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ABSTRACT

This sixth in a series of six learning modules on instructional planning is designed to give secondary and postsecondary vocational teachers skill in developing and reproducing necessary student instructional materials in the form of handouts and transparencies. The terminal objective for the module is to prepare teacher-made instructional materials. Introductory sections relate the competency dealt with in this module to others in the program and list both the enabling objectives for the five learning experiences and the resources required. Materials in the learning experiences include required reading, self-check quizzes, model answers, case studies to critique, model critiques, performance checklists, and the teacher performance assessment form for use in evaluation of the terminal objective. (The modules on instructional planning are part of a larger series of 100 performance-based teacher education (PBTE) self-contained learning packages for use in preservice or inservice training of teachers in all occupational areas. Each of the field-tested modules focuses on the development of one or more specific professional competencies identified through research as important to vocational teachers. Materials are designed for use by teachers, either on an individual or group basis, working under the direction of one or more resource persons/instructors.) (TA)

MODULE

B-6

Prepare Teacher-Made Instructional Materials

MODULE B-6 OF CATEGORY B—INSTRUCTIONAL PLANNING
PROFESSIONAL TEACHER EDUCATION MODULE SERIES

The Center for Vocational Education
The Ohio State University

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FOREWORD

This module is one of a series of 100 performance-based teacher education (PBTE) learning packages focusing upon specific professional competencies of vocational teachers. The competencies upon which these modules are based were identified and verified through research as being important to successful vocational teaching at both the secondary and post-secondary levels of instruction. The modules are suitable for the preparation of teachers in all occupational areas.

Each module provides learning experiences that integrate theory and application; each culminates with criterion referenced assessment of the teacher's performance of the specified competency. The materials are designed for use by individual or groups of teachers in training working under the direction and with the assistance of teacher educators acting as resource persons. Resource persons should be skilled in the teacher competency being developed and should be thoroughly oriented to PBTE concepts and procedures in using these materials.

The design of the materials provides considerable flexibility for planning and conducting performance-based preservice and inservice teacher preparation programs to meet a wide variety of individual needs and interests. The materials are intended for use by universities and colleges, state departments of education, post-secondary institutions, local education agencies, and others responsible for the professional development of vocational teachers. Further information about the use of the modules in teacher education programs is contained in three related documents: **Student Guide to Using Performance-Based Teacher Education Materials, Resource Person Guide to Using Performance-Based Teacher Education Materials** and **Guide to Implementation of Performance-Based Teacher Education.**

The PBTE curriculum packages are products of a sustained research and development effort by The Center's Program for Professional Development for Vocational Education. Many individuals, institutions, and agencies participated with The Center and have made contributions to the systematic development, testing, revision, and refinement of these very significant training materials. Over 40 teacher educators provided input in development of initial versions of the modules, over 2,000 teachers and 300 resource persons in 20 universities, colleges, and post-secondary institutions used the materials and provided feedback to The Center for revision and refinement.

Special recognition for major individual roles in the direction, development, coordination of testing, revision, and refinement of these materials is extended to the following program staff: James B. Hamilton, Program Director, Robert E. Norton, Associate Program Director, Glen E. Fardig, Specialist, Lois Harrington, Program Assistant; and Karen Quinn, Program Assistant. Recognition is also extended to Kristy Ross, Technical Assistant; Joan Jones, Technical Assistant, and Jean Wisenbaugh, Artist for their contributions to the final refinement of the materials. Contributions made by former program staff toward developmental versions of these materials are also acknowledged. Calvin J. Cotrell directed the vocational teacher competency research studies upon which these modules are based and also directed the curriculum development effort from 1971–1972. Curtis R. Finch provided leadership for the program from 1972–1974.

Appreciation is also extended to all those outside The Center (consultants, field site coordinators, teacher educators, teachers, and others) who contributed so generously in various phases of the total effort. Early versions of the materials were developed by The Center in cooperation with the vocational teacher education faculties at Oregon State University and at the University of Missouri-Columbia. Preliminary testing of the materials was conducted at Oregon State University, Temple University, and University of Missouri-Columbia.

Following preliminary testing, major revision of all materials was performed by Center Staff with the assistance of numerous consultants and visiting scholars from throughout the country.

Advanced testing of the materials was carried out with assistance of the vocational teacher educators and students of Central Washington State College, Colorado State University, Ferris State College, Michigan, Florida State University, Holland College, P.E.I., Canada; Oklahoma State University, Rutgers University; State University College at Buffalo, Temple University, University of Arizona, University of Michigan-Flint, University of Minnesota-Twin Cities; University of Nebraska-Lincoln, University of Northern Colorado, University of Pittsburgh, University of Tennessee, University of Vermont; and Utah State University.

The Center is grateful to the National Institute of Education for sponsorship of this PBTE curriculum development effort from 1972 through its completion. Appreciation is extended to the Bureau of Occupational and Adult Education of the U.S. Office of Education for their sponsorship of training and advanced testing of the materials at 10 sites under provisions of EPDA Part F, Section 553. Recognition of funding support of the advanced testing effort is also extended to Ferris State College, Holland College, Temple University, and the University of Michigan-Flint.

Robert E. Taylor
Director
The Center for Vocational Education

INTRODUCTION

Lesson plans should be supported and can be enhanced by a variety of well-selected student instructional materials, chosen with your students' needs, interests, and abilities in mind. Often, there are many excellent ready-made student instructional materials from which to choose. However, there will be times when the uniqueness of your students, the uniqueness of your teaching style or methods, or the uniqueness of your lesson objectives will require the use of materials which do not exist, or do not exist in the form you require

To meet those situations, you need to be able to develop and/or reproduce the necessary student instructional materials yourself, or with the help of your students. This module is designed to help you acquire skill in developing and reproducing such materials.

For the purposes of this module, teacher-made instructional materials are defined as materials planned and/or prepared by the teacher, often with the help of students Although teacher-made materials could include such items as models, slide/tapes, videotapes, or bulletin board materials, in this module, you will be dealing only with two basic types of materials. handouts and transparencies Handouts are those duplicated or printed materials that are given to students for their study and reference. Transparencies are the acetate illustrative materials used with the overhead projector to present information The preparation of other types of instructional materials is covered in depth in modules in Category C Instructional Execution

ABOUT THIS MODULE

Objectives

Terminal Objective: While working in an actual school situation, prepare teacher-made instructional materials. Your performance will be assessed by your resource person, using the Teacher Performance Assessment Form, pp. 39–40 (*Learning Experience V*).

Enabling Objectives:

1. After completing the required reading, demonstrate knowledge of (1) the types of teacher-made handouts and transparencies, and (2) criteria for selecting which type to use (*Learning Experience I*).
2. After completing the required reading, demonstrate knowledge of (1) four methods of duplicating teacher-made handouts and transparencies, and (2) criteria for selecting which method to use (*Learning Experience II*)
3. Using the material provided, prepare masters for four types of duplicating machines and use those machines to prepare copies (*Learning Experience III*).
4. Given case studies describing how four teachers prepared and duplicated teacher-made materials, critique the performance of those teachers (*Learning Experience IV*)

Prerequisites

To complete this module, you must have competency in developing a lesson plan If you do not already have this competency, meet with your resource person to determine what method you will use to gain this skill One option is to complete the information and practice activities in the following module

- *Develop a Lesson Plan*, Module B–4

Resources

A list of the outside resources which supplement those contained within the module follows Check with your resource person (1) to determine the availability and the location of these resources, (2) to locate additional references in your occupational specialty, and (3) to get assistance in setting up activities with peers or observations of skilled teachers, if necessary Your resource person may also be contacted if you have any difficulty with directions, or in assessing your progress at any time

Learning Experience I

Optional

A resource person or inservice teacher experienced in the preparation of teacher-made instructional materials who can show you samples of such materials

Materials (graph paper, writing utensils, etc) to use in preparing graphs, charts, and/or diagrams

Resources (periodicals, newspapers, texts) to use in locating materials for starting a resource file of cartoons

Learning Experience II

No outside resources

Learning Experience III

Required

Equipment (fluid process duplicator, stencil duplicator, infrared photocopier, and xerographic or electrostatic photocopier) to use in preparing teacher-made instructional materials

Materials (stencil masters, ditto masters, transparency film, infrared photocopy paper, etc.) to use in reproducing teacher-made instructional materials

Teacher-made instructional materials (information sheets, graphs, charts, diagrams, cartoons, etc) to reproduce

An operating manual for each piece of equipment to aid you in its operation.

