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AUTHOR Ryan, T. A.
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ABSTRACT

This is a report of a five-day training session on systems research for counselors, counselor educators, and supervisors. The training session was an advanced program dealing with the use of systems research for planning and evaluating counseling, counselor education, supervision and related programs. The primary aims of the program were to: (1) develop participants' knowledge and understanding of systems research concepts and principles; and (2) to develop participants' proficiency in using systems techniques for planning and evaluating counseling, counselor education, supervision, and related areas. Forty trainees participated in the program, which included didactic instruction and supervised practice. Evaluation revealed attainment of program objectives at a near criterion level for most participants. Program evaluation suggests that organization and management were generally satisfactory. (Author)

FINAL REPORT

AMERICAN PERSONNEL AND GUIDANCE ASSOCIATION 1970 PRESESSION SYSTEMS RESEARCH FOR COUNSELORS, COUNSELOR EDUCATORS, AND SUPERVISORS

T. A. Ryan

University of Hawaii

May, 1970

The research reported herein was performed pursuant to a subcontract with the American Personnel and Guidance Association. Points of view or opinions stated do not, therefore, necessarily represent official American Personnel and Guidance Association position or policy.

I. Introduction

A. Problem

This is a report of a five-day research training session on systems research, held from March 17 to 21, 1970 in New Orleans, Louisiana, immediately preceding the annual meeting of American Personnel and Guidance Association. The presession was one of four research training sessions sponsored by American Personnel and Guidance Association in 1970 with support from the U. S. Office of Education. The presessions were intended to meet the needs of individuals whose full-time employment in professional roles made long-term training difficult and impractical. The presession in systems research was designed as an advanced program for teaching the use of systems research in planning and evaluating, counseling, counselor education, supervision and related programs.

B. Statement of need

The forces of change and pressures of a changing society have created a critical need for improvement and innovation in guidance and counseling (Riccio and Walz, 1967; Wrenn, 1962, 1965; Wolfbein, 1967). The standards for counselors and counselor educators (Association for Counselor Education and Supervision, 1965; American School Counselor Association, 1965) call for professionalization with concomitant improvement and innovation in implementing the roles of counselor, counselor educator, and supervisor. The public demand for accountability forces the profession to look for scientific approaches to planning and evaluating counseling and guidance. The standards and the public demand for accountability are mandates for improvement and reforms in counseling and counselor education (Loughary, 1965). Nearly a decade ago Wrenn (1962) challenged the profession to make a searching analysis of goals and to seek for new and effective ways to meet these goals. These two needs are as real and demanding in 1970 as they were in 1962. The presession in systems research was addressed to meeting these needs by equipping counselors, counselor educators, and supervisors with practical skills and theoretical knowledge for implementing systems research in local district, state department, or university settings.

C. Rationale

It was assumed that counseling and counselor education constitute systems, and that improvement in the systems could be achieved through application of the principles and techniques of systems research. It was assumed that judicious use of analysis, synthesis, simulation, and modelling could result in innovations and improvements in the counseling and guidance systems which would meet the needs of the society and answer the mandate for accountability. It was assumed that an intensive training program dealing with conceptualization of systems, and application of systems research techniques and skills could train selected individuals to a sufficiently high level of performance so they could employ systems research in their professional roles.

D. Purposes and Objectives

The ultimate purpose of the presession in systems research was to improve counseling, counselor education, supervision and related areas through research. The immediate program purpose was to train selected participants in use of systems research principles and techniques for planing and evaluating counseling, counselor education, supervision and related areas. The program purpose was implemented in two primary aims:

(1) to develop participants' knowledge and understanding of systems research concepts and principles as revealed by meaningful definition of analysis, synthesis, simulation, modelling, feedback, and behavioral objectives.

(2) to develop participants' proficiency in using systems techniques for planning and evaluating counseling and counselor education, as revealed by design of a closed loop system with element identification, feedback, logical sequence, and part-whole relationships and correct use of signal paths, arrowhead formation, rectangular blocks, descriptors, point numeric codes. F, FF, A, and error signals.

II. Method

A. Design

The program was designed to provide a carefully sequenced series of exercises and problems integrated with didactic instruction. It was assumed that factors influencing extent to which program aims could be achieved included participant background, staff competency, quality and quantity of information presented and practice provided.

Participants were selected who met criteria for education and experience deemed essential for progress in the course. In staff selection the intent was to combine competencies of different instructors into a strong instructional team capable of didactic presentation and supervision over problem-solving activities.

The amount and kind of information presented was controlled through the planned reference list and directed reading, including pre-conference preparation.

B. Setting

The training session was of five days duration, from March 17 to 21, 1970, with daily programs from 8:00 A.M. to 4:30 P.M. Instructors were available from 7:00 to 10:00 P.M. for individualized assistance to participants.

C. Participants

Forty-five participants were selected from sixty-three applicants for the presession. Attrition of five left forty in attendance during the training program. Participant roster is given in Appendix A.

Method of Selection

Applications for the presession on systems research were evaluated against the following criteria:

1. Employment as counseling specialists, counselor educators, supervisors, educational psychologists, researchers with responsibilities for research in counseling, counselor education, supervision, or related areas.

2. Education and experience to benefit from the instructional program

In selecting participants there was no discrimination on account of race, color, sex, or national origin.

Letters of invitation to participate in the presession on systems research were mailed by the directors to a select group of potential candidates. Those accepting the invitation received advance enrollment. A notice of the four presessions and one postsession sponsored by American Personnel and Guidance Association was carried in the March issue of Guidepost and direct mailing of application forms and information circulars was made to APGA members.

