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AUTHOR Platt, Henry; And Others
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ABSTRACT

This project was primarily concerned with the preparation, development and refinement of programed material in prevocational and work-related areas for use with the Devereux Model 50 Teaching Aid and other auto-instructional aids that are readily available throughout the country. A secondary goal was the evaluation of the effectiveness of using programed instruction in vocational training of adolescents with moderate intellectual and/or emotional handicaps. Four teaching methods used included the: (1) Automated Method, (2) Conventional Method, (3) Integrated, and (4) Programed Lecture. The most effective of the four methods proved to be the integrated method, while the automated method was more efficient than the conventional and the programed lecture methods. Students who were taught by the machine method alone, demonstrated the weakest performance on proficiency tests. A final conclusion was that the training of mentally retarded and emotionally handicapped adolescents can be enhanced through a coordinated program of good teaching instruction and programed instruction. (Author/GEB)

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*Automation in Vocational
Training
of
The Mentally Retarded*

Excerpts From Final Report
VRA 993-P-63

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THE DEVEREUX FOUNDATION
DEVON, PENNSYLVANIA

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AUTOMATION IN VOCATIONAL TRAINING
OF THE MENTALLY RETARDED

Section I*

ABSTRACT OF FINAL REPORT
VRA 993-P-63

Prepared by

Henry Platt, Ph.D. Project Co-Director
Joseph Cifelli, B.S. Senior Programmer
William Knaus, M.S., C.A.S. Research Psychologist

Project Co-Directors

Henry Platt, Ph.D.
Louis Kukoda, M.Ed.

The Devereux Foundation
Institute for Research & Training
Devon, Pennsylvania

*Taken from Section XIV of the Final Report on VRA 993-P-63, an investigation supported, in part, by Research Grant VRA 993-P-63 from the Vocational Rehabilitation Administration, U.S. Department of Health, Education and Welfare, Washington, D.C.

AUTOMATION IN VOCATIONAL TRAINING
FOR THE MENTALLY RETARDED

Abstract of Final Report*

General Background - Although the need is great, limited instructional material is available for use in vocational training and rehabilitation of adolescents who are: (a) slow learners, but not markedly mentally retarded, and (b) the emotionally handicapped; those with emotional and/or personality disorders, presently severe enough to necessitate their removal from the regular classroom because of the learning and/or personal adjustment problems they present.

Project Background - Exploratory studies conducted at The Devereux Schools utilizing an experimental teaching aid, the Devereux Model 50 suggested that the "slow" learner and the poorly motivated "reluctant" learner, responded favorably to classroom instruction supplemented by automated instructional techniques and showed more academic gain from the experience than was obtained in the classroom utilizing only conventional teaching methods. From these beginnings, the Devereux Foundation Institute for Research and Training, with support from the Vocational Rehabilitation Administration, embarked on the current three-year project on "Automation in Vocational Training of Mentally Retarded and Emotionally Disabled Youth."

Scope and Project - While in overall purpose the project was research-oriented, the project was primarily concerned with the preparation, development and refinement of programmed material in pre-vocational and work-related areas for use with the Devereux Model 50 Teaching Aid and other auto-instructional teaching aids that are readily available throughout the country. A secondary goal encompassed evaluation of the effectiveness of using programmed instruction in vocational training of adolescents with moderate intellectual and/or emotional handicaps.

Early Plans and Development - Considerable effort was spent in recruiting and in training of "programmers," in establishing physical facilities to carry on the work encompassed in the project and in exploring subject areas for programming. Efforts were made to encourage teachers to use their own ingenuity and creativity to prepare programmed lesson units in areas of their own interest. Instructional manuals were prepared giving helpful suggestions for preparing programmed instructional materials for use on each of the automated teaching aids employed in the project. Manuals of instruction for classroom use of the teaching devices were also prepared and made available to teachers.

Preparation of Programmed Materials - The Devereux Model 50 Teaching Aid, because of its ease of operation and upkeep, and the economy afforded in its use was planned as the basic source of presentation. When the areas under study could best be presented through other types of auto-instructional devices, these were also utilized. The Model 50 programmed workbooks are geared to the slow learner who functions on a 4th-5th grade reading level.

*This investigation was supported, in part, by Research Grant VRA 993-P-63 from the Vocational Rehabilitation Administration, U.S. Department of Health, Education and Welfare, Washington, D.C.

