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AUTHOR   Gromfin, Annette M.; And Others
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ABSTRACT
        This module is designed to provide the prospective
teacher of troubled youth with experience, knowledge, skills, and
attitudes necessary for carrying on successful action research. The
terminal objective is described as follows: given information
relevant to writing a research proposal (outline, proposal format,
and the means to conduct research, i.e., gathering and organizing
data and research procedures), the participant will write an action
research proposal for a master's degree project which will be
scientifically developed and relatively refined for teachers in the
field of delinquency-prone youth. The module is divided into the
following sections: description, steps for completing the module,
preassessment, description of enabling activities, postevaluation,
remediation, and appendixes. The appendixes contain the following
elements through which the student may choose to work: (a)
Investigate the Library, (b) Investigate Types of Research, (c)
Investigate Collecting and Organizing Data, (d) Investigate Tools of
Research, (e) Investigate Statistics, and (f) Learner Options.
Terminal objectives and steps for completion are given for each of
these elements. (JA)

L.B.

COMPETENCY-BASED TEACHER EDUCATION

TEACHER CORPS-URBAN
UNIVERSITY OF SOUTHERN CALIFORNIA
SCHOOL OF EDUCATION

Component: Master's Degree in Education:
             Research for the Teacher
             MSED 004.   (USC-U)

Module: Preparing for Research
             MSED 004.01   (USC-U)

Module: Carrying on Research
             MSED 004.02   (USC-U)

Principal Authors:

Annette M. Gromfin, Director
Teacher Corps-Urban

Vida L. Van Brunt, Assistant Director
Teacher Corps-Urban

W. Paul Fischer, Asst. Professor
Teacher Education

John Savage
Technical Assistant

TABLE OF CONTENTS

PROSPECTUS

PREPARING FOR RESEARCH

Perspective:

Much of the really significant information needed to
bridge the gap between scientific research and the class-
room teacher will be supplied as teachers in public schools
become more research oriented and apply the problem solving
techniques of action research to the solution of local prob-
lems. The procedures involved in action research will sup-
ply teachers with a tool which enhances their involvement
in identifying and researching problems important in their
classrooms, translating the results into use, and sharing
the results with their colleagues. The introspective pro-
cess involved in action research will give prospective
teachers of the troubled youth a unique depth of perception
into the problems of the juvenile delinquent. This proced-
ure is aimed toward developing practical ways of improving
education for the youth in his various school settings.

Objective:

Terminal Objective:

Given input in information relevant to writing a research proposal (outline and proposal format, and the means to conducting research, i.e., gathering and organizing data and research procedures), the participant will write an action research proposal for a Master's degree project. The proposal will be scientifically developed and relatively refined for teachers in the field of delinquency prone youth, and will meet minimum criteria as defined in the post evaluation.

(By special arrangement with a consultant, the participant may produce an alternative to the standard research project. This may be in the form of media, a proposal for research funds, or any other alternative agreed upon mutually by the participant and a consultant.)

Prerequisite:

Successful completion of all modules and/or University courses which are prerequisite to the Master's degree seminar.

<u>Description of the Module:</u>   MSED 004.01   (USC-U)

This module provides the prospective teacher of troub-led youth with experience, knowledge, skills and attitudes necessary for carrying on successful action research. Such research is in problems related to providing a productive learning environment for the delinquent troubled youth.

The enabling objectives for this module are:

1.   Given input (by reading and/or lecture) in "the problem in research," the participant identifies and states a series of problems (in the field of delinquency prone youth) which he might undertake as an action research project.

2.   Given input (by reading and/or lecture) in "the research proposal," the participant writes an outline for a research proposal.

3.   The partipant optionally, or according to the prescription of the evaluation group, investigates (by use of the worktexts included as appendixes) the following areas:

    1.   The library
    2.   The types of research
    3.   Collecting and organizing data
    4.   The tools of research
    5.   Statistics
    6.   Learner options

4.   Given input (by reading and/or lecture) in "the research proposal" and "reporting action research," the participant wrties a research proposal.