Ntoice was sent by the presession directly to applicants informing them of the status of their application. Applicants accepted for the program were required to file an Enrollment Form.

Participant Characteristics

There were males and females representing colleges and universities, local school districts, state departments of education, and agencies.

Distribution of participants by sex, place of residence, educational attainment, place and nature of employment is given in Appendix B.

C. Presession Staff

The staff consisted of the director who implemented administrative and instructional responsibilities, five instructors and one assistant. Staff directory is given in Appendix C.

D. Training Program

The training program designed to achieve presession objectives was five days in duration, with daily sessions from 8:00 A.M. to 12:00 Noon, and 1:00 P.M. to 4:30 P.M. Evening sessions were not scheduled as a required part of the program. The training facilities were open from 7:00 to 10:00 each evening, with instructors on hand to work with individual trainees or groups of participants. A demonstration of computer simulation and presentation of mathematical modelling were given during the evening hours.

Prior to the start of the presession, enrollees were sent a materials packet, with directions for pre-conference reading, seven reference materials, syllabus, and staff directory. Reference list is given in Appendix D, and syllabus is shown in Appendix E.

The presession opened with an orientation to the training program. This was followed immediately by a pretest to determine extent to which participants already were capable of demonstrating the terminal behaviors defined in the program objectives. There were seven major elements in the program, following completion of the pretest: (1) instruction in basic concepts and principles to reinforce required pre-conference reading; (2) basic instruction in skill development; (3) advanced instruction in concepts and techniques; (4) practice in applying systems skills and techniques; (5) posttest to determine extent to where participants had progressed toward criterion performance; (6) application of concepts and techniques in developing a solution to a real-life problem; and (7) presentation of models demonstrating systems research in counseling and counselor education.

The learning activities implemented to achieve Aim 1, developing participants' understanding of systems concepts and principles included assigned reading, lecturer, slide-tape presentations, films, individualized activities with programmed material, and supervised practice on workbook exercises.

Activities to achieve Aim 2, developing participants' proficiency in using systems techniques and skills included film-tape presentation, and supervised practice on individual and group problems, including work on analysis, synthesis, and flow chart modelling. Advanced exercises and extra assignments were utilized to help meet individual needs.

The daily schedule is shown in Appendix F.

III. Results

A. Evaluation of Participant Performance

Two measures were taken to evaluate participant performance against program objectives: an objective pre- posttest and subjective participant self-evaluation. Evaluation of the research training session was accomplished by comparing pre- and posttest group profiles and by comparing pre- and posttest scores against criterion standards for acceptable performance. The pre- posttest was designed to sample behaviors defined by Aims 1 and 2, developing understanding of concepts and principles of systems research and developing proficiency in using systems techniques. The pre- posttest instrument consisted of three subtests, two of which sampled behaviors of concept understanding, and one sampled proficiency in using systems techniques.

Table 1, Appendix G, shows the group profile for median scores on the pre- and posttest by program objectives. Inspection of Table 1 reveals that the posttest median scores for understanding of concepts exclusive of behavioral objectives were four and a half times larger than the pre-test median score. The median score for the understanding of behavioral objectives was double the pretest score. The posttest score on the test of skill proficiency was three times the pretest score. When the pre- and posttest scores were compared against criterion standards for acceptable performance (Table 2, Appendix G), it was found that over three-fourths of the participants developed understanding of concepts excluding behavioral goals at criterion level on the posttest, with ninety percent reaching criterion level on the posttest for skill performance.

Self-evaluation against Aims 1 and 2 were taken by eliciting from participants responses to indicate their feelings about their progress to the training objectives. Table 3, Appendix G, reports results of participants' self-evaluations. Inspection of Table 3 reveals that 100 percent of participants felt they had developed a significant understanding of systems concepts, with 97 percent reporting they felt they had acquired proficiency in using systems techniques.

B. Evaluation of Program Organization and Administration

A program evaluation was made to assess program management, by gathering data on learning activities, instructional materials, program content, and program organization.

Participants rated learning activities on a four-point scale, indicating degree to which the activity contributed to achievement of program goals. Mean ratings are reported in Appendix H, Table 4. Examination of data reported in Table 4 reveals all of activities were rated above the chance mean. The learning activities rated as most worthwhile in helping participants reach program goals were problem solving tasks, assigned readings, and conferences with staff.

Evaluation of instructional materials was made by participant rating on a four-point scale of six references which were required reading for the course. Mean ratings are reported in Appendix H, Table 5. Inspection of Table 5 reveals that all references were rated above the chance mean. The references rated as most valuable were Systems techniques for programs of counseling and counselor education by T. A. Ryan, and Preparing instructional objectives by Mager, with the next highest rated references being LOGOS: A system language for flowchart modeling by Silvern.

Program content was evaluated by participant rating on a four-point scale of each program unit in terms of contribution to program goals. Mean ratings are reported in Appendix H, Table 6. Inspection of Table 6 reveals that units considered most valuable were conceptualization of system in model form and conceptual analysis and synthesis. All units were rated above the chance mean.

Program management was evaluated by participant rating of aspects of program organization and management, including program information, meals and lodging, staff qualifications, time utilization, climate for learning, and physical facilities. Participant ratings of program management are reported in Appendix H, Table 7. Results in Table 7 indicate same dissatisfaction with the program information, meals and living arrangements, time allocation, and physical arrangements. There was 100% satisfaction with the program as a whole, as indicated by response to the questions concerning scheduling of a similar presession next year. The scope and sequence of learning and program expectations.