In general, the lesson units follow the Skinner-Pressley technique of linear programming; the material is presented in small sequential steps - there is gradual step-by-step development of a point through the utilization of cueing, repetition and reinforcement. A specially devised apparatus, the Model 50 Response Recorder, was used in an item analysis to identify frames that might cause undue difficulty in Model 50 programs. An on-going program of developmental studies and field tests provided an opportunity for collection, analysis and evaluation of data and for later revision and final refinement of the prepared programmed units; more comprehensive research was conducted in later field tests.

The prepared programmed lesson units are intended to complement regular teaching methods and not to replace them. They are planned to serve as self-contained units that present new study material, develop concepts, and provide practice for reinforcement of learning to stabilize concepts already covered in class. Programs were developed for use with the following five types of auto-instructional devices.

1. The Devereux Model 50 Teaching Aid - A light-weight, compact, teaching device, made of cast aluminum, which measures 12" x 12" x 4", weighs only 12 pounds, and utilizes a standard six-volt battery as its only source of current. It is designed for use with specially prepared workbooks, 7" x 11" in size, which utilize a multiple-choice format and lies flat on the device between rows of answer buttons. The amount of reading in some topics can be limited to as few as one dozen words per page. The student responds to items on workbook pages by pushing down the button next to the answer he chooses. Correctness of response is verified immediately by a light in the upper right hand corner. Some of the prepared programs include : "Practical Arithmetic," "Measuring," "Tool Recognition," "Using the Telephone," "Home Nursing," and "Homemaking and Family Living."
2. The Learn-Ease Teaching Device - Essentially a 12" x 10" vinyl portfolio, weighing less than two pounds which employs a simple "masking" technique. Learn-Ease programs are adapted from those prepared for the Model 50 Teaching Aid. However, they are self-contained and do not require the use of the Model 50. A sliding mask on the right side of the unit covers the workbook page and reveals or covers each "frame". The student reads a question, records his answer, and slides the mask down the page to uncover the correct answer and compares it with his own response. Prepared programs include: "Home Nursing," "Use of the Telephone," and one on industrial safety called "Lifting, Carrying and Lowering."
3. The Mast Teaching Machine - A small, compact, photo-optical teaching aid which weighs 11 pounds and is electrically operated. The programmed lesson units are presented on microfilm which is housed in a special plastic cartridge and projected on to a 4" x 6" self-contained rear projection screen. The student views and responds to one "frame" at a time and writes the answer to each question in the space provided. He presses a button to reveal the correct answer and compares it with his own answer. Pressing down on another button advances the next frame. Several programs in work-related areas are designed to provide an orientation to the "world of work", and include: "Filling Out a Job Application Form," "Your Paycheck," "Social Security".
4. The Graflex Audio-Graphic Instructor - A device which projects 35mm color transparencies on to a rear vision screen to the accompaniment of a taped commentary. Impulses are recorded on the magnetic tape for automatic slide changes. The student controls the instructional pace, stops the audio portion to study the pictures and follows the simple spoken directions on the tape to carry out

various assigned tasks. He knows at once whether a response is appropriate and errors can be corrected before they become habitual.

The Graflex is useful in teaching slow learners with limited reading ability who are able to follow simple, verbal directions and is helpful in teaching job operations which require manipulation and physical activity. Available Graflex programs include: "Applying for a Job," "Measuring With a Ruler," "The Waitress," "Using a Drill Press."

Another teaching device, the Car-Tap Unit, is essentially an adaptation of the Graflex programming technique and employs an Eastman Kodak Carousel Slide Projector and a common tape recorder. Since this technique evolved just prior to the termination of the project there was no opportunity to prepare programs specifically for use with this teaching device.

5. The A-V-K Unit - An opaque or an overhead projector set-up which utilizes a coordinated taped program and makes use of multi-sensory stimuli. The technique for presentation is a group procedure which resembles a small language laboratory. Auditory stimulation is furnished by a pre-recorded lesson; visual stimulation comes from the projected drawings or pictures related to the topic under study; kinesthetic stimulation is provided through the student's manipulation of "props" as directed by the taped commentary.