Steps for Completing this Module: MSED 004.01 (USC-U)

004.01.0   Enter

  1.1   Read the Prospectus.

  1.2   Meet with all participants and a consultant
          to discuss the prospectus.

  1.3.0   Pre-Assessment

    1.3.1 React to the Pre-Assessment.

    1.3.2 Were the results of your Pre-Assess-
         ment favorable enough to warrant your
         moving directly into preparation for
         the Post Evaluation?

         -If <u>yes</u>, go to decision point 1.3.3.
         -If <u>no</u>, begin to get input re research-
          ing at 1.4.0.

    1.3.3 Do you need information re reporting
         research (form, style, procedures,
         mechanics, etc.) (A consultant can
         help you make this decision)

         -If <u>yes</u>, go to 1.12.0 for appropri-
          ate input.
         -If <u>no</u>, go directly to 1.13 to begin
          writing a research proposal.

  1.4.0   Input: "The Problem." Choose one or both:

    1.4.1 Read re the problem in research.

    1.4.2 Attend a lecture re the problem in
         research.

  1.5.0   Input: "The Research Proposal." Choose one
           or both:

    1.5.1 Read re the research proposal.

    1.5.2 Attend a lecture re the research
         proposal.

1.6   Identify several problems which you would like to undertake as an action research project. State the problems according to the criteria in 1.4.1 and/or 1.4.2. Discuss your problem statements with a consultant.

1.7   Select one of the problems stated in 1.6; write an outline for an action research proposal to investigate this problem. The outline should conform to the criteria described in 1.5.1 and/or 1.5.2.

1.8.1   Meet with a consultant and other participants to evaluate the research proposal outline, your progress, and your needs.

1.6.2   Was the evaluation of your research proposal outline favorable enough to warrant your moving directly into preparation for the Post Evaluation? Do you have enough information re the elements in 1.9.0 to move into writing a research proposal?

     -If both answers are yes, go to 1.12.0 for input re reporting research.

     -If either answer is no, select those enabling elements which will help you to strengthen your outline, write a new one, or gain needed information.

1.9.0   Using the evaluation of your progress, needs, and research proposal outline (1.8.1) as a guide, select from the following enabling elements those which are appropriate. Note: The order of undertaking the elements is optional.

     1.9.1   Investigate the library sources, resources, and services by using the worktext supplied as Appendix A.

     1.9.2   Investigate the types of research using the worktext supplied as Appendix B.

     1.9.3   Investigate the means and procedures for collecting and organizing data by using the worktext supplied as Appendix C.

1.9.4 Investigate the tools of research by using the worktext supplied as Appendix D.

1.9.5 Investigate the principles and use of statistics in research by using the worktext supplied as Appendix E.

1.9.6 Investigate any area which will aid you in your pursuit of the Terminal Objective. Refer to Appendix F.

1.10 Select a problem which you would like to undertake as an action research project; write an outline for a research proposal to investigate this problem. The outline should conform to the criteria described in 1.5.1 and/or 1.5.2. (Note: See 1.8.2, Description of Enabling Activities to determine whether or not you are eligible to omit 1.10 and 1.11).

1.11 Meet with a consultant and other participants to evaluate the research proposal outline. By referring to 1.8.2, move to 1.12 or re-cycle through appropriate enabling elements.

1.12.0 Input: "Reporting Action Research." Choose one or both:

1.12.1 Read re reporting action research.

1.12.2 Attend a lecture re reporting action research.

1.13 Write a research proposal based on the outline which has been evaluated by the consultant and other participants as part of the Pre-Assessment, 1.8.1, or 1.11.

1.14 React to the Post Evaluation.

1.15 Were the results of your Post Evaluation favorable enough to warrant your exit?

-If yes, exit.
-If no,, recycle through the module, beginning at the earliest point which can help solve the problem(s) in your research proposal. (See Remediation).

Pre-Assessment: MSED 004.01 (USC-U)

Part I: (01.3.1.1) Guide to Elements of 1.9.0

For the following questions, circle the appropriate response and carefully read the suggestions in parentheses. Plan to refer to this list of answers as part of your evaluation in 1.8.1.

1. Can you make efficient use of library tools when conducting research and/or investigation? (Such tools include the card catalog; the Dewey Decimal System; appropriate reference materials, i.e., indexes and guides to periodicals and journals, reference books, abstracts, the ERIC system, encyclopedias, almanacs, yearbooks, handbooks, guides, biographical references, directories, dictionaries, atlases, gazetteers.)