IV. Discussion

A. Purpose

The primary purpose of this American Personnel and Guidance Association research training session on systems research was to equip counselors, counselor educators, and supervisors with practical research skills and theoretical knowledge needed to achieve improvement and innovation in counseling, counselor education and related areas. The program purpose was implemented in two primary aims: (1) developing participants' understanding of systems concepts and principles; and (2) developing participants' proficiency in using systems techniques.

B. Results

Analysis of results from criterion tests indicates that the aim of developing participants' knowledge and understanding of systems concepts and principles was achieved by over three-fourths of the participants, with ninety percent of participants reaching criterion level in use of systems techniques. Analysis of test data revealed that twenty percent of participants started at criterion level on understanding of behavioral objectives. At the end of the training program, fifty percent had reached performance standards on defining behavioral objectives. The data reveal that none of the participants was at criterion level on understanding of other systems concepts at the start of the program. Seventy-eight percent reached criterion level at the end of the presession. The difference between the development of participants' understanding of behavioral objectives and their understanding of other systems concepts is explained by the nature of the program. The program design assumed a prior understanding of behavioral objectives[1] and the learning activities were not planned to emphasize understanding of behavioral objectives. The indication that twenty percent of the participants had an understanding of behavioral objectives of the beginning of the program indicates the extent to which preconference reading on behavioral goals was effective. A parallel can be shown with developing participant skill proficiency in using systems techniques. On the pretest seventeen percent of participants met criterion

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[1]The program of instruction on the presession assumes a prior understanding of certain basic concept and principles, and ability to perform certain activities with ease and competence. In order to derive maximum benefit from the training program, participants must have a thorough understanding of the language of systems research, and must be able to operationalize mission goals and to define behavioral objectives. It is assumed that before the presession begins participants will be capable of defining problems, stating objectives in behavioral terms, and identifying alternatives to implement the objectives. The references listed are intended to provide a means by which participants can acquire the prerequisite knowledge and skills which are assumed for this program. Reference annotations are provided to assist in directing reading activities so that optimum use can be made of participants' reading time prior to the start of the presession. Quoted from page 1, Selected References, APGA-008, February 18, 1970.

levels of use of systems techniques. This suggests that one-fifth of participants managed to learn from the basic system skills from the pre-conference preparation. However, in looking at the participant, understanding of systems concepts, with none of the participants meeting criterion levels on the pretest, it seems that the learning of systems skills through pre-conference directed reading failed to develop an understanding of systems principles and concepts. The continued independent use of systems research for improvement and innovation of counseling, counselor education and related areas requires more than rote skill. There must be understanding of assumptions underlying use of the systems techniques, to permit the researcher to know how and when to use systems techniques and to be able to interpret results of systems analysis and synthesis. Results of the pre-posttests suggest that an important outcome of the training session was the development of participant understanding of concepts and principles of systems research, along with developing proficiency in using systems techniques.

The evaluation of program management reflects that organization and administration were generally satisfactory, despite difficulties encountered as a result of the very late funding of the proposal and concomitant delays in announcing the program. The dissatisfaction with the time available for the presession can be taken as a positive endorsement of the program, rather than a criticism. The essence of the responses indicating dissatisfaction with amount of time for the presession has the effect of saying more time is desired to devote to the topic.

The dissatisfaction with pjysical facilities reflects in part the problems encountered, not only in the hotel facilities but also in the moving from one location to another in the course of the program.

Participant evaluation of instructional materials, techniques, and staff reveal general satisfaction with these components of the program. There was overwhelming endorsement of the program, as indicated by one hundred percent response to the question, "Did the program meet your expectations?"

The data from participant and program evaluation suggest that the research training programs conducted in cooperation with the annual meeting of American Personnel and Guidance Association meets a very real need. The comments of participants (Appendix I) clearly indicate that the topic of systems research is one of interest and value to members of APGA.

A P P E N D I C E S

APPENDIX A

UNIVERSITY OF HAWAII — Honolulu, Hawaii 96822
EDUCATION RESEARCH AND DEVELOPMENT CENTER — 1776 University Avenue

AMERICAN PERSONNEL AND GUIDANCE ASSOCIATION 1970 PRESESSION SYSTEMS RESEARCH FOR COUNSELORS, COUNSELOR EDUCATORS, AND SUPERVISORS

March 17 to March 21, 1970
Jung Hotel, New Orleans, Louisiana

PARTICIPANT ROSTER

1. Miss Etheline J. Acox
Counselor
Orleans Parish School Board
703 Carondelet Street
New Orleans, Louisiana 70126

2. Dr. Theodore Andreychuk
Chairman, Department of Psychology
Texas Tech University
Lubbock, Texas 79413

3. Dr. James D. Beck
Professor of Education
Chairman, Department of Guidance
Florida A & M University
Box 321 (FAMU)
Tallahassee, Florida 32307

4. Dr. Keith Bell
Dean of Students, Professor of Psychology
Seattle Pacific College
Seattle, Washington 98119

5. Dr. George C. Beamer
Chairman, Division of Counselor Education
North Texas State University
Denton, Texas 76203

6. Mr. Bruce W. Bergland
Assistant Professor of Education
Northwestern University
Evanston, Illinois 60091

7. Dr. Herman Boroughs
Coordinator, Graduate Studies
College of Education and Psychology
University of Southern Mississippi
South Station, Box 12
Hattiesburg, Mississippi 39401