The A-V-K programs are especially useful with the more retarded students handicapped by poor reading ability. Programs related to unskilled job information include: "The Cook's Helper," "The Dishwasher," "Jobs in the Laundry."

The Student Population - In general, a group of mentally retarded and a group of emotionally handicapped adolescent boys and girls, in residence at The Devereux Schools in Pennsylvania, ranging in age from 12 to 20 years, and in the 70-90 I.Q. range, were utilized in developmental and field testing of the programmed instructional material. Comparable groups of mentally and emotionally handicapped students were drawn from the vocational and special education classes of several nearby state and private institutions and from local public schools.

Publications and Programmed Material - A series of 27 bulletins were prepared during the course of the project and encompass: an Information Booklet, catalogues of prepared material, reports, reprints and manuals for each of the teaching aids outlining the procedures for preparing lesson material and for use of the equipment in the classroom. A series of 157 programmed lesson units were prepared for use on five types of auto-instructional devices employed in the project: 92 units - Model 50 Teaching Aid; 23 units - Learn-Ease; 12 units - Mast Machine; 24 units - Graflex Instructor; 6 units - A-V-K unit.

Sharing Information - Members of the project staff presented lectures, showed the auto-instructional devices under study and demonstrated the prepared programmed instructional material at various professional meetings such as AAMD, APA, and ARGA.

A complete set of the 157 individual programmed units, the 27 instructional and related manuals, reports and reprints, and a set of 3 albums of graphic material are being furnished to the Vocational Rehabilitation Administration. Duplicate sets of this material will be maintained at The Devereux Foundation Institute for Research and Training. Copies of the publication and programmed materials have been distributed to individuals and institutions cooperating in the project. The Model 50 Teaching Aid

and related instruction manuals and programmed lesson units will be produced and made available for purchase at low cost through the Devereux Foundation Department of Publications.

Research Highlights: The summary of research findings in the project covered:

- a. Findings obtained in preliminary field of programmed instructional material developed for use with most of the auto-instructional aids
- b. Later field testing of programmed instructional material for the Model 50 Teaching Aid

Four different teaching methods were employed in studies designed to evaluate the effectiveness of utilizing the prepared programmed instructional material in vocational training of mentally retarded and/or emotionally disturbed adolescents:

1. Automated Method where the teacher function is to guide student use of the auto-instructional device. No formal classroom lesson was taught and prepared programmed instructional material made of the course content.
2. Conventional Method of teacher instruction using proven approaches of lecture, discussion, etc. No use is made of auto-instructional devices.
3. Integrated procedure wherein the teacher utilizes auto-instructional devices with programmed material in addition to employing proven teaching approaches.
4. Programmed Lecture approach which deviates from conventional procedures through teacher use of prepared lecture materials that follow the same sequential steps and content outlined in the programmed instructional units.

The basic experimental design, for the most part, included a comparison of the effect of utilizing the four described teaching techniques in presenting vocational training material to the groups of mentally retarded or emotionally handicapped adolescents comprising the population of this study. In most cases equated groups made up of students from Devereux Schools and from other residential settings and public school special education classes were employed in the studies. There was no intent to pit the teacher against the machine and the focus was on how to enhance the learning atmosphere through use of programmed instructional material.

Several preliminary field tests were conducted which involved the development of skills in work related areas such as: "Filling Out Job Applications," and in "Applying for a Job." Two of these studies used material prepared for use on the Model 50 Teaching Aid; two others utilized the Mast Teaching Machine and another study used a program on "Applying for a Job" which was prepared for use on the Graflex Audio-Graphic Instructor. A study involving "Measurement in the Kitchen" utilized the A-V-K technique. Later field testing concentrated on the use of the Model 50 Teaching Machine and employed programmed instructional units encompassing: "Job Responsibilities," "Tool Recognition," "How to Use the Telephone," and instruction in "Home Nursing".

Conclusions and Implications - In general, the obtained findings indicated that students in the experimental group, who had the benefit of programmed instruction showed greater retention of the prepared lesson material, as measured on pre and post-tests, when compared to accomplishments of those students taught along

The purpose of this report is to provide information on the results of the study of the effectiveness of programmed instruction in the field of mental deficiency. The study was conducted in a classroom setting and the results are presented in the following sections.