A resource person to evaluate your competency in preparing masters and duplicating copies using each of four duplication methods

Learning Experience IV

No outside resources

Learning Experience V

Required

An actual school situation in which you can prepare teacher-made instructional materials to support your lessons

A resource person to assess your competency in preparing teacher-made instructional materials

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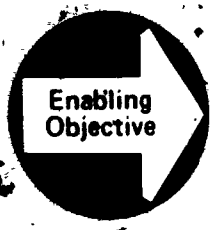
This module covers performance element numbers 73, 74, 76–78 from Calvin J Cotrell *et al Model Curricula for Vocational and Technical Education Report No V* (Columbus, OH The Center for Vocational Education, The Ohio State University, 1972) The 384 elements in this document form the research base for all The Center's PBTE module development

For information about the general organization of each module, general procedures for their use, and terminology which is common to all 100 modules, see About Using The Center's PBTE Modules on the inside back cover

Learning Experience I

OVERVIEW



After completing the required reading, demonstrate knowledge of (1) the types of teacher-made handouts and transparencies, and (2) criteria for selecting which type to use.

You will be reading the information sheet, Using Handouts and Transparencies, pp. 6–8.

You may wish to check with your resource person or an inservice teacher to view samples or examples of teacher-made handouts and transparencies.

You may wish to attempt to produce a graph, chart, and/or diagram of each type to support some concept or principle in your service area.

You may wish to start a resource file of cartoons which relate to your service area.

You will be demonstrating knowledge of (1) the types of teacher-made handouts and transparencies, and (2) criteria for selecting which type to use by completing the Self-Check, pp. 10–11.

You will be evaluating your competency by comparing your completed Self-Check with the Model Answers, p. 13.

Activity

For information on the value of using handouts and transparencies, and the types of information which can be presented by these teacher-made materials, read the following information sheet.

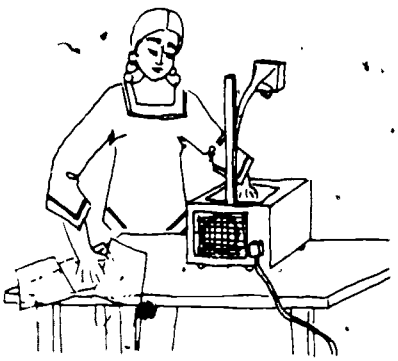
USING HANDOUTS AND TRANSPARENCIES

A teacher, the teacher's students, the relationship between teacher and students, the lesson objectives, and the school's resources are all unique. Therefore, it is not surprising that there are times when commercially prepared materials to support a particular lesson are not available, not suitable, or not as good as those which could be prepared by that teacher or those students.

Carefully selected instructional media and materials can—

- provide concrete experience
- motivate and arouse interest
- increase retention
- develop continuity of thought
- provide variety in learning
- provide experience not otherwise easily obtained
- make better use of instructional time

Teacher-made **handouts** and **transparencies** can do all these things and do them well. When these materials are selected in response to a specific lesson, by the specific teacher and/or students involved in that lesson, they can be an invaluable tool in meeting the above seven criteria. Materials prepared by the teacher and/or the students are often more closely related to their own method of communication, and therefore more easily understood by those students than commercially prepared materials. Furthermore, the act of preparing materials can contribute to understanding, for both teachers and students. And finally, there is a great deal of untapped creativity in teachers and students which can be tapped a bit by their being involved in the preparation of instructional materials.



Handouts and transparencies can be used to present a variety of types of information. Written information sheets can be prepared to provide students with just the facts or explanation they need, in language designed to effectively communicate to those particular students. Facts and figures can be presented graphically for ease of understanding. Points can be made humorously with cartoons. Examples of ways to present information through information sheets, graphs, diagrams, charts, and cartoons follow.[1] The type of presentation method you choose will depend on the sort of information you are dealing with. The best method will be the one which will most clearly and simply illustrate the idea you are seeking to teach.

Information Sheets

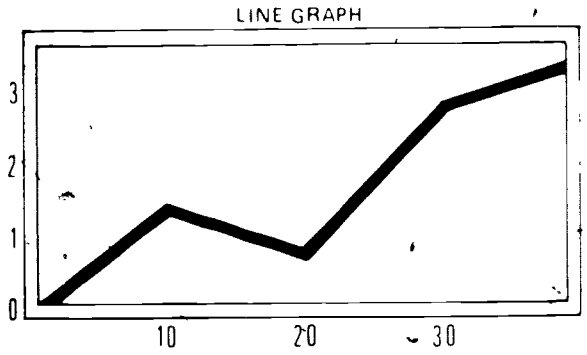
Information sheets can readily provide students with **information** needed to reach lesson objectives. Perhaps a magazine article can be reproduced to meet these needs. (Don't forget copyright laws, however.) Or, if your training or experience has given you a thorough understanding of the necessary information, you can create the sheet

1 Information on graphs, diagrams, charts, and cartoons is adapted from Walter A. Wittich and Charles F. Schuller, *Instructional Technology Its Nature and Use*, Fifth Edition (New York, NY: Harper and Row, 1973), pp. 110–130.

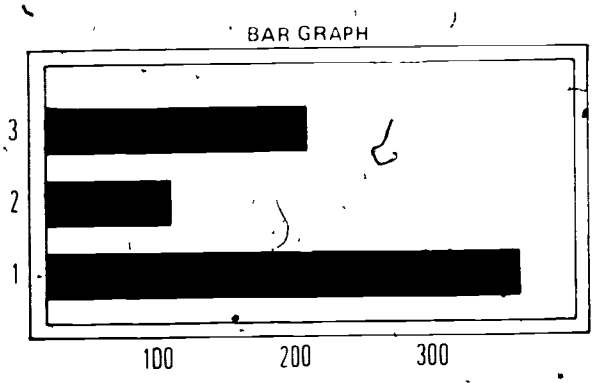
yourself. Or perhaps, a student might have special information which can be shared in this way. Or, you might have read 25 sources, each of which contains a needed piece of information. In that case, you could write a sheet summarizing, or capsulizing, all this information. What you are now reading is an example of an information sheet [2].

Graphs[3]

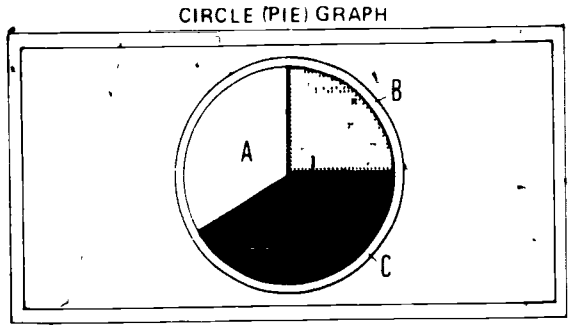
Graphs are **visual representations of numerical data.** Graphs should be simple. They should be used to show **comparisons or relationships,** and they should deal with approximations rather than precise amounts so that they tell a story obviously at a glance. The following types of graphs may be used:



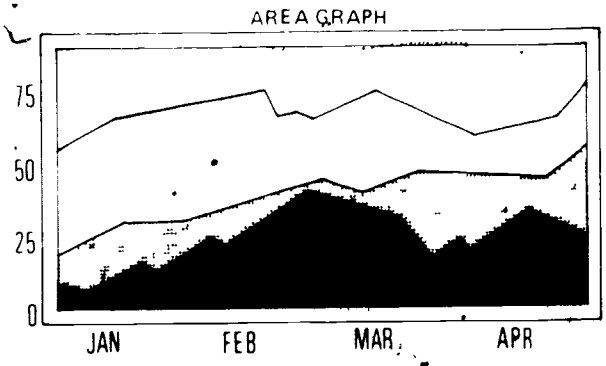
Line graph.—Line graphs should be used when a considerable number of data are to be plotted or when the data comprise a continuous series which, over a period of time, shows progress or development taking place



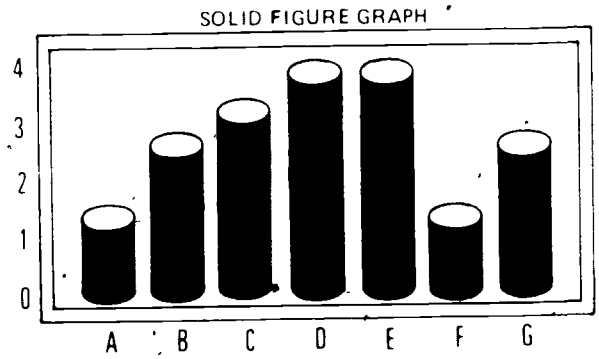
Bar graph.—The bar graph is used when the number of values to be compared is small (less than ten).



Circle or pie graph.—This type of graph is used to represent the whole (100%) and the parts of the whole.