8. Mrs. Emma J. Brown
Counselor
Employment Security Division-Monticello
P. O. Box 30
Monticello, Arkansas 71655

9. Dr. William Carse
Assistant Professor of Educational Psychology
University of Texas
3413 Bridle Path
Austin, Texas 78703

10. Mrs. Beverly B. Clark
Coordinator, Law Enforcement Programs & Curriculum Counselor
University College, University of Maryland
College Park, Maryland 20742

11. Dr. David R. Cook
Professor and Chairman
Department of Counselor Education
Northeastern University
201 Cushing Hall
Boston, Massachusetts 02115

12. Dr. Matthew Cooper
Professor of Psychology and Guidance
Texas Southern University
3201 Wheeler Avenue
Houston, Texas

13. Dr. Norman M. deMoose
Director of Counseling
Student Personnel Department
Staten Island Community College
715 Ocean Terrace
Staten Island, New York 07657

14. Dr. Edward P. Dworkin
Center for Vocational and Technical Education
Ohio State University
1900 Kenny Road
Columbus, Ohio 43212

15. Dr. Sheldon Eisenberg
Assistant Professor-Education
Syracuse University
804 University Avenue-3rd Floor
Syracuse, New York 13210

16. Dr. James Engelkes *
Department of Counseling, Personnel Services and Educational Psychology
Michigan State University
East Lansing, Michigan 48823

17. Dr. William P. Ewens
Professor of Education
Oklahoma State University
Stillwater, Oklahoma 74074

18. Dr. Irvine C. Gordon
Associate Professor of Guidance and Education
Drawer Z
Prairie View, Texas 77445

19. Dr. Robert C. Gowdy
Assistant Dean, Junior Division
Louisiana State University
Lake Front, New Orleans, La. 70122

20. Dr. Richard V. Hall
Assistant Professor
Department of Education
Midwestern University
3400 Taft, Box 220
Wichita Falls, Texas 76308

21. Lt. Richard B. Haynes
Director of Counseling
U.S. Army Ordinance Center and School
S & F 319, Aberdeen Proving Ground
Aberdeen, Maryland 21005

22. Mr. N. Kenneth LaFleur
Assistant Professor
School of Education
University of Virginia
Peabody Hall
Charlottesville, Va.

23. Mrs. Virgil C. Kenney
Director of Testing and Counseling
Texas Southern University
3201 Wheeler Avenue
Houston, Texas 77004

24. Dr. DeWayne J. Kurpius
Counselor Educator
Indiana University
Bloomington, Indiana 47401

25. Mr. Robert M. Lewis *
Teaching Assistance and Practicum Supervisor
University of Wisconsin
1914 Rowley Avenue
Madison, Wisconsin 53705

26. Dr. Florence M. Lloyd *
Chairman, Department of Education
St. Francis College
2701 Spring Street
Fort Wayne, Indiana 46808

27. Mrs. Laverne Marr
Assistant to Director, Psychological Services
Dallas Independent School District
3700 Ross Avenue
Dallas, Texas 75204

28. Mr. Alan McNabb
Graduate Student
Indiana University
School of Education, Room 105
Bloomington, Indiana 47401

29. Dr. Ralph A. Meyering *
Professor of Education and Psychology
Illinois State University
Normal, Illinois 61761

30. Dr. Earl J. Moore
Associate Professor
University of Missouri
24 Hill Hall
Columbia, Missouri 65201

31. Dr. C. Eugene Morris
Professor of Education
Graduate School of Education
Guidance and Counseling Department
Long Island University
Brookville, New York 11548

* non-attendance

32. Dr. C. N. Palms
Counselor Educator
The Fort Valley State College
Fort Valley, Georgia 31030

33. Dr. L. E. Patmore *
Professor of Education and Psychology
Department of Education
Eastern Washington State College
Cheney, Washington 99004

34. Dr. Helen Prouty
Professor of Education
San Diego State College
San Diego, California 92115

35. Sister Agnes Lucile Raley
Counselor Educator and Chairman
Psychology Department
Spalding College
851 South 4th Street
Louisville, Kentucky 40203

36. Mrs. Janice P. Rivers
Counselor
Airport High School
Eagle Drive West Cola
South Carolina 29206

37. Mrs. Mary E. Sand
Academic Counselor
Louisiana State University
Lakefront, New Orleans, La. 70122

38. Dr. Otto Spielbichler
Assistant Professor
University of Maryland
College Park, Maryland 20742

39. Dr. Mary E. Stephenson
Professor
Psychology and Education
Henderson State College
Arkadelphia, Arkansas 71923

40. Dr. Jack C. Sturges
Assistant Professor
Center Teacher Education
Tulane University
New Orleans, Louisiana 70118

41. Miss Nancy A. Tyler
College Counselor
Flint Community Junior College
1401 East Court Street
Flint, Michigan 48503

42. Sister Catherine Walker
Professor of Education
Our Lady of the Lake College
411 S.W. 24th Street
San Antonio, Texas 78207

43. Mr. Willie L. Watson
Counselor
W. E. Parker High School
Edgefield, South Carolina

44. Dr. James M. Williams
Assistant Professor
Educational Psychology Department
University of Alabama
University, Alabama 35486