1. Description of the Study

1. The study was conducted in a classroom setting in the field of mental deficiency. The purpose of the study was to determine the effectiveness of programmed instruction in the field of mental deficiency. The study was conducted in a classroom setting and the results are presented in the following sections.
2. The study was conducted in a classroom setting in the field of mental deficiency. The purpose of the study was to determine the effectiveness of programmed instruction in the field of mental deficiency. The study was conducted in a classroom setting and the results are presented in the following sections.
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The study suggests that the use of programmed instruction in the field of mental deficiency is an effective method of instruction. The study was conducted in a classroom setting and the results are presented in the following sections. The study was conducted in a classroom setting and the results are presented in the following sections. The study was conducted in a classroom setting and the results are presented in the following sections.

Availability of Final Report - The highlights of the material contained in the Final Report, including the research findings, were presented by members of the Project Staff at the annual convention of the American Association on Mental Deficiency in Chicago, Illinois, May 1968. Copies of the Final Report are available from The Institute for Developmental Disabilities, Department of Publications, Derry, Pennsylvania 19001.



AUTOMATION IN VOCATIONAL TRAINING
OF THE MENTALLY RETARDED

Section II*

SUMMARY LIST OF:

PUBLICATIONS

PROGRAMMED INSTRUCTIONAL AIDS

AUTOMATED TEACHING AID DEVICES

Prepared and developed in the project

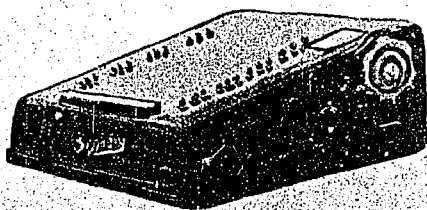
*Taken from Section XIII of the Final Report on VRA 993-P-63, an investigation supported, in part, by the Vocational Rehabilitation Administration, U.S. Department of Health, Education and Welfare, Washington, D.C.

SUMMARY LIST OF PUBLICATIONS
AND
PROGRAMMED INSTRUCTIONAL MATERIALS
DEVELOPED IN THE AUTOMATED TEACHING AIDS PROJECT



Devereux Automated Teaching Aids

Catalogue



THE DEVEREUX FOUNDATION
Institute for Research and Training
Devon, Pennsylvania

INFORMATION BOOKLET - Automation in Vocational Training of Mentally Retarded and/or Emotionally Disabled Adolescents - a description of the Automated Teaching Aids Project supported, in part, by research grant 993-P-63 from the Vocational Rehabilitation Administration, U.S. Department of Health, Education and Welfare.

Sect. XIII

CATALOGUES - Two catalogues listing the instructional aids prepared in the project:

CATALOGUE OF AUTOMATED TEACHING AIDS - The complete listing of teaching aid devices, information bulletins, instructional manuals, and programmed instructional aids prepared and utilized in the VRA supported Automated Teaching Aids Project.

CATALOGUE OF MODEL 50 PROGRAMMED WORKBOOKS - An excerpt from the Catalogue of Automated Teaching Aids, listing only the series of programmed workbooks on various topics for use with the Model 50 Teaching Aid.

REPORTS - Periodic reports on the progress and development of the Automated Teaching Aids Project include the following:

Progress Report No. 1 - The first of the progress reports on the Teaching Aids Project submitted to the Vocational Rehabilitation Administration, March 1963.

Programmed Learning in Vocational Training of Special Education Groups - A professional paper and an accompanying set of kodachrome slides presented at the annual convention of the American Psychological Association, Philadelphia, Pa., Aug. 1963.

Progress Report No. 2 - The second progress report on the development of the Automated Teaching Aids Project submitted to the Vocational Rehabilitation Administration, March 1964.

Auto-instructional Teaching Aids in Vocational Training and Rehabilitation of Mentally Retarded and Emotionally Disabled Adolescents - A professional paper and an accompanying set of kodachrome slides presented at the annual convention of the American Association on Mental Deficiency, Miami Beach, Florida, June 1965.

Research Report - Highlights of research findings obtained with selected teaching aid devices in field testing of sample programmed instructional materials developed in the Automated Teaching Aids Project and utilized with groups of mentally retarded and/or emotionally disabled teenagers, Dec. 1965.