A. Yes
B. No   ) (Perhaps you will need to work
C. Not Certain) through 1.9.1 if it is relevant
                  to the research problem you will
                  be pursuing and/or if the eval-
                  uation group suggests this Ele-
                  ment.)

2. a. Can you list the three types of research* and their three sub-categories**?

A. Yes
B. No
C. Not Certain

b. Can you list the characteristics, tools, methods, and techniques of each of the three types of research?

A. Yes
B. No
C. Not Certain

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* Historical, Descriptive, Experimental

** Pure, applied, action

Pre-Assessment: MSED 004.01 (USC-U)

Part I: (01.3.1.1) Guide to Elements of 1.9.0

For the following questions, circle the appropriate

response and carefully read the suggestions in parentheses.

Plan to refer to this list of answers as part of your evalu-

ation in 1.8.1.

1. Can you make efficient use of library tools when
conducting research and/or investigation? (Such tools
include the card catalog; the Dewey Decimal System;
appropriate reference materials, i.e., indexes and
guides to periodicals and journals, reference books,
abstracts, the ERIC system, encyclopedias, almanacs,
yearbooks, handbooks, guides, biographical references,
directories, dictionaries, atlases, gazetteers.)

    A. Yes
    B. No   ) (Perhaps you will need to work
    C. Not Certain) through 1.9.1 if it is relevant
                      to the research problem you will
                      be pursuing and/or if the eval-
                      uation group suggests this Ele-
                      ment.)

2. a. Can you list the three types of research* and
their three sub-categories**?

    A. Yes
    B. No
    C. Not Certain

    b. Can you list the characteristics, tools, meth-
ods, and techniques of each of the three types of re-
search?

    A. Yes
    B. No
    C. Not Certain

---

*   Historical, Descriptive, Experimental

** Pure, applied, action

c. Can you choose the appropriate type of research to use in studying any given problem?

    A. Yes
    B. No
    C. Not Certain

(If you circled No or Not Certain for any of the above, you may need to work through 1.9.2, if it is relevant to the research problem you will be pursuing and/or if the evaluation group suggests this element.)

3. Are you aware of and able to apply the appropriate methods, considerations, and techniques (not tools) used in collecting and organizing data?

    A. Yes
    B. No   )   (Perhaps you will need to work
    C. Not Certain)   through 1.9.3, if it is rele-
                        vant to the research problem
                        you will be pursuing and/or
                        if the evaluation group suggests
                        this Element.)

4. a. Can you list the major tools used in conducting research?*

    A. Yes
    B. No
    C. Not Certain

   b. For the major tools, can you describe strengths, weaknesses and appropriate use in research situations?

    A. Yes
    B. No
    C. Not Certain

   c. Can you use the tools of research effeciently and in accordance with the principles of scientific research?

    A. Yes
    B. No
    C. Not Certain

(If you circled No or Not Certain for any of the above, you may need to work through 1.9.4, if it is relevant to the research problem you will be pursuing and/or if the evaluation group suggests this Element.)

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*Hammer, screwdriver, pliers....did you think we were silly enough to list the tools here? See page 11 after answering this question.

5. Do you have working knowledge of statistical prin-
ciples, vocabulary, techniques, methods, tools,   an-
alysis and their appropriate application to the field
of research?

    A. Yes
    B. No   ) (Perhaps you will need to work
    C. Not Certain)   through 1.9.5, if it is relevant
                          to the research problem you will
                          be pursuing and/or if the evalua-
                          tion group suggests this Element.)

PART II: (01.3.1.2) DIAGNOSTIC SELF-TEST

For the directions below, complete as much of the assign-

ment as your present knowledge and skills will allow.

1. Write a statement of a problem in the field of de-
linquency prone youth which you would like to investi-
gate in an action research project. (Criteria: Is
the problem statement a) relevant to the education of
delinquency prone youth? b) in the field of action re-
search? c) sufficiently delimited? d) written as a
question or a declarative statement? e) suggestive of
a specific answer or conclusion?)