45. Dr. Earl D. Wilson
Assistant Professor
University of Nebraska
Lincoln, Nebraska

* non-attendance

APPENDIX B

PARTICIPANT CHARACTERISTICS

Sex	Number
Male	27
Female	13
	N = 40

Highest Educational Degree Attained

Degree	Number
Bachelors degree	2
Masters degree	10
Doctoral candidate	3
Doctoral degree	25
	N = 40

Place of Residence

Region	State	Number	
South			
	Florida	1	
	Alabama	1	
	Mississippi	1	
	South Carolina	2	
	Georgia	1	
			6
Southwest			
	Arkansas	2	
	Louisiana	4	
	Oklahoma	1	
	Texas	9	
			16
East			
	New Jersey	1	
	New York	2	
	Maryland	3	
	Kentucky	1	
	Massachusetts	1	
			8
Midwest			
	Missouri	1	
	Ohio	1	
	Michigan	2	
	Nebraska	1	
	Indiana	2	
	Illinois	1	
			8
West			
	Washington	1	
	California	1	
			2
		N = 40	

Nature and Place of Employment

Employer	Position	Number	
University of College			
	Dean	1	
	Assistant Dean	1	
	Chairman	4	
	Director	1	
	Professor	9	
	Associate Professor	4	
	Assistant Professor	9	
	Coordinator	1	
	Instructor	1	
	Research Associate	1	
	Counselor	2	
			34
Local School			
	Counselor	2	
	Assistant Director	1	
			3
Agency, Military			
	Counselor	2	
	Director	1	
			3
		N = 40	

APPENDIX C

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March 17 to March 21, 1970
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STAFF DIRECTORY

Director

T. A. Ryan, Researcher/Professor, Education Research and Development Center, University of Hawaii, Honolulu, Hawaii 96822

Instructors

Donald G. Hays, Director, Pupil Personnel Services, Fullerton Union High School District, District Education Center, 211 West Commonwealth Avenue, Fullerton, California 92632

Ray E. Hosford, Associate Professor of Education, University of California, Santa Barbara, California 93106

James W. Lawrence, Assistant Researcher, Education Research and Development Center, University of Hawaii, Honolulu, Hawaii 96822

Leonard C. Silvern, President, Education and Training Consultants, Co., 815 Moraga Drive, Los Angeles, California 90049

Norman R. Stewart, Associate Professor, College of Education, Department of Counseling, Personnel Services and Educational Psychology, 448 Erickson Hall, Michigan State University, East Lansing, Michigan 48823

Bob B. Winborn, Associate Professor, College of Education, Department of Counseling, Personnel Services and Educational Psychology, 436 Erickson Hall, Michigan State University, East Lansing, Michigan 48823

APPENDIX D

UNIVERSITY OF HAWAII — Honolulu, Hawaii 96822
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SYSTEMS RESEARCH FOR COUNSELORS, COUNSELOR EDUCATORS, AND SUPERVISORS

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SELECTED REFERENCES*

The program of instruction in the presession assumes a prior understanding of certain basic concept and principles, and ability to perform certain activities with ease and competence. In order to drive maximum benefit from the training program, participants must have a thorough understanding of the language of systems research, and must be able to operationalize mission goals and to define behavioral objectives. It is assumed that before the presession begins participants will be capable of defining problems, stating objectives in behavioral terms, and identifying alternatives to implement the objectives. The references listed are intended to provide a means by which participants can acquire the prerequisite knowledge and skills which are assumed for this program. Reference annotations are provided to assist in directing reading activities so that optimum use can be made of participants' reading time prior to the start of the presession.

*Banathy, B. Instructional systems. Palo Alto, California: Fearon, 1968.

A good overview of systems approach. Easy reading. Should be studied by everyone to insure thorough understanding of the nature of systems research. The appendix is particularly good.

Boguslaw, R. The new utopians: A study of system design and social change. Englewood Cliffs, N.J.: Prentice-Hall, 1965.

An overview of systems approach. Intermediate reading level.

Buckley, W. (Ed.) Modern systems research for behavioral scientists. Chicago: Aldine Publishing Co., 1968.

A collection of articles dealing with systems theory. Advanced reading.

Carter, L. F. Systems approach to education: Mystique or reality. Educational Technology, 1969, 9, 22-31.

Gives an overview of the systems approach, with discussion of pros and cons from using the systems techniques.

*Churchman, C. W. The systems approach. New York: Delacorte Press, 1968.

This brief discussion of systems approach gives an excellent overview of the total systems concept, which involves problem identification, objectives definition, alternatives, identification and evaluation. This reference helps to point up the way in which flowchart modeling and simulation techniques implement the systems concept. Should be studied by all participants.

*Items marked with asterisks are included in participants' Materials Packet.

Cooley, W. W. and Hummel, R. C. Systems approaches in guidance. Review of Educational Research, 1969, 39, 351-362.
Relates systems techniques to guidance. Easy reading.

Educational Technology, 1969, 9, No. 3, 1-77.
This special issue of Educational Technology is devoted to counseling technology.

Eraut, M. R. An instructional systems approach to course development. AV Communication Review, 1967, 15, 92-101.
Relates the techniques of systems research to course development.

Gagne, R. M. Educational objectives and human performance. In Krumboltz, J. D. (Ed.), Learning and the educational process. Chicago: RAnd McNally, 1965. Pp. 1-24.
Discusses definition of objectives. Easy reading.

*Mager, R. F. Preparing instructional objectives. Palo Alto, California: Fearon, 1962.