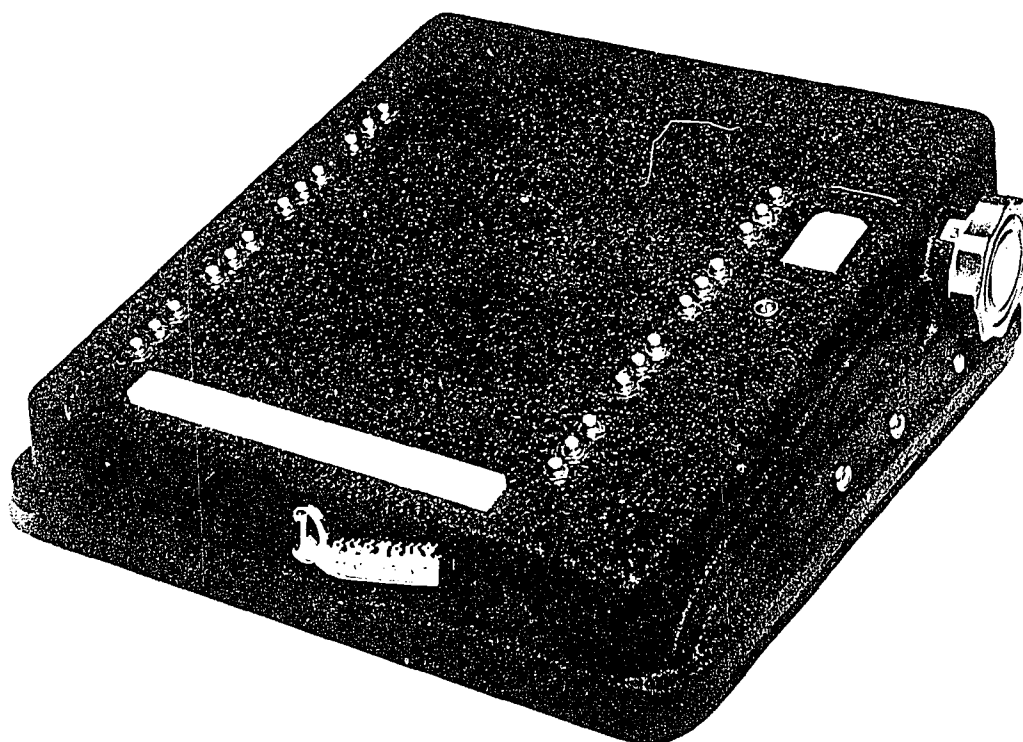
Final Report - A summary report on the VRA supported Automated Teaching Aids Project complete with descriptions of each of the five automated teaching aid devices and how they were used; a complete listing of the automated instructional materials developed during the course of the project; a summary of the research findings obtained in developmental and field testing of programmed material. The Final Report contains a number of illustrations, charts and sample pages of programmed instructional materials, Feb. 1966.

REPRINTS - Articles on topics related to the Teaching Aids Project published, or planned for publication, in professional journals:

Platt, H., Teaching machines and the mentally retarded, Rehabilitation Record, Sept., 1965

Platt, H., Automated teaching aids in vocational training of mentally and emotionally handicapped adolescents. The Devereux Forum (publication pending)

EDUCATIONAL MATERIAL AVAILABLE FOR USE WITH
THE MODEL 50 TEACHING AID



BULLETIN - How to Use the Devereux Model 50 Teaching Aid; Suggestions for Classroom Use

MANUAL - How to Prepare Programs for Use on the Devereux Model 50 Teaching Aid

WORKSHEETS - Sets of blank worksheets for use in preparing "frames" for Model 50 Teaching Aid programmed workbooks

SAMPLE WORKBOOK PAGES - Sample pages taken from programmed workbooks prepared for use on the Model 50 Teaching Aid

SAMPLE PROGRAM - Sample of programmed workbook used on the Model 50 Teaching Aid

MANUAL FOR FIELD TESTING - Suggestions for experimental use of the Model 50 Teaching Aid and accompanying programmed workbooks in developmental and field testing

INSTRUCTIONAL PROGRAMS - Programmed workbooks in several topics prepared for use on the Devereux Model 50 Teaching Aid:

You and Your Job (5 books)

- Part I - Abbreviations Used in Want Ads.
- Part II - Job Responsibilities
 - Book 1 - Employment Terms
 - Book 2 - Importance of Job Responsibilities
 - Book 3 - Carrying Out Job