effect of a programmed orientation to laboratory.

6. that upon the completion of recommendations (3) and (4) above, the United Church laboratory program sponsor a replication of the experiment in several laboratories with the omission of hypothesis (6). The purpose of the replication would be to permit generalization of findings to the whole population of United Church laboratories and to further test theoretical propositions.

Figure 1.--Sampling Plan and Design

| SAMPLING PLAN | | | | TREATMENT PERIOD | MEASUREMENT PERIOD: Daily during Laboratory: By Trainers | MEASUREMENT PERIOD: Daily during Laboratory: Self by Delegates | MEASUREMENT PERIOD: Post-Laboratory: Peer by Delegates | | MEASUREMENT PERIOD: Post-Laboratory: Self by Delegates | | MEASUREMENT PERIOD: Post-Laboratory: By Trainers | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Two weeks before laboratory programmed orientation administered | | Skill Development | Member Participation | Cognitive Learning | Attitude | Skill Development | Attitude |
| TEST GROUP | Strata | Lay women | 2 | | YES | YES | YES | | | | | |
| | | Lay men | 2 | | | | | | | | | |
| | | Clergy not U. C. | 5[a] | | | | | | | | | |
| | | Clergy U.C. | 1 | | | | | | | | | |
| CONTROL GROUP | Strata | Lay women | 2 | | NO | YES | YES | | | | | |
| | | Lay men | 1 | | | | | | | | | |
| | | Clergy not U.C. | 4 | | | | | | | | | |
| | | Clergy U.C. | 1 | | | | | | | | | |

[a]three delegates assigned to this stratum did not attend

TABLE I

SCORES FOR MEMBER PARTICIPATION, COGNITIVE LEARNING AND SKILL DEVELOPMENT

| Delegate number | Member participation (maximum - 100) | | | Cognitive learning (max. - 55) | Skill dev't (max. - 100) |
|---|---|---|---|---|---|
| | Early stages | Later stages | All sessions | | |
| 01 | 73.7 | 81.1 | 77.5 | 31 | 82.4 |
| 02 | 77.7 | 87.5 | 82.2 | 39 | 74.0 |
| 03 | 39.8 | 71.2 | 54.5 | 34 | 49.9 |
| 04 | 48.6 | 78.8 | 62.7 | 33 | 69.8 |
| 05 | 66.9 | 63.4 | 65.2 | 30 | 63.0 |
| 06 | 55.2 | 62.2 | 58.8 | 32 | 52.9 |
| 07[a] | 73.3 | 64.3 | 69.2 | 34 | 54.2 |
| 08 | 39.1 | 65.7 | 50.4 | 31 | 58.8 |
| 09 | 62.3 | 72.2 | 66.9 | 28 | 63.9 |
| 10 | 37.7 | 62.2 | 42.7 | 28 | 18.2 |
| 11 | 50.2 | 64.2 | 56.9 | 31 | 43.4 |
| 12 | 74.0 | 75.7 | 75.6 | 32 | 78.2 |
| 13 | 79.4 | 85.1 | 82.4 | 36 | 84.4 |
| 14 | 71.6 | 79.3 | 74.1 | 34 | 75.8 |
| 15 | 54.5 | 59.0 | 55.8 | 34 | 41.3 |
| Test mean | 62.17 | 72.44 | 67.15 | 34.71 | 63.74 |
| Control mean | 58.51 | 70.42 | 63.10 | 31.75 | 58.00 |
| Diff. | 3.66 | 2.02 | 4.05 | 2.96 | 5.74 |
| % | 3.66 | 2.02 | 4.05 | 5.38 | 5.74 |

[a] 01 - 07 test group members
08 - 15 control group members

TABLE 2

SCORES FOR SUB-GROUPING AND ATTITUDES

| Delegate number | Sub-grouping (max. -36) | | | | Attitude (max. - 40) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Raw | | Weighted | | | | | | |
| | Named test | Named control | Named test | Named control | 5 | 4 | 3 | 2 | 1 |
| 01 | 10 | 11 | 10.99 | 11.66 | 8 | 26 | 2 | 4 | 0 |
| 02 | 17 | 17 | 18.66 | 17.99 | 23 | 11 | 0 | 6 | 0 |
| 03 | 12 | 16 | 12.83 | 16.66 | 12 | 12 | 2 | 12 | 2 |
| 04 | 14 | 16 | 15.33 | 16.50 | 6 | 18 | 7 | 6 | 3 |
| 05 | 6 | 21 | 7.12 | 21.00 | 9 | 23 | 4 | 3 | 1 |
| 06 | 10 | 18 | 12.13 | 18.00 | 15 | 16 | 1 | 8 | 0 |
| 07[a] | 6 | 18 | 7.23 | 18.00 | 19 | 14 | 2 | 4 | 1 |
| 08 | 17 | 6 | 17.00 | 6.33 | 7 | 18 | 2 | 12 | 1 |
| 09 | 10 | 5 | 10.00 | 5.33 | 6 | 22 | 4 | 8 | 0 |
| 10 | 13 | 3 | 13.00 | 3.00 | 0 | 24 | 7 | 9 | 0 |
| 11 | 17 | 17 | 17.00 | 17.66 | 9 | 19 | 7 | 4 | 1 |
| 12 | 12 | 12 | 12.42 | 12.00 | 11 | 21 | 1 | 7 | 0 |
| 13 | 12 | 19 | 12.61 | 19.00 | 17 | 12 | 3 | 8 | 0 |
| 14 | 9 | 17 | 9.29 | 17.00 | 17 | 12 | 5 | 5 | 1 |
| 15 | 6 | 12 | 6.14 | 12.00 | 1 | 16 | 0 | 21 | 2 |

[a] 01 - 07 test group members
08 - 15 control group members

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