This book tells how to prepare behavioral objectives. It is mandatory that each participant be able to define objectives in behavioral terms. The principles discussed in this reference must be thoroughly understood by each participant. Each participant must be able to demonstrate proficiency in defining objectives behaviorally. This can be accomplished by concentrated study of this reference, and practice in preparing behavioral objectives. Should be studied carefully by all participants.

*Ryan, T. A. Systems techniques for programs of counseling and counselor education. In Silvern, L. C. (Ed.), Applying systems engineering techniques to education and training. Educational Technology, 1969, 9, 1-17.

This article describes the application of systems techniques in counseling and counselor education. It provides a frame of reference for the presession. Easy reading. Excellent bibliography on systems research. Should be read by all participants. The other articles in this issue of Educational Technology all relevant to the presession topic. Casual reading is recommended.

*Silvern, L. C. Systems engineering of education I: The evolution of systems thinking in education. Los Angeles: Education and Training Consultants, 1968.

This is the basic text for the course. Pages 111-129 should be studied carefully by all participants. The program assumes that participants will have read this material and have a thorough understanding of the concepts presented in these pages.

*Silvern, L. C. LOGOS: A system language for flowchart modeling. In Silvern, L. C. (Ed.), Applying systems engineering techniques to education and training. Educational Technology, 1969, 9, 18-23.

Contains basic vocabulary for flowchart modeling. Should be studied by all participants.

*Items marked with asterisks are included in participants' Materials Packet.

Thoresen, C. E. The systems approach and counselor education: Basic features and implications. Counselor Education and Supervision, 1969
Discusses the application of systems techniques to counselor education.

von Bertalanffy, L. Modern systems theory. New York: George Braziller, Inc., 1968.
Deals with systems theory. Advanced reading.

Wiener, N. Cybernetics. Cambridge, Mass.: Massachusetts Institute of Technology Press, 1961.
Deals with cybernetics aspect of systems research. Advanced reading.

Wiener, N. Human use of human beings. New York: Doubleday, 1954.
Deals with cybernetics in relation to systems research. Advanced reading.

APPENDIX E

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SYLLABUS

I. Nature of Presession

A. Description

1. This presession in systems research is one of four research training sessions offered in 1970 by American Personnel and Guidance Association with support from the U. S. Office of Education.

2. This training session is designed as an advanced program focusing on the use of systems research for planning and evaluating counseling, counselor education, supervision and related programs.

3. The program has been planned to equip counseling specialists, counselor educators or supervisors, educational psychologists, and researchers performing substantive research in counseling, counselor education, supervision or related areas with practical skills and theoretical knowledge essential for implementing systems research at local district, state department or university levels.

4. The course of study deals with conceptualization of systems research, application of systems research, techniques of systems research, and practical uses of systems research.

B. Staff

1. Director: T. A. Ryan, University of Hawaii

2. Instructors: Donald G. Hays, Fullerton Union High School District, Fullerton, California
Ray E. Hosford, University of California, Santa Barbara
James W. Lawrence, University of Hawaii
Leonard C. Silvern, Education and Training Consultants, Co.
Norman R. Stewart, Michigan State University
Bob B. Winborn, Michigan State University

C. Participants

The session will be open to individuals in public schools, state departments of education, and colleges and universities who satisfy the following criteria:

1. Employment as counseling specialists, counselor educators or supervisors, educational psychologists, or researchers with

responsibilities for performing substantive research in counseling, counselor education, supervision or related areas.

2. Education and experience background to give evidence of ability to profit from instructional program.

D. Purpose and Objectives

1. APGA rationale for conducting presessions is based on assumptions that

   a. significant benefits accrue from improved and expanded educational research and

   b. short, intensive in-service training is effective for equipping those in professional roles with advanced knowledge and specialized research skills.

2. Purpose of the presession on systems research is to improve counseling, counselor education, supervision, and related areas through research. This program is designed to train selected participants in use of systems approach for planning and evaluating counseling, counselor education, supervision, and related areas.

3. Primary aims of the presession are:

   a. to develop participants' knowledge and understanding of systems research concepts and principles.

   b. to develop participants' proficiency in using systems techniques for planning and evaluating counseling and counselor education.

4. Objectives implementing the presession aims are:

   a. Given a multiple choice objective test, participants will demonstrate understanding of systems research concepts by being able to select from alternative endings the one ending which best completes the statement of definition or illustration of basic systems concepts such as system, analysis, synthesis, simulation, model, anasynthesis, flowchart, synergism, logistics, and fidelity, with an acceptable performance level set at 80% correct responses in a given time period.

   b. Given a multiple choice objective test, participants will demonstrate understanding of principles of systems research by selecting from among alternatives the one ending which best completes statements of principles or illustrates principles such as the rules for coding, lettering, and signal paths, with acceptable performance level set at 80% correct responses in a given time period.

c. Given a narrative description of a problem situation, the participant will be able to convert this word description into a flowchart model with correct element identification, use of symbols, descriptors, signal paths, blocks, coding and lettering, with acceptable performance level in a given time limit set at 80% agreement with problem solution.

d. Given a flowchart model of a problem situation, the participant will be able to convert this model into a narrative description, with acceptable performance level in a given time period set at 80% agreement with problem solution.

e. Given criteria for defining behavioral objectives, and a set of objectives, participants will be able to determine which objectives are stated in behavioral terms and the extent to which criteria for defining objectives behaviorally are satisfied.