2. Using the problem statement from above, write an
outline for a research proposal. (Criteria: Are the
contents complete, accurate, fully developed, and in
suitable form? Contents should include all of the
following which are appropriate for the project being
proposed: a) problem statement, b) hypothesis, c) sig-
nificance of the problem, d) definitions, assumptions,
and limitations, e) résumé of related literature, f) pro-
posed procedures, g) a time schedule, and h) inferred
conclusions.

After completing the Pre-Assessment, meet with a consul-

tant to evaluate your performance. He will help you with

decision point 1.3.2 (and 1.3.3, if appropriate.)

The major tools of research are as follows: questionnaire,
opinionnaire (attitude scale), observation, interview, psy-
chological tests and inventories, Q methodology, checklists,
rating scales, score cards, scaled specimens, document or con-
tent analysis, sociograms, "guess-who" techniques, and social
distance scales.

Description of Enabling Activities: MSED 004.01   (USC-U)

1.2   Discussion of the prospectus is to be primarily con-
          cerned with the module's objectives, procedures, act-
          ivities, resources available, and critical decision
          points.

1.4.1   Read in Best and/or Borg (see bibliography) re iden-
          tifying, selecting, stating, defining, and delineat-
          ing the problem in research.

1.4.2   The lecture re the research problem is to include the
          information outlined in 1.4.1.

1.5.1   Read Best and/or Borg (see bibliography) re the pur-
          pose, form, structure, and criteria for a research
          proposal and a proposal outline.

1.5.2   The lecture re the research proposal is to include
          the information outlined in 1.5.1.

1.6   The research problems identified and stated should,
          in addition to conforming with 1.4.1 and/or 1.4.2,
          be in the field of action research into delinquency
          prone or delinquent youth, such youth in school, the
          interrelations between the troubled youth and school,
          etc.

          These stated problems should be reviewed and discussed
          with a consultant. This examination of the problem
          statements is a preliminary to choosing a single prob-
          lem to research.   Discussion should center around the
          questions posed by Best on pages 24-26; additionally,
          the problems should be examined in light of whether
          or not they lend themselves to action research. Those
          which are not problems for action research should be
          rejected for the purposes of this module.

1.8.1   Criteria for evaluation of your proposal outline should
          conform to input from 1.5.1 and/or 1.5.2.   The evalua-
          tion group should prescribe any elements of 1.9.0
          which are necessary for improvement of the proposal
          outline.

          Evaluation of your progress and needs should be con-
          cerned with your cognitive development re enabling
          elements 1.9.1 - 1.9.6 and their relevance for the

project you are working on. The evaluation group should recommend any elements of 1.9.0 which you may voluntarily undertake to aid in your research; Part I of the Pre-Assessment can help the evaluators to make appropriate suggestions.

1.8.2   If your movement into 1.9.0 is prescribed by your evaluation group, plan to enter 1.10 and 1.11 after the element(s) you select from 1.9.0.

If your movement into 1.9.0 is a result of your voluntary decision to seek information to aid in your research, and if your proposal outline was rated satisfactory, plan to omit 1.10 and 1.11.

1.10   See 1.8.2 for instructions re ommission of this step.

If you do not wish to select a new problem for study, you may rework the problem selected for 1.7.

1.11   Refer to 1.8.1.

1.8.2   Refer to 1.8.2 earlier in this section.

1.12.1 Read from the bibliography ("Annotated References," "Action Research," "Examples of Action Research") re the form, style, procedures, mechanics, etc., of reporting action research.

1.12.2 The lecture re reporting action research is to include the information outlined in 1.12.1.

1.13   The criteria for judging the proposal may be found in the Post Evaluation.

Post Evaluation: MSED 004.01   (USC-U)

The questions below* are to be used to evaluate your research proposal. Answer all questions in writing on your own paper. In all places possible, give concrete examples from your proposal to support your answer and to provide additional information. If a question is not applicable, write N/A. After completing this section of the Post Evaluation, meet with other participants, team leaders, staff, and a consultant to discuss this evaluation and the proposal itself in order to determine whether or not any remediation is necessary.

A. Scope and Definition of Study

    1. Is your problem being considered broadly enough?
    2. Have you sufficiently limited your problem?
    3. Have you governed your decisions by the experiences of investigators who have preceeded you?