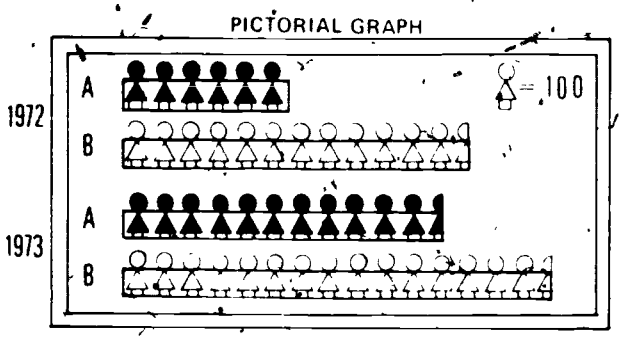
Area graph.—An area graph consists of squares, circles, or other outline figures of different sizes, which represent two or more related totals



Solid figure graph.—This graph can serve the same purpose as an area graph, but contains spheres, cubes, or other figures that give a three-dimensional effect.

2 Further information on the guidelines for developing and using these sheets, and an example of such a sheet, are available in Module C–7 *Direct Student Laboratory Experience*

3 Further information on, and examples of, graphs are available in Module A–3, *Report the Findings of a Community Survey*



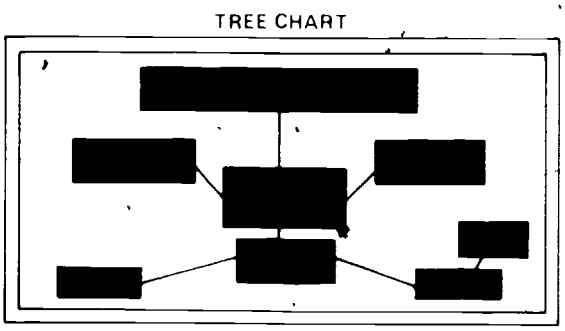
Pictorial graph.—The pictorial graph is an adaptation of the bar graph using simplified drawings of the subjects involved. Each quantity is indicated by the **number** of symbolic figures, rather than by the **size** of a single figure.

Diagrams

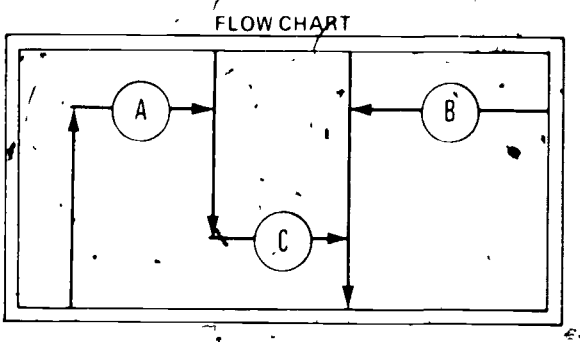
These are condensed drawings consisting of lines and symbols designed to show the **interrelationships, general outlines, or key features of a process, object, or area;** e.g., blueprints, schemata, etc. A diagram can show how to thread the film projector, how to assemble a new bike, or how to wire a transistor radio.

Charts[4]

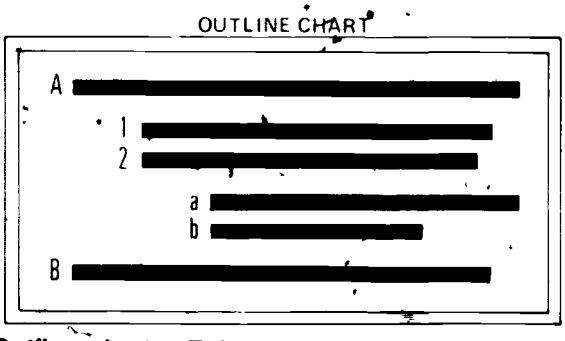
These are combinations of pictorial, graphic, numerical, or verbal materials which, together, will present clear visual **summaries of important processes or relationships.**



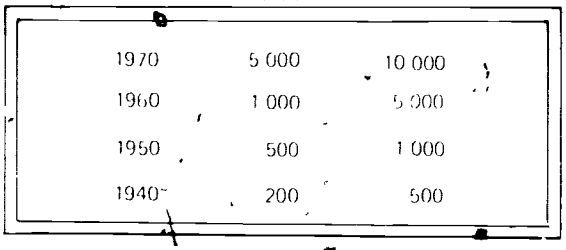
Tree chart.—A tree chart is developed from a base composed of several roots leading to a single trunk, with branches representing developments and relationships. It can be used to show developments resulting from a combination of major factors.



Flow chart.—Flow charts can be used to show functional relationships; e.g., organizational chart.



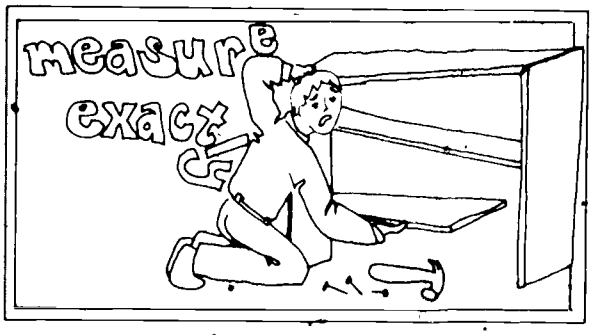
Outline chart.—This type of chart can show the organization of content using key points and subpoints.



Tabular chart.—Tabular charts are useful in showing sequences or time relationships.

Cartoons

These are pictorial representations of ideas employing caricature, exaggeration, symbolism and humor



4 Further information on, and examples of charts is available in Module A-3, *Report the Findings of a Community Survey*

You may wish to check with your resource person and/or an inservice teacher in your service area who can show you examples of various information sheets, graphs, charts, diagrams and transparencies that they have developed to meet their classroom needs and objectives. Discussion with these people may yield information on further guidelines to follow, or pitfalls to avoid in developing these materials.

You may wish to select several student performance objectives in your service area and attempt to produce a graph, chart, and/or diagram of each type (e.g., line graph, bar graph, tree chart, flow chart, etc.) to present the information needed to achieve those objectives.

You may wish to start a resource file of cartoons at this time By searching periodicals, etc., you should be able to locate cartoons which illustrate different concepts or principles in your service area, or which relate to your area and could be used to liven up information sheets

The following items check your comprehension of the material in the information sheet, Using Handouts and Transparencies, pp. 6–8.

SELF-CHECK

I. Essay:

Each of the two items below requires a short essay-type response. Please explain fully, but briefly, and make sure you respond to all parts of each item.

1. Given that many fine, commercially produced instructional materials are available, explain why teacher-made materials are necessary, and what the advantages are of using teacher-made materials.

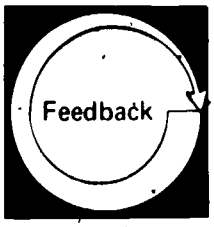
2. What guideline(s) can you use to determine what kind of teacher-made materials to prepare in order to present a particular type of information?

II. Matching:

In the left-hand column are the names of 13 types of information which can be used on handouts or transparencies. In the right-hand column are the definitions for each of the 13 types. Respond to each numbered item on the left by placing the letter of the correct definition for that item in the blank to the left of the item.

_____ 1 Area Graph	a. uses spheres, cubes, or other three-dimensional figures to represent two or more related totals
_____ 2 Bar Graph	b. uses key points and sub-points to show organization of content
_____ 3 Cartoon	c. uses caricature, exaggeration, symbolism, etc., to pictorially represent ideas
_____ 4 Circle or Pie Graph	d. uses verbal explanations to present concepts, facts, ideas, etc.
_____ 5 Diagram	e. uses lines or symbols to show interrelationships, general outlines, or key features of a process, object, or area
_____ 6 Flow Chart	f. uses lines and symbols to show functional relationships, such as the relative order in which tasks are to be completed
_____ 7 Information Sheet	g. uses lines to plot a considerable number of data, when the data comprise a continuous developmental series
_____ 8 Line Graph	h. uses squares, circles, or other outline figures of different sizes to represent two or more related totals
_____ 9 Outline Chart	i. uses numbers to show sequences or time relationships
_____ 10 Pictorial Graph	j. uses simplified drawings to show comparisons or relationships; quantity is indicated by the number of symbolic figures
_____ 11 Solid Figure Graph	k. uses triangles to represent populations of major cities
_____ 12 Tabular Chart	l. uses a representation of the whole (100%) and parts of the whole to show comparisons or relationships
_____ 13 Tree Chart	m. uses thick, horizontal lines to show comparisons or relations when the number of values to be compared is less than ten
	n. uses a base with various arms coming off of that base and leading to a single outcome to show developments resulting from a combination of major factors