II. Program Outline and Activities

A. Outline

1. Systems research

a. concepts and principles
b. definitions
c. background

2. Techniques of systems research

a. analysis
b. synthesis
c. modeling

3. Practice in using systems research

a. general problems
b. counselor education and counseling problems, simple and complex

4. Application of systems research to real-life problem

a. situations identified by participants

B. Activities

1. Program will be intensive and demanding, involving five full workdays in addition to independent study and informal group sessions during evening hours.

2. Activities will include lecture, discussion, demonstration, and task groups.

3. Supervised practice in use of systems research will occupy major part of program, with participants working individually and in groups on prepared problems.

III. Requirements

A. Participation

1. Participants will be required to attend and to participate in daily lecture-discussion periods.

2. Participants will be required to participate in task groups.

B. Reading

1. Reading requirements will be self-determined according to needs of individual participants. This training program assumes a starting background of prior knowledge and skill proficiency on the part of participants. The reading list has been prepared with this in mind and is intended to serve the purpose of directing participants to sources of information for use in overcoming specific knowledge or skill deficiencies.

2. It is recommended that participants study the references in the Materials Packet. An individualized program of in-depth study should be undertaken by each participant according to individual needs for background knowledge and skill development, so all participants will be starting the program with prerequisite knowledge and skill capabilities needed to benefit from training.

IV. Evaluation

A. Participant evaluation will be based on

1. pre- and posttest of use of basic principles of systems research covered in the training sessions; and

2. self-evaluation by participants.

B. Program evaluation will be made through participant opinions concerning materials, staff and organization.

APPENDIX F

UNIVERSITY OF HAWAII — Honolulu, Hawaii 96822
EDUCATION RESEARCH AND DEVELOPMENT CENTER — 1776 University Avenue

AMERICAN PERSONNEL AND GUIDANCE ASSOCIATION 1970 PRESESSION
SYSTEMS RESEARCH FOR COUNSELORS, COUNSELOR EDUCATORS, AND SUPERVISORS

March 17 to March 21, 1970
Jung Hotel, New Orleans, Louisiana

COURSE OUTLINE
(Tuesday, March 17, 1970)

Morning

8:00-8:10	Opening	T. A. Ryan
8:10-9:10	Pre-Assessment	
9:10-9:30	Introductions	
9:30-9:40	Program Overview: Purposes, Objectives Procedures	T. A. Ryan
9:40-10:00	The Systems Approach: Concepts and Principals	T. A. Ryan
10:00-10:20	Break	
10:20-11:00	Defining Goals and Objectives	T. A. Ryan
11:00-11:10	Model for Producing a System	Slide tape
11:10-12:00	LOGOS Language for Flowchart Modeling	Slide tape and Individualized Activity

Afternoon

1:00-1:50	Systems Engineering of Learning	Filmstrip tape
1:50-2:00	Question-and-Answer Period	
2:00-3:00	Analysis as a Process	Individualized Activity
3:00-3:20	Break	
3:20-4:05	Systems Using Feedback	Slide Tape
4:05-4:20	Discussion	
4:20-4:30	Announcements and Assignments: Problems	

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COURSE OUTLINE

(Wednesday, March 18, 1970)

Morning

8:00-8:10	Opening	T. A. Ryan
8:10-8:40	Evaluate Solutions to Problem 1	Staff
8:40-9:10	Synthesis as a Process	Slide Tape
9:10-9:30	Systems including Synthesis and CAI	L. C. Silvern
9:30-10:00	Problem 2	Individualized Activity
10:00-10:20	Break	
10:20-10:50	Evaluate Solutions to Problem 2	Staff
10:50-11:00	Model for Producing a System Model	Slide Tape
11:00-11:30	Study Closed Loop Instructional Flowchart Model: Boeing	
11:30-12:00	Problem 3	Individualized Activity

Afternoon

1:00-1:30	Evaluate Solutions to Problem 3	Staff
1:30-3:00	Problem 4. Satellite	Task Groups
3:00-3:20	Break	
3:20-4:20	Evaluate Problems Solutions	
4:20-4:30	Announcements and Assignments Problem 5	

COURSE OUTLINE

(Thursday, March 19, 1970)

Morning		
8:00-8:10	Opening	T. A. Ryan
8:10-9:00	Evaluate Problem Solutions-Problem 5	Staff
9:00-9:30	Study Complex. Closed Loop Instructional Flowchart Model: Occupational Instruction and Government Based Information	L. C. Silvern
9:30-10:00	Problem 6	Task Groups
10:00-10:20	Break	
10:20-11:00	Problem 6	Task Groups
11:00-12:00	Evaluation of Problem Solutions	
Afternoon		
1:00-3:00	Problem 7	Task Groups
3:00-3:20	Break	
3:20-4:20	Problem 7	Task Groups
4:20-4:30	Announcements and Assignments	T. A. Ryan

COURSE OUTLINE

(Friday, March 20, 1970)

Morning		
8:00-8:10	Opening	T. A. Ryan
8:10-10:00	Evaluate Solutions to Problem 7	
10:00-10:20	Break	
10:20-11:20	Post-Assessment	
11:20-12:00	Real Life Problem	Task Groups
Afternoon		
1:00-3:00	Real Life Problem	Task Groups
3:00-3:20	Break	
3:20-4:20	Real Life Problem	Task Groups
4:20-4:30	Announcements and Assignments	T. A. Ryan

COURSE OUTLINE

(Saturday, March 21, 1970)