B. Hypotheses

    1. Are the hypotheses promising?
    2. Are the hypotheses clearly and precisely stated?
    3. Are the hypotheses stated in a form that permits them to be tested?

C. Background

    1. Have you made a thorough, careful review of the literature pertaining to your problem?

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*Adapted from Walter R. Borg, Educational Research, an Introduction. (New York: David McKay Company, Inc.,1969), pp. 397-404, citing P.M. Symonds, "A Research Checklist in Educational Psychology," Journal of Educational Psychology, XLVII (1956), pp. 101-9.

D. Definitions

1. Have proper distinctions been made between concepts?
2. Is there clear and unequivocal meaning in the use of your terms?
3. Are concepts adequately and accurately defined?
4. From what (whose) point of view are you defining your terms?

E. Method of Study

1. Has a decision as to the method of inquiry been made?
2. If you plan to study individual cases, have you given thought as to how you will go from cases to general conclusions?
3. Are you in a position to secure the data necessary for a successful prosecution of your study?
4. To what extent can you generalize from a single experimental situation?
5. Are you planning to draw general conclusions from a study limited in age, sex, social class, race, etc.?
6. Is the range among your cases sufficient to permit you to demonstrate the relationships in which you are interested?

F. Design

1. Is the design of your study clearly formulated?
2. Have you taken into account the various hidden factors which might influence the results of your study besides the variables that you are specifically planning to study?
3. Have you given sufficient thought to the necessity of controls?

G. Sampling

1. To what extent will you be able to generalize your findings?
2. How stable will your findings be--that is, will they stand up when made under different conditions--when made with other subjects, materials, instructors, examiners, in other places, etc.?
3. Can you simplify your problem by limiting it to a narrower age range, grade range, geographical range, etc.?
4. Are you determining your sampling, or are you letting others select cases for you?

5. If you depend on voluntary participation for your subjects, have you given consideration to what this will do to your sampling?

H. Studying Personality

1. How are you going to ensure that your subjects express their true feelings and attitudes?
2. Is the questionnaire or testing approach going to permit you to get at the inner dynamics?
3. In a study using tests and other objective data, is it possible to question your subjects further to determine attitudes, beliefs, motives, etc.?
4. What is preferable for your study--the questionnaire or interview approach?
5. In using observation material, how can you be sure that your observations are representative?

I. Tests and Measures

1. Are you using the appropriate measures?
2. How will you construct a scale to measure attitude?
3. Can you use a ready-made measuring instrument, or should you construct your own? If the latter, how will you determine its validity and reliability.
4. How valid are your measures?
5. Are there contaminating factors (age, sex, etc.) which might lessen the validity of the test you propose to use?
6. Are your tests sufficiently reliable?
7. Are there norms with which to compare the findings in the group that you are proposing to study?
8. Have you properly disguised your intentions in the test you propose to use?
9. Should a pre-test be given as well as a test at the close of your experiment?
10. If you plan to study the extremes on your scale, would it be well at the same time to pay attention to the intermediate points?

J. Use of Judgment

1. If you plan to use judgments, have you specified the basis on which your judgments would be made?
2. If you plan to use judgments, are you sure your judges have the necessary intelligence, information, background, and other qualifications to permit them to make the judgments?

K. Content Analysis

1. How do you propose to determine your classifica-
    tion scheme?
2. How do you propose to distribute material into
    the several classificatory categories?
3. Have you provided for determining the reliability
    of your classifications?
4. Have you sufficiently taken into account the sub-
    jective factor in analyzing content material?

L. Statistical Handling of Results

1. Do the conditions of your data warrant using the
    statistics which you propose to use?
2. Do your data satisfy the assumptions on which the
    statistical constants which you propose to use
    are based?

Remediation:

The participant in this module will write a proposal for
an action research project. If the proposal - as judged in
the post evaluation and in consultation with peers, team
leaders, staff and a consultant - needs refining, improvement,
reworking, or rewriting, the participant will recycle through
the module, beginning with the earliest point which can help
solve the problem(s) in the research proposal. He will then
work through the module at his own pace, skipping steps in
the module which are not relevant to his problems in the re-
search proposal.

GUIDE TO APPENDIX SECTION

Contents

You may choose to work through any elements which have been recommended, prescribed, or which you wish to undertake voluntarily. Within each element there are options which you may choose to work through or omit as you feel appropriate. The order for undertaking elements is optional.