NOTES



Compare your written responses on the Self-Check with the Model Answers given below For part I, your responses need not exactly duplicate the model reponses, however, you should have covered the same **major** points. For part II, your responses should exactly duplicate the model responses

MODEL ANSWERS

I. Essay

1 Commercial products have been prepared for the general use of a large group of clients Thus, there are times when they do not match the specific needs of the teacher, the lesson, or the students To meet those specific needs, teacher-made materials should be produced There are numerous advantages to producing and using these teacher-made materials Students can be involved in producing the materials, and both students and teacher can tap their creativity in the process The materials thus prepared will probably match the style or method of student/teacher communication more closely And, as mentioned above, these teacher-made materials can fit the unique characteristics and needs of the class or lesson more closely than commercial products

2. There is no **specific** guideline which says that for one specific type of concept, there is one specific type of material that should be used In Learning Experience II, there is a more in-depth explanation of the variables that will affect your decisions in selecting types of materials The **general** guideline, however, is that you should use whichever type of material will most clearly and simply illustrate the idea

II. Matching

1 h
2 m
3 c
4 l
5 e
6 f
7 d
8 g
9 b
10 j
11 a
12 i
13 n

LEVEL OF PERFORMANCE: For part I, your responses should have covered the same **major** points as the model responses For part II, you should have answered all 13 items correctly If you missed some points or have questions about any additional points you made in part I, or if you did not have all 13 correct in part II, review the material in the information sheet, Using Handouts and Transparencies, pp 6–8, or check with your resource person if necessary

NOTES

Learning Experience II

OVERVIEW

After completing the required reading, demonstrate knowledge of (1) four methods of duplicating teacher-made handouts and transparencies, and (2) criteria for selecting which method to use.

You will be reading the information sheet, Duplicating Materials, pp. 16–19.

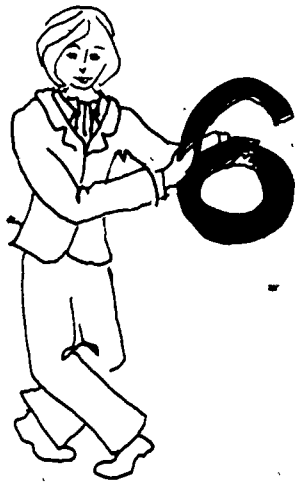
You will be demonstrating knowledge of (1) four methods of duplicating teacher-made handouts and transparencies, and (2) criteria for selecting which method to use by completing the Self-Check, pp. 20–22.

You will be evaluating your competency by comparing your completed Self-Check with the Model Answers, p. 23.

Activity

For information on four types of duplication methods, ways to prepare masters for those methods, and criteria for preparing handouts and transparencies, read the following information sheet:

DUPLICATING MATERIALS



There is no one **best** duplication method. The method you select should be based on six factors:

- type of master available
- quantity of copies desired
- quality of copies desired
- economy cost of materials and labor
- time element and urgency
- type of machines available

The following information will help you know how to select the appropriate method for any given situation

Duplication Methods

Fluid

Types: hectograph, spirit, ditto

No. copies possible: 10–250

Cost: less than 1 cent per copy

How fluid process works: The master is placed on a roller, carbon image side up. As the blank paper is forced through the machine, it is moistened with a liquid chemical and, then squeezed against the master The dye in the carbon dissolves and transfers to the paper. As the paper leaves the machine, the fluid rapidly evaporates. It is this liquid chemical which causes that charming odor on all those newly run-off tests you've taken on occasion

Master: The master for fluid reproduction consists of a shiny piece of white paper, backed by an attached sheet of duplicator carbon, with a protective sheet of tissue between the two. To make a master copy, you first remove the protective tissue. Lay the master on a smooth, hard surface or place in the typewriter with the white sheet face up, pressing against the duplicator carbon. Leave margins of ½" top and bottom, at least ¾" on each side Write or type on the white paper with a hard, firm, even pressure. With electric typewriters, you will need to raise the pressure, using the dial designed for that purpose. When you make a mark on the white paper, the carbon is transferred to the back of the white paper in a reverse impression. It is this reverse carbon image which constitutes the finished master.

When preparing a master on the typewriter, there are a few special do's and don'ts. (1) Don't underline using the typewriter It has a tendency to slash the paper Wait until you have completed your master, and then use a ball-point pen and a ruler. (2) Leave your ribbon in its normal

position. Do not switch to "stencil." (3) Put the master in the machine upside down; i.e., the first end of the master to go into the machine is the end where the two sheets (carbon and white sheet) are **not** attached. This will allow you to correct errors more easily without removing the master from the typewriter. (4) Use a backing sheet as a cushion. It will ensure a better carbon impression.

If you make an error on a master, it is fairly simple to correct. If something needs to be eliminated without anything else having to go in that place, you may simply cut out the error, or place a piece of cellophane tape over the error **on the carbon side** of the white paper. If something must replace the error, you should flip to the carbon side and **scrape** the carbon error away using a razor or knife. You then need a small piece of unused duplicator carbon, this can be cut from an unused margin of the duplicator carbon being used at present. Place this under the error and make the correction on the shiny side of white paper. Then, immediately remove the extra scrap of carbon.

Occasionally, you will complete a master copy only to find you have left the protective tissue between your sheets. In this case, the reversed carbon image is on the tissue. If you are careful, this tissue can be used as a master.

Color can be produced by using various colored duplicator carbons. Five colors are available. The normal color is purple.

A master may be filed after stapling it to a sample copy or to the tissue to protect the carbon side.

Disadvantages: (1) If you handle the carbons at all, it can be messy. (2) Copies are not particularly professional looking. (3) Copies cannot be photocopied.

Stencil

Types: mimeograph, ink process

No. copies possible: 50–1,000+, deeper, more even tone than copies using the fluid process

Cost: less than ½ cent per copy

How stencil process works: The master is made up of a porous tissue with a wax-like coat that doesn't absorb ink. In preparing the stencil, this coating is removed by typing, or writing with a stylus. When the blank paper makes contact with the stencil in the duplication machine, ink flows onto the paper **only** through those places where the coating has been removed.

Master: The stencil master consists of the wax-coated tissue and an attached backing sheet. The wax-coated tissue is marked with guide lines which indicate margins for 8½" × 11", post card size, etc. To write on the stencil, a stylus should be used. When writing, do so on a firm, smooth surface using the attached backing sheet or a writing plate. Do not use a cushion sheet. Do not retrace a line on a stencil. To type a stencil, place the stencil with the backing sheet and a cushion sheet (glossy side next to the stencil sheet) in the machine with the wax-coated tissue side up. Set the typewriter ribbon on stencil; in this setting, the ribbon is not used. Use a firm, even stroke. Stencils can also be prepared using an electronic stencil-maker. The original and the stencil for the machine are placed on a cylinder and, when started, the machine electronically prepares a stencil from the master. It is a somewhat lengthy process, but not so lengthy as, and far more simple than, cutting a stencil with a stylus or typewriter.

If you make an error on a stencil, first rub the error in a circle (burnish) with the rounded end of a paper clip. Then apply a thin coat of blue correction fluid using an upward brush stroke. Allow 30 seconds to dry and then make the correction. The stencil may be filed and reused.

Disadvantages: (1) The time required to prepare the stencil may be a disadvantage. (2) The stencils are messy to handle once they have been used.

Photocopy: Infrared

Types: Thermofax

No. copies possible: 1–25

Cost: 1–10 cents per copy

How infrared photocopying process works: A heat sensitive paper and the material to be copied are inserted together through the exposure opening, and are exposed to an infrared light. The light generates heat on contact with dark portions of the original material and the heat, in turn, turns the copy paper dark in corresponding locations.

Master: Infrared photocopies duplicate best from masters with carbon impressions, e.g., masters made with an electric typewriter using a carbon ribbon, or pencil. It will copy magazine articles, but does not copy pictures well. It will not copy material written with pen, fluid process reproductions, or materials prepared with most colored inks.

Disadvantages: (1) Errors that have been corrected will show up as smudges. (2) Copies are not permanent, they become brittle and will darken if exposed to heat. (3) Since it is a heat process, the master will become fainter (burned off) each time it is used.

Photocopy: Xerographic or Electrostatic

Types: available from such companies as Xerox, IBM, Eastman Kodak, SCM / A.B. Dick, Pitney Bowes, Saxon, Royfax

No. copies possible: indefinite number of equal quality copies

Cost: 1–10 cents per copy

How xerographic photocopying process works: The surface of a selenium-coated plate is charged electrically as it passes beneath wires. The image of the original document is projected through a camera lens. The latent image retains a positive charge. The charge is drained away in areas that are exposed to light. Negatively charged powder is cascaded over the plate, and adheres to the positive image. The latent image now becomes visible. A sheet of plain bond paper is placed over the plate, and the paper is given a positive charge. Positively charged paper attracts powder from the plate, forming a direct positive image. The print is fused by heat for permanency.