Morning		
8:00-8:10	Opening	T. A. Ryan
8:10-10:00	Evaluate Solutions to Real Life Problems	
10:00-10:20	Break	
10:20-10:40	Program Evaluation	
10:40-12:00	A Counseling Model	N. R. Stewart B. B. Winborn
Afternoon		
1:00-2:00	Model for a District Testing Program	D. G. Hays
2:00-3:00	Review and Preview: Systems Approach-Implications for Counseling, Guidance, Counselor Education and Supervision	T. A. Ryan
3:00	Adjournment	T. A. Ryan

APPENDIX G

EVALUATION OF PARTICIPANT PERFORMANCE

Table 1

Comparison of Group Profiles of Median Scores
for Pre- and Posttest by Program Objective

Program Objective	Median Score	
	Pretest	Posttest
Developing understanding of systems concepts exclusive of behavioral objectives	9.0	40.0
Developing understanding of behavioral objectives	3.0	7.5
Developing proficiency in using systems techniques	7.5	22.0
	N = 33	N = 28

Table 2

Performance Criterion Levels for Training Objectives
and Percent of Participants Achieving Criterion Levels

Objective	Criterion Levels of Acceptable Performance			
	Possible Score	Criterion Level	% Achieving Criterion Level	
			Pretest	Posttest
Understanding concepts exclusive of behavioral objectives	96	36	0	78
Understanding behavioral objectives	17	8	20	50
Acquiring proficiency in using systems techniques	40	20	17	90

APPENDIX G

EVALUATION OF PARTICIPANT PERFORMANCE

Table 3

Participant Self Evaluation on Levels of Performance for Program Objectives

Program Objectives	Percent of Respondents Reaching Four Levels of Performance			
	None	Little	Some	Great Amount
1. Amount of new knowledge about system research acquired during presession	0	0	72	28
2. Extent of proficiency in using systems techniques developed during presession	0	3	79	18

APPENDIX H

PROGRAM EVALUATION

Table 4

Mean Rating of Training Program Learning Activities

Learning Activity	Mean Rating (Md = 3.39½)
Individual staff conference	3.69
Individual problem	3.55
Assigned reading	3.52
Lectures	3.42
Audio-visual presentations	3.37
Programmed instruction	3.27
General discussion	3.14
Task group activities	3.06

Table 5

Mean Ratings of Instructional Materials

Instructional Material	Mean Rating (Md = 3.45)
Ryan, T. A. Systems techniques for programs of counseling and counselor education.	3.69
Mager, R. F. Preparing instructional objectives.	3.68
Silvern, L. C. LOGOS: A system language for flowchart modeling.	3.52
Silvern, L. C. Systems engineering of education I: The evolution of systems thinking in education.	3.38
Banathy, B. Instructional systems.	3.30
Churchman, C. W. The systems approach.	2.96

APPENDIX H

PROGRAM EVALUATION

Table 6

Mean Ratings of Program Topics

Program Topic	Mean Rating (Md = 3.49½)
Conceptualization of system in model form	3.72
Conceptual analysis and synthesis	3.72
Model for producing a systems model	3.62
Problem: From Real Life Environment	3.61
Systems using feedback	3.55
Problem: Counselor Education	3.51
Rules and symbols for flowchart modeling	3.48
Illustrations of Systems Research	3.32
Closed loop instructional system	3.26
Problem: Guidance Management	3.07
Problem: Satellite Communication	2.82
Problem: LOGOS	2.77

APPENDIX I

PARTICIPANT EVALUATIONS OF PRESESSION

This was a tremendously worthwhile experience. I appreciated the invitation to participate and got even more out of the workshop than I had anticipated. Saturday's program (staff presentations) were worth the entire workshop. Besides being a delightful person, Dr. Ryan exemplified the most effective workshop leadership I have ever experienced. Systematization par excellence!

I would like to attend another session of Systems Research as I was informed before leaving the area in which I work, that Systems Research is being considered for counselors and in the training of Counselors State wide 1972. I feel that I could help in working with those who plan to do this and it will definitely increase my helping those clients we serve in the Rural Areas of Arkansas.

This presession was most informative and helpful. My one regret about the whole is related to time, i.e., a longer period of involvement in this kind of activity would have been most beneficial to me.

Possibly something at an advanced project level where we can be briefly updated and then work intensively on "real life" problems with the aid of consultants. we need a means of "inventorying" the developed materials in counseling, counselor education, and guidance that utilize systems (e.g. the M.S.U. Staff) so we don't need to work from scratch on everything. Perhaps an advanced presession could begin with a couple of days of presentations of these systems.

It was an intensive, stimulating experience; very exhausting, but worthwhile. I found it difficult to move from the simple introductory material to the advanced model Silvern presented. Additional slide-tape materials would be helpful. Appreciate the staff time and planning; the organization was paced so that the time did not drag. Successful workshop!

I found the presession exciting and mentally stimulating, something missing in the military. The lack of acquired knowledge on my part is not due to the staff, but 1) a lack of prior study on my part and 2) a lack of prior knowledge on my part. Another session on systems research is needed, but before next year. A summer session is a must to check my progress. I found the staff of the finest quality; youthful in thought and action. Hopefully I shall have the opportunity to work with them in my doctorate work. I suggest the Jung Hotel be dropped due to poor service and inadequate facilities (living). The most pleasant information I received was the fact that the staff will continue to be available via mail. I am indebted to APGA, Dr. Ryan and Staff for this Presession. Let's pray the Army will let me impliment some of the ideas learned here!

APPENDIX J

References

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