APPENDIX A

MSED 004.01.9.1 (Investigate Library)

The Terminal Objective for this element is:

Given input re the use of the library and its resources in conducting research, the participant lists steps in his research plan in which he will use library resources, indicates the resource to be used, and briefly describes how the resource will be applicable to this step in the research plan.

Culminating Activity: Carry out the necessary steps to meet the terminal objective.

The library is a crucial component in the research process. This element is intended to help the learner acquire information which will be useful to him in conducting his research. Choose only sections which meet your needs and/or interests.

1.9.1.1   Systems of organization in the Library.

1.9.1.1.1   The Geography of the Library

1. Take a tour of the library; a libra-
    rian (or an assistant) is available
    to guide you through the facilities.
    In addition to showing you where re-
    sources are located, the librarian
    can explain their uses. If you pre-
    fer, take an unguided tour. Keep
    notes of locations and uses of resour-
    ces.

2. Make a map of the library; this can be
    done during, after, or independently
    of a tour. Compare your map with the
    one published by the library.

3. Interview a librarian or an assistant;
    ask questions which relate to your
    needs and/or interests. In addition
    to general questions, ask for help
    with specific problems which you are
    having or anticipate in conducting
    research. At the beginning of the
    interview, you should describe your
    research plans to the librarian.

4. Attend a lecture re the geography of
    the library. (This lecture may be
    on audio or video tape.)

5. Read the library publication re its
    organization and geography.

6. Learner option.

1.9.1.1.2   Classification Systems

1. View a slide/tape presentation re
    the Dewey Decimal and/or Library
    of Congress Classification Systems.

2. Interview a librarian re the system
    of classification used in your lib-
    rary.

3. Attend a lecture re the classifica-
tion system used in your library.
(This lecture may be on audio or
video tape.)

4. Read from the bibliography re the
Dewey Decimal and/or Library of Cong-
ress Classification Systems.

5. Learner option.

1.9.1.2 Library Resources (Card catalogue, in-
dexes, guides, ERIC, reference books,
etc.)

1. Interview a librarian re your libra-
ry's resources. Describe your re-
search plans and ask questions re
resources which will be most helpful
in your work.

2. Attend a lecture re the library re-
sources (the lecture may be on audio
or video tape.)

3. View a slide/tape presentation re the
library's resources.

4. Read from the bibliography re library
resources.

5. Learner option.

1.9.1.3 Overview of the Library

1. Read Chapter 3 from Best and Chapter
3 from Borg.

2. Read from the bibliography re a gen-
eral picture of library resources
and organization.

3. Learner option.

APPENDIX B

MUED 004.01.9.2 (Investigate Types of Research)

The Terminal Objective for this element is:

Given input in the types (historical, descriptive, ex-
perimental) and sub-categories (pure, applied, action) of
research, the participant writes a position statement in
which he describes the type and sub-category he will pursue
as his Master's degree project. He will also outline the
rationale behind choosing the type and sub-category. (Since
this module is aimed toward action research for teachers,
the statement should additionally deal with the relation-
ship between action research and the project chosen by the
participant.)

Culminating Activity: Carry out the steps necessary to meet
the terminal objective.

Each type of research carries its own philosophy, approach,
and techniques. This element provides the learner with in-
formation to help him understand the characteristics and ap-
plications of each type of research. Choose any activities
which will meet your interests and/or needs re the types of
research.

1.9.2.1. Read from the bibliography and/or Best (Chapters 4, 5, 6) and Borg (Chapters 9, 10, 11, 13, 14) re the types of research.

2. View a slide/tape presentation (or a film) describing the types of research and problems to be studied by each type; showing investigators pursuing research of each type; giving examples of research conducted in each category.

3. Attend a lecture re the types of research (this lecture may be on audio or video tape.)

4. Interview an experienced researcher re types of research he has done, advantages, disadvantages, and considerations of each, and his research experience.

5. Read research abstracts and/or actual research reports. Analyze these for type and method of research.

6. Learner option.

APPENDIX C

MSED 004.01.9.3 (Investigate Collecting & Organizing Data)

The Terminal Objective for this element is:

Given input re methods, techniques (not tools), and considerations for collecting and organizing data, the participant writes an outline describing the means he will use to collect, organize, and process data in his research project.