How electrostatic photocopying works: In some school systems, an electrostatic photocopier is used to perform the same function as the xerographic equipment. Many of the operating principles are the same; however, the electrostatic photocopier uses a chemical process and special zinc oxide coated paper. Dispersant and concentrate fluids carry the image onto the paper.

Master: With the xerographic photocopier, anything can be a master. Since it is a photocopy process, what you see is what you get: a page of a book, a heavily corrected, typewritten sheet, a picture, a graph, a rough draft in pencil, a composition in ink. The only thing a xerographic photographer will not reproduce well is light blue pencil. It will even reproduce printed matter covered by a piece of cellophane tape.

Disadvantages: Due to the expense involved, it is not usually economically feasible to run large numbers of copies on a xerographic-type machine; electrostatic photocopies are usually slightly more expensive.

Preparing Transparencies and Handouts

Transparencies

Transparencies **illustrate** and/or **emphasize** a point being made by the teacher; they do not substitute for the teacher.

Keep the transparency simple. Preferably, a transparency should deal with only one main point. Too much detail or information on one transparency is distracting and confusing rather than enlightening.

Avoid masses of black area, especially with photocopy. It will not show up as solid black, but as blotchy.

Put only 6–7 words per line

Put only ten lines or less on a single transparency.

Do not overuse color

Lettering should be large enough to be read easily by students in the last row (minimum size ¼ inch).

To simplify a transparency which is, of necessity, complicated (e.g., the internal workings of the human body), overlays may be used This is a **series** of transparencies, each containing a simple portion of the whole Used one at a time, they are each simple. Placed one over the other, they show the whole system, and the relationship of the simple parts to the whole system Take, for another example, a transparency used in support of a lesson on normal and abnormal heart beats The basic mounted transparency could be the graph without any data. The first overlay could show the pattern of a normal heart beat. The second overlay could show the pattern of an abnormal heart beat A different color could be used for each transparency. In this way, simplicity can be maintained.

Transparencies can be prepared by hand using a special nylon- or felt-tip pen containing water base ink. These are not generally very high in quality

The simplest way to prepare a transparency by machine is to use an infrared photocopier The master for the infrared photocopier must have a carbon impression. Therefore if your master does not contain carbon, you can remedy this by preparing a xerographic photocopy of the master and then using the photocopy as a master. Directions for using the infrared photocopier to run a transparency are given in the operations manual for the machine

Handouts

The quality of handouts may vary depending on their purpose. Generally speaking, using a xerographic photocopier produces the most professional-looking copies—then mimeographing, then dittoing, then using the infrared photocopier The xerographic photocopier is also the most expensive, so duplicating large quantities by this method must be carefully justified Stencils take time and care to prepare, but they save well and can be reused year after year. Typewritten or handwritten ditto masters are fairly simple to prepare; the quality of the copies is adequate, but not professional-looking Infrared photocopies don't hold up well and this is a more expensive process However, the infrared photocopier will make ditto masters. This means that if you have a magazine article, or a single copy of information, you can use the infrared photocopier to prepare a ditto master of the material. Then, the material can be duplicated on the ditto machine.

No matter what method you choose, the handouts you give to your students should be clear, logical, straightforward, concise, error-free and, above all, legible.

The following items check your comprehension of the material in the information sheet, Duplicating Materials, pp. 16–19.

SELF-CHECK

I. Duplication Methods:

The left-hand column below contains a list of characteristics, each of which applies to one or more duplication methods. On the right are four columns, one for each duplication method. Read each item, and decide which method(s) that item describes. Then place an X in the box(es) in the appropriate column(s). The first item is done for you.

	Fluid Process	Stencil	Infrared Photocopier	Xerographic (or electrostatic) photocopier
1. Costs less than ½ cent per copy	☐	X	☐	☐
2. Costs less than 1 cent per copy	☐	☐	☐	☐
3. Costs 1–10 cents per copy	☐	☐	☐	☐
4. An indefinite number of good copies can be run from a single master	☐	☐	☐	☐
5. Up to 25 copies can be run from a single master	☐	☐	☐	☐
6. Up to 150 copies can be run from a single master	☐	☐	☐	☐
7. Up to 1,000+ copies can be run from a single master	☐	☐	☐	☐
8. Master must be prepared using carbon ribbon or pencil	☐	☐	☐	☐
9. Master is a piece of shiny white paper attached to a duplicator carbon; finished master is the reverse side of the white paper which has reverse carbon impression on it	☐	☐	☐	☐
10. Master is a wax-coated tissue attached to a backing sheet, finished master is the tissue alone	☐	☐	☐	☐
11. Master can be anything except material written in light blue pencil	☐	☐	☐	☐

	Fluid Process	Stencil	Infrared Photocopier	Xerographic (or electrostatic) photocopier
12. Reproduces by heat process	☐	☐	☐	☐
13. Reproduces by electrical or chemical process	☐	☐	☐	☐
14. Reproduces by spirit process using a liquid chemical	☐	☐	☐	☐
15. Reproduces by ink process	☐	☐	☐	☐
16. Errors on master should be burnished, covered with blue correction fluid, and corrected	☐	☐	☐	☐
17. Errors on masters can be cut out, covered with cellophane tape, or scraped away	☐	☐	☐	☐
18. Any cleanly made correction will be all right	☐	☐	☐	☐
19. All corrections will show up as smudges on copies	☐	☐	☐	☐
20. Master is typed with ribbon set on "stencil"	☐	☐	☐	☐
21. Masters can be messy to handle	☐	☐	☐	☐
22. Master should be typed using a backing sheet as a cushion	☐	☐	☐	☐
23. Can duplicate in five different colors	☐	☐	☐	☐
24. Copies darken with age	☐	☐	☐	☐
25. Master which generally requires the most time to prepare	☐	☐	☐	☐
26. Master becomes fainter (burned off) each time it is used	☐	☐	☐	☐
27. Master requires that a stylus be used if it is to be handwritten	☐	☐	☐	☐
28. Masters save well for future use	☐	☐	☐	☐
29. Produces the most professional looking copies	☐	☐	☐	☐
30. Produces the least professional looking copies	☐	☐	☐	☐
31. Simplest method of reproducing a transparency	☐	☐	☐	☐
32. Simplest method of making a master that **doesn't** have carbon impressions on it into a master that **does**	☐	☐	☐	☐
33. Can make a ditto master from normal copy	☐	☐	☐	☐
34. Can reproduce printing covered by cellophane tape	☐	☐	☐	☐
35. Can reproduce a page of a book without having to remove the page from the book	☐	☐	☐	☐

II. Transparencies:

Each of the six items below requires a short essay-type response. Please explain fully, but briefly, and make sure you respond to all parts of each item.

1. How many lines of writing (maximum) should a transparency contain?

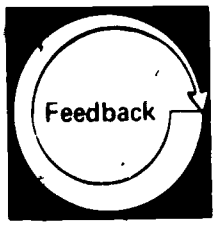
2. How many words per line (maximum) should a transparency contain?

3. How much detail should a transparency contain? Why?

4. How large should the lettering on a transparency be?

5. If you had a circle which was 1" in diameter on your transparency, should you color it with heavy black to make it more visible? Why or why not?

6. If you had a very complicated process to present, how could you use transparencies to simplify the process?



Compare your responses on the Self-Check with the Model Answers given below. For part I, your responses should exactly duplicate the model responses For part II, your responses need not exactly duplicate the model responses; however, you should have covered the same **major** points.