Culminating Activity: Carry out the steps necessary to meet the Terminal Objective.

Research data (both statistical and non-statistical) should be gathered, organized, processed, and presented according to methodological procedures. There is little place in common research activities for haphazard and inconsistent techniques and approaches. This element is intended to provide the participant with information and skills in systematic data collection. Choose any activities which meet your needs and interests.

1.9.3.1 Statistical Data

    1. Read from the bibliography and/or Best (Chapter 8) and Borg (Chapters 4, 9) re collecting and organizing data.

2. View a slide/tape presentation (or a film) des-
cribing and showing methods of collecting and
organizing data, and researchers doing these
tasks.

3. Attend a lecture re collecting and organizing
data (this lecture may be on audio or video
tape.)

4. Interview an experienced researcher re means
he has used to collect and organize statisti-
cal data, problems he has faced, problems you
are likely to face, and solutions.

5. Choose a simple research problem; collect and
organize statistical data re the problem.
(Example: What is the distribution of makes
of autos owned by students on your campus?
Collect, organize, present data re this dis-
tribution.)

6. Learner option.

1.9.3.2   Non-Statistical Data

1. Read from the bibliography and/or Best (pp.
87-91) and Borg (pp. 62-67.)

2. See 1.9.3.1.2.

3. See 1.9.3.1.3.

4. See 1.9.3.1.4; substitute non-statistical for
statistical.

5. Choose a simple research problem; collect and
organize non-statistical data re the problem.
(Example: What problems do students have with
their cars? Collect, organize, and present
non-statistical (perhaps by means of anecdote)
data re these problems.)

6. Learner option.

APPENDIX D

MSED 004.01.9.4 (Investigate Tools of Research)

The Terminal Objective for this element is:

> Given input re the tools of research (questionnaire, opinionnaire, observation, interview, psychological tests and inventories, Q methodology, checklists, rating scales, score cards, scaled specimens, document or content analysis, sociograms, "guess-who" techniques, and social distance scales), the participant lists the tools he will use in conducting his research. Further, he indicates the type of information he will gather with these instruments and designs the tools listed.

Culminating Activity: Carry out the steps necessary to meet the Terminal Objective.

The major research tools, if used efficiently and scientifically, are extremely helpful in gathering both subjective and objective information. It is important, however that tools are chosen, designed, applied, and interpreted so that they are most accurate and effective. This element provides information which will help the participant to design and use these tools effectively. Choose any activities which meet your needs and interests.

1. Read from the bibliography and/or Best (Chapter 8) and Borg (Chapter 5, 6) re the tools of research.

2. View a slide/tape presentation (or a film) which shows tools of research being developed and used.

3. Attend a lecture re the tools of research. (This lecture may be on audio or video tape.)

4. Interview an experienced researcher re tools he has used. Discuss the research you are planning and tools which would be appropriate.

5. Undertake some of the activities suggested by Best on pages 200 and 201.

6. Find some tools designed and used by another researcher (Master's theses and Doctoral Dissertations are a good source.) Use these tools to gather information from a test group.

7. Analyze a packet of tools developed and used by another researcher. Consider the tools' strengths, weaknesses, reliability, validity, and effectiveness in providing the desired information.

8. Learner option.

3. Attend a lecture re statistics. (This lecture may be on audio or video tape.)

4. Interview an experienced researcher and/or a statistitian re statistical problems, considerations, and solutions. Discuss the research which you are planning and statistical treatment which would be appropriate.

5. Undertake some of the activities suggested by Best on pages 260-261, 284-285.

6. Analyze the treatment of statistical data in a Master's thesis and/or Doctoral dissertation.

7. Learner option.

APPENDIX F

MSED 004.01.9.6 (Learner Options)

Some possible learner options:

1. Carry on action research.

2. Read independently.

3. Conduct interviews.

4. Analyze proposals.

5. Analyze research reports.

6. Use media.

Participant generated options:

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

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*By Walter R. Borg, Educational Research-An Introduction. Allyn and Bacon, Inc. Boston, 1969. pp. 323-324.