MODEL ANSWERS

I. Duplication Methods

1. Stencil
2. Fluid Process
3. Infrared Photocopier, Xerographic Photocopier
4. Xerographic Photocopier
6. Fluid Process
7. Stencil
8. Infrared Photocopier
9. Fluid Process
10. Stencil
11 Xerographic Photocopier
12. Infrared Photocopier
13 Xerographic Photocopier
14. Fluid Process
15. Stencil
16 Stencil
17 Fluid Process
18. Xerographic Photocopier
19 Infrared Photocopier
20. Stencil
21. Fluid Process, Stencil
22. Fluid Process
23. Fluid Process
24 Infrared Photocopier
25 Stencil
26. Infrared Photocopier
27 Stencil
28. Stencil
29. Xerographic Photocopier
30. Infrared Photocopier
31. Infrared Photocopier
32. Xerographic Photocopier
33. Infrared Photocopier
34. Xerographic Photocopier
35 Xerographic Photocopier

II. Transparencies

1 A transparency should contain 10 lines or less
2 Each line should contain not more than 6–7 words
3 A transparency should be kept simple. A transparency containing 25 lines of detailed information, with 15–20 words a line, is cluttered, it can confuse and discourage learners. A simple transparency which keys in to one main point can be an effective instructional device
4 The lettering should be large enough to be seen by the last student in the last row of your classroom or laboratory.
5 Masses of black area reproduce as unevenly colored, blotchy areas. Therefore, coloring-in black areas should be avoided
6 The process can be simplified by breaking it down into single subparts of the process and using a series of overlays to present it

LEVEL OF PERFORMANCE: For part I, you should have answered all 35 items correctly For part II, your responses should have covered the same **major** points as the model responses. If you did not have all 35 correct in part I, or if you missed some points or have questions about any additional points you made in part II, review the material in the information sheet, Duplicating Materials, pp 16–19, or check with your resource person if necessary

NOTES

Learning Experience III

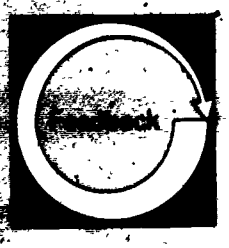
OVERVIEW

Using the material provided, prepare masters for four types of duplicating machines and use these machines to prepare copies.

You will be locating, within your immediate environment, four specific types of duplicating machines and arranging to have at least temporary access to each machine.

You will be preparing masters for each of the four machines, using the subject matter provided, or other subject matter from your own service area.

You will be reading the operating manual for each machine, relating what you read to the actual machine, and using each machine to run copies from your masters.



The quality of your masters and of your duplicated copies will be evaluated by your resource person, using the Duplication Checklist, pp. 29–30.

Locate, within your immediate environment, the following four machines:

- Xerographic or electrostatic photocopier
- Infrared photocopier
- Stencil
- Fluid process

Arrange independently or, if necessary, through your resource person, to have at least temporary access to each of the above machines.

Using the following essay, Desiderata, as your content, prepare masters for each of the four machines. If desired, you may use content other than Desiderata, perhaps something from your own service area, for example.

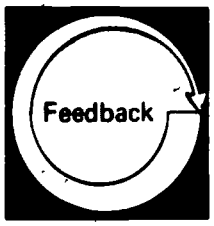
DESIDERATA

Go placidly amid the noise and haste, and remember what peace there may be in Silence. . . . As far as possible without surrender be on good terms with all persons. . . . Speak your Truth quietly and Clearly; and listen to others, even the dull and ignorant; they too have their story. . . . Avoid loud and aggressive persons, they are vexations to the spirit. . . . If you compare yourself with others, you may become vain and bitter; for always there will be greater and lesser persons than yourself. . . . Enjoy your achievements as well as your plans. . . . Keep interested in your own career, however humble; it is a real possession in the changing fortunes of time. . . . Exercise caution in your business affairs; for the world is full of trickery. . . . But let this not blind you to what virtue is; many persons strive for high ideals; and everywhere life is full of heroism. . . . Be yourself. . . . Especially, do not feign affection. . . . Neither be cynical about love; for in the face of all aridity and disenchantment it is perennial as the grass. . . . Take kindly the counsel of the years, gracefully surrendering the things of youth. . . . Nurture strength of spirit to shield you in sudden misfortune. . . . But do not distress yourself with imaginings. Many fears are born of fatigue and loneliness. . . . Beyond a wholesome discipline, be gentle with yourself. . . . [**You are a child of the universe, no less than the trees and the stars; You have a right to be here; and whether or not it is clear to you, no doubt the universe is unfolding as it should**]. . . . Therefore be at peace with God, whatever you conceive Him to be; and whatever your labors and aspiration, in the noisy confusion of life, keep peace with your soul. . . . With all its sham, drudgery and broken dreams, it is still a beautiful world. . . . Be careful. . . . Strive to be happy. . . . (by Max Ehrman. . . . found in Old St. Paul's Church, Baltimore; dated 1692)

Read the operating manual for each machine and try to relate what you are reading to the actual machine. Then, use each machine as follows to run the following number of copies for each master:

a. Xerographic Photocopier—2 copies
b. Infrared Photocopier—1 copy
   1 transparency
   1 ditto master
c. Fluid Process—10 copies from your original ditto master
   10 copies from your thermofaxed ditto master
d. Stencil—10 copies

NOTE: Use only the portion in brackets when preparing your transparency.



After you have duplicated all the required materials, arrange to have your resource person review and evaluate your masters and reproduced copies. Give him/her the Duplication Checklist, pp. 29–30, to use in evaluating your work.

NOTES

DUPLICATION CHECKLIST

Directions: Place an X in the NO, PARTIAL, or FULL box to indicate that each of the following performance components was not accomplished, partially accomplished, or fully accomplished. If, because of special circumstances, a performance component was not applicable, or impossible to execute, place an X in the N/A box.

Name _____

Date _____

Resource Person _____

	LEVEL OF PERFORMANCE			
	N/A	No	Partial	Full
Fluid Process Master:				
1. The master was typed or written according to the directions given for that master	☐	☐	☐	☐
2. Any errors were corrected cleanly, correctly, and completely	☐	☐	☐	☐
3. The layout of material was attractive and easily legible	☐	☐	☐	☐
4. The typing or writing pressure was firm and even	☐	☐	☐	☐
Stencil Master:				
5. The master was typed or written according to the directions given for that master	☐	☐	☐	☐
6. Any errors were corrected cleanly, correctly, and completely	☐	☐	☐	☐
7. The layout of the material was attractive and easily legible	☐	☐	☐	☐
8. The typing or writing pressure was firm and even	☐	☐	☐	☐
Infrared Photocopy Master:				
9. The master was prepared using a carbon ribbon or a pencil	☐	☐	☐	☐
10. Any errors were corrected cleanly, correctly, and completely	☐	☐	☐	☐
11. The layout of the material was attractive and easily legible	☐	☐	☐	☐
12. The typing or writing pressure was firm and even	☐	☐	☐	☐
Xerographic Photocopy Master:				
13. The master was typed or written according to the directions given for that master	☐	☐	☐	☐
14. Any errors were corrected cleanly, correctly, and completely	☐	☐	☐	☐
15. The layout of the material was attractive and easily legible	☐	☐	☐	☐
16. The typing or writing pressure was firm and even	☐	☐	☐	☐

	N/A	No	Partial	Full
Completed Copies:				
17. The copies were clean	☐	☐	☐	☐
18. The copies were easily legible	☐	☐	☐	☐
19. The copies were error-free	☐	☐	☐	☐
20. The material was well centered on the copies	☐	☐	☐	☐
21. The copies were attractive	☐	☐	☐	☐

LEVEL OF PERFORMANCE: All items must receive FULL or N/A responses. If any item receives a NO, or PARTIAL response, the teacher and resource person should meet to determine what additional activities the teacher needs to complete in order to reach competency in the weak areas.

Learning Experience IV

OVERVIEW

Given case studies describing how four teachers prepared and duplicated teacher-made materials, critique the performance of those teachers.

You will be reading the Case Studies, p. 32.

You will be critiquing each of the case studies, using the Critique Form, pp. 33–34, and the six criteria for selecting the best method of duplication.

You will be evaluating your competency in critiquing the teachers' performance in preparing and duplicating teacher-made materials by comparing your completed critique with the Model Critique, p. 35.

Activity

The following Case Studies describe how four vocational teachers prepared and duplicated teacher-made materials for their classes. With the criteria for selecting the best method of reproducing materials in mind, read the situations described.

CASE STUDIES

Case Study 1:

Mrs. Jones, the home economics teacher, wanted each of her students to make one dozen chocolate chip cookies. She wanted to give each student a copy of the recipe, so she took her personal copy and made a xerographic photocopy for each of her 60 students.

Case Study 2:

The students in horticulture wanted to sell the Easter lilies they were raising. They decided to advertise by preparing a handout to give to each of the school's 5,000 teachers, students, and other staff. One of their teachers, Mr. Mudd, agreed with their idea and offered to help them. He prepared a beautiful stencil explaining the sale, complete with a sketch of an Easter lily. He ran off 5,050 copies on the mimeograph machine using varied colored paper and arranged with the office for the handouts to be distributed. The duplicating bill could be paid from the proceeds of the sale

Case Study 3:

While he was reading *Popular Mechanics* after school one day, Mr. Jameson, a T&I teacher, came across a ten-page article which would supplement the next day's lesson perfectly. It gave diagrams and pictures and explanations of some up-to-the-minute developments. Due to the nature of the material, he used the original article as a master and used the infrared photocopier to prepare the 30 copies he needed for his class. Then, he put them in his car and went to meet his wife at the pool for a swim before supper.

Case Study 4:

Mr. Quinn, the business and office education teacher, was teaching a lesson on typing business letters. One member of the class, a transfer student, had in her notebook a two-page mimeographed guide for typing business letters that she had gotten at her last school. Mr. Quinn had two of his students make xerographic photocopies of the mimeographed sheets, run another ditto master on the infrared photographer, and then run enough dittoed copies for the class to use that same period.

Below is a Critique Form with space provided for you to prepare a written critique of each of the four case studies. Explain in the space provided (1) what the teacher did correctly, (2) what the teacher did incorrectly, and (3) what the teacher should have done instead. Remember, the duplication method should have been selected using the following six criteria. (1) type of master available, (2) quantity of copies desired, (3) quality of copies desired, (4) cost of materials and labor, (5) time element and urgency, and (6) type of machines available

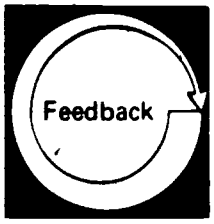
CRITIQUE FORM

Case Study 1:

Case Study 2:

Case Study 3:

Case Study 4:



Compare your completed written critiques of each of the four case studies with the Model Critiques given below. Your responses need not exactly duplicate the model responses, however, you should have covered the same **major** points.

MODEL CRITIQUES

Case Study 1:

Mrs. Jones' decision to provide all students with a recipe of their own was a good one. The condition of her personal copy would determine whether it would make a good master. However, it is doubtful that using the xerographic photocopier was appropriate in this situation. Sixty copies would be expensive. It would have been much better, and nearly as simple, to have a ditto master made up, either typed or written, by either the teacher or a student. The ditto master could then have been used to run the necessary 60 copies. If this was a recipe Mrs. Jones wanted to use again and again, a mimeograph stencil would be the best method.

Case Study 2:

The method was good. Where Mr. Mudd went wrong was in usurping the task completely from the students. He didn't help; he took over. The students should have been involved in the planning, preparation and duplication processes.

Case Study 3:

A ten-page article is quite lengthy. It might have been sufficient to duplicate two to five copies and circulate them as extra reading. However, if it were necessary for each student to have a copy, and if the nature of the material did not allow for a hand-made copy, still, material prepared with an infrared photocopier is not the easiest copy to read, nor does it save well, nor is it quick. Mr. Jameson would have had to hand feed the machine 300 times to get his 30 copies. Leaving them in a hot car would have darkened the copies, making them even harder to read. The simplest, most economical method would have been to use the infrared photocopier to make a ditto master for each page. Then the 30 copies could have been run on a ditto machine. Finally, it looks as though Mr. Jameson forgot to check the copyright on the material.

Case Study 4:

This is very good all around. The copies would be adequate, they could be used immediately, and the students were definitely involved.

LEVEL OF PERFORMANCE: Your completed Critique Form should have covered the same **major** points as the Model Critiques. If you missed some points or have questions about any additional points you made, review the material in the information sheet, Duplicating Materials, pp. 16–19, or check with your resource person if necessary.

NOTES

Learning Experience V

FINAL EXPERIENCE

While working in an actual school situation,* prepare teacher-made instructional materials.

As you plan your lessons, prepare teacher-made instructional materials to support those lessons. This will include—

- deciding what, if any, teacher-made materials are needed to support each lesson
- deciding what duplication method would be the most appropriate for duplicating each of those materials
- preparing the necessary masters
- duplicating the necessary copies

NOTE: Due to the nature of this experience, you will need to be in an actual school situation over an extended period of time (e.g., four to six weeks).

After you have had the opportunity to prepare and duplicate handouts and transparencies using each of the four types of duplication methods (fluid process, stencil, xerographic or electrostatic photocopier, infrared photocopier), arrange to have your resource person review copies of (1) the masters, (2) the reproduced copies, and (3) the lesson plans for which these materials were prepared.

Your total competency will be assessed by your resource person, using the Teacher Performance Assessment Form, pp. 39–40.

Based upon the criteria specified in this assessment instrument, your resource person will determine whether you are competent in preparing teacher-made instructional materials.

*For a definition of "actual school situation," see the inside back cover.

NOTES

TEACHER PERFORMANCE ASSESSMENT FORM

Prepare Teacher-Made Instructional Materials (B-6)

Name _____

Date _____

Resource Person _____

Directions: Indicate the level of the teacher's accomplishment by placing an X in the appropriate box under the LEVEL OF PERFORMANCE heading. If, because of special circumstances, a performance component was not applicable, or impossible to execute, place an X in the N/A box.

LEVEL OF PERFORMANCE

	N/A	None	Poor	Fair	Good	Excellent
1. Students were involved in the planning and/or preparation of the materials	☐	☐	☐	☐	☐	☐
2. The materials which were developed were geared to:	☐	☐	☐	☐	☐	☐
a. meet the lesson objectives	☐	☐	☐	☐	☐	☐
b. fit students' needs, interests, and abilities	☐	☐	☐	☐	☐	☐
c. fit available resources	☐	☐	☐	☐	☐	☐
d. provide concrete experiences	☐	☐	☐	☐	☐	☐
e. motivate and arouse interest	☐	☐	☐	☐	☐	☐
f. increase retention by involving the senses	☐	☐	☐	☐	☐	☐
g. provide variety in learning	☐	☐	☐	☐	☐	☐
h. provide experience not otherwise easily obtained	☐	☐	☐	☐	☐	☐
i. save instructional time	☐	☐	☐	☐	☐	☐
3. The type of instructional materials selected (i.e., information sheet, graph, diagram, chart, or cartoon) were appropriate for illustrating the concepts being taught	☐	☐	☐	☐	☐	☐

	N/A	None	Poor	Fair	Good	Excellent
4. The materials which were developed were:	☐	☐	☐	☐	☐	☐
a. clear	☐	☐	☐	☐	☐	☐
b. logical	☐	☐	☐	☐	☐	☐
c. concise	☐	☐	☐	☐	☐	☐
d. error-free	☐	☐	☐	☐	☐	☐
e. legible	☐	☐	☐	☐	☐	☐
f. attractive (well-centered, clean)	☐	☐	☐	☐	☐	☐
5. When materials were duplicated, the duplication method was selected on the basis of the:	☐	☐	☐	☐	☐	☐
a. type of master available	☐	☐	☐	☐	☐	☐
b. quantity of copies desired	☐	☐	☐	☐	☐	☐
c. quality of copies desired	☐	☐	☐	☐	☐	☐
d. cost of materials and labor	☐	☐	☐	☐	☐	☐
e. time element and urgency	☐	☐	☐	☐	☐	☐
f. type of machines available	☐	☐	☐	☐	☐	☐
6. When a master was prepared:	☐	☐	☐	☐	☐	☐
a. it was appropriate for the machine selected	☐	☐	☐	☐	☐	☐
b. it was prepared according to the directions given for that master	☐	☐	☐	☐	☐	☐
c. the errors were corrected cleanly, correctly and completely	☐	☐	☐	☐	☐	☐
d. the typing or writing pressure was hard, firm, and even	☐	☐	☐	☐	☐	☐

LEVEL OF PERFORMANCE: All items must receive N/A, GOOD, or EXCELLENT responses. If any item receives a NONE, POOR, or FAIR response, the teacher and resource person should meet to determine what additional activities the teacher needs to complete in order to reach competency in the weak areas.

ABOUT USING THE CENTER'S PBTE MODULES

Organization

Each module is designed to help you gain competency in a particular skill area considered important to teaching success. A module is made up of a series of learning experiences, some providing background information, some providing practice experiences, and others combining these two functions. Completing these experiences should enable you to achieve the **terminal** objective in the final learning experience. The final experience in each module always requires you to demonstrate the skill in an actual school situation when you are an intern, a student teacher, or an inservice teacher.

Procedures

Modules are designed to allow you to individualize your teacher education program. You need to take only those modules covering skills which you do not already possess. Similarly, you need not complete any learning experience within a module if you already have the skill needed to complete it. Therefore, before taking any module, you should carefully review (1) the Introduction, (2) the Objectives listed on p. 4, (3) the Overviews preceding each learning experience, and (4) the Final Experience. After comparing your present needs and competencies with the information you have read in these sections, you should be ready to make one of the following decisions:

- that you do not have the competencies indicated, and should complete the entire module
- that you are competent in one or more of the enabling objectives leading to the final learning experience, and thus can omit that (those) learning experience(s)
- that you are already competent in this area, and ready to complete the final learning experience in order to "test out"
- that the module is inappropriate to your needs at this time.

When you are ready to take the final learning experience and have access to an actual school situation, make the necessary arrangements with your resource person. If you do not complete the final experience successfully, meet with your resource person and arrange (1) to repeat the experience, or (2) complete (or review) previous sections of the module or other related activities suggested by your resource person before attempting to repeat the final experience.

Options for recycling are also available in each of the learning experiences preceding the final experience. Any time you do not meet the minimum level of performance required to meet an objective, you and your resource person may meet to select activities to help you reach competency. This could involve (1) completing parts of the module previously skipped, (2) repeating activities; (3) reading supplementary resources or completing additional activities suggested by the resource person; (4) designing your own learning experience; or (5) completing some other activity suggested by you or your resource person.

Terminology

Actual School Situation . . refers to a situation in which you are actually working with, and responsible for, secondary or post-secondary vocational students in a real school. An intern, a student teacher, or an inservice teacher would be functioning in an actual school situation. If you do **not** have access to an actual school situation when you are taking the module, you can complete the module **up to** the final learning experience. You would then do the final learning experience later, i.e., when you have access to an actual school situation.

Alternate Activity or Feedback . . refers to an item or feedback device which may **substitute** for required items which, due to special circumstances, you are unable to complete.

Occupational Specialty . . refers to a specific area of preparation within a vocational service area (e.g., the service area of Trade and Industrial Education includes occupational specialties such as automobile mechanics, welding, and electricity).

Optional Activity or Feedback . . . refers to an item which is not required, but which is designed to **supplement** and enrich the required items in a learning experience.

Resource Person . . refers to the person in charge of your educational program; the professor, instructor, administrator, supervisor, or cooperating/supervising/classroom teacher who is guiding you in taking this module.

Student . . refers to the person who is enrolled and receiving instruction in a secondary or post-secondary educational institution.

Vocational Service Areas . . refers to a major vocational field: agricultural education, business and office education, distributive education, health occupations education, home economics education, industrial arts education, technical education, or trade and industrial education.

You or the Teacher . . . refers to the person who is taking the module.

Levels of Performance for Final Assessment

N/A . . The criterion was not met because it was **not applicable** to the situation.
None . . . **No attempt** was made to meet the criterion, although it was relevent.
Poor . . The teacher is unable to perform this skill or has only **very limited ability** to perform it.
Fair . . The teacher is unable to perform this skill in an acceptable manner, but has **some ability** to perform it.
Good . . . The teacher is able to perform this skill in an **effective** manner.
Excellent . . . The teacher is able to perform this skill in a **very effective** manner.

Titles of The Center's Performance-Based Teacher Education Modules

Category A: Program Planning, Development, and Evaluation

- A-1 Prepare for a Community Survey
- A-2 Conduct a Community Survey
- A-3 Report the Findings of a Community Survey
- A-4 Organize an Occupational Advisory Committee
- A-5 Maintain an Occupational Advisory Committee
- A-6 Develop Program Goals and Objectives
- A-7 Conduct an Occupational Analysis
- A-8 Develop a Course of Study
- A-9 Develop Long-Range Program Plans
- A-10 Conduct a Student Follow-Up Study
- A-11 Evaluate Your Vocational Program

Category B: Instructional Planning

- B-1 Determine Needs and Interests of Students
- B-2 Develop Student Performance Objectives
- B-3 Develop a Unit of Instruction
- B-4 Develop a Lesson Plan
- B-5 Select Student Instructional Materials
- B-6 Prepare Teacher-Made Instructional Materials

Category C: Instructional Execution

- C-1 Direct Field Trips
- C-2 Conduct Group Discussions, Panel Discussions, and Symposiums
- C-3 Employ Brainstorming, Buzz Group, and Question Box Techniques
- C-4 Direct Students in Instructing Other Students
- C-5 Employ Simulation Techniques
- C-6 Guide Student Study
- C-7 Direct Student Laboratory Experience
- C-8 Direct Students in Applying Problem-Solving Techniques
- C-9 Employ the Project Method
- C-10 Introduce a Lesson
- C-11 Summarize a Lesson
- C-12 Employ Oral Questioning Techniques
- C-13 Employ Reinforcement Techniques
- C-14 Provide Instruction for Slower and More Capable Learners
- C-15 Present an Illustrated Talk
- C-16 Demonstrate a Manipulative Skill
- C-17 Demonstrate a Concept or Principle
- C-18 Individualize Instruction
- C-19 Employ the Team Teaching Approach
- C-20 Use Subject Matter Experts to Present Information
- C-21 Prepare Bulletin Boards and Exhibits
- C-22 Present Information with Models, Real Objects, and Flannel Boards
- C-23 Present Information with Overhead and Opaque Materials
- C-24 Present Information with Filmstrips and Slides
- C-25 Present Information with Films
- C-26 Present Information with Audio Recordings
- C-27 Present Information with Televised and Videotaped Materials
- C-28 Employ Programmed Instruction
- C-29 Present Information with the Chalkboard and Flip Chart

Category D: Instructional Evaluation

- D-1 Establish Student Performance Criteria
- D-2 Assess Student Performance: Knowledge
- D-3 Assess Student Performance: Attitudes
- D-4 Assess Student Performance: Skills
- D-5 Determine Student Grades
- D-6 Evaluate Your Instructional Effectiveness

Category E: Instructional Management

- E-1 Project Instructional Resource Needs
- E-2 Manage Your Budgeting and Reporting Responsibilities
- E-3 Arrange for Improvement of Your Vocational Facilities
- E-4 Maintain a Filing System
- E-5 Provide for Student Safety
- E-6 Provide for the First Aid Needs of Students
- E-7 Assist Students in Developing Self-Discipline
- E-8 Organize the Vocational Laboratory
- E-9 Manage the Vocational Laboratory

Category F: Guidance

- F-1 Gather Student Data Using Formal Data-Collection Techniques
- F-2 Gather Student Data Through Personal Contacts
- F-3 Use Conferences to Help Meet Student Needs
- F-4 Provide Information on Educational and Career Opportunities
- F-5 Assist Students in Applying for Employment or Further Education

Category G: School-Community Relations

- G-1 Develop a School-Community Relations Plan for Your Vocational Program
- G-2 Give Presentations to Promote Your Vocational Program
- G-3 Develop Brochures to Promote Your Vocational Program
- G-4 Prepare Displays to Promote Your Vocational Program
- G-5 Prepare News Releases and Articles Concerning Your Vocational Program
- G-6 Arrange for Television and Radio Presentations Concerning Your Vocational Program
- G-7 Conduct an Open House
- G-8 Work with Members of the Community
- G-9 Work with State and Local Educators
- G-10 Obtain Feedback about Your Vocational Program

Category H: Student Vocational Organization

- H-1 Develop a Personal Philosophy Concerning Student Vocational Organizations
- H-2 Establish a Student Vocational Organization
- H-3 Prepare Student Vocational Organization Members for Leadership Roles
- H-4 Assist Student Vocational Organization Members in Developing and Financing a Yearly Program of Activities
- H-5 Supervise Activities of the Student Vocational Organization
- H-6 Guide Participation in Student Vocational Organization Contests

Category I: Professional Role and Development

- I-1 Keep Up-to-Date Professionally
- I-2 Serve Your Teaching Profession
- I-3 Develop an Active Personal Philosophy of Education
- I-4 Serve the School and Community
- I-5 Obtain a Suitable Teaching Position
- I-6 Provide Laboratory Experiences for Prospective Teachers
- I-7 Plan the Student Teaching Experience
- I-8 Supervise Student Teachers

Category J: Coordination of Cooperative Education

- J-1 Establish Guidelines for Your Cooperative Vocational Program
- J-2 Manage the Attendance, Transfers, and Terminations of Co-Op Students
- J-3 Enroll Students in Your Co-Op Program
- J-4 Secure Training Stations for Your Co-Op Program
- J-5 Place Co-Op Students on the Job
- J-6 Develop the Training Ability of On-the-Job Instructors
- J-7 Coordinate On-the-Job Instruction
- J-8 Evaluate Co-Op Students' On-the-Job Performance
- J-9 Prepare for Students' Related Instruction
- J-10 Supervise an Employer-Employee Appreciation Event

RELATED PUBLICATIONS

Student Guide to Using Performance-Based Teacher Education Materials

Resource Person Guide to Using Performance-Based Teacher Education Materials

Guide to the Implementation of Performance-Based Teacher Education

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For information regarding availability and prices of these materials contact—

AAVIM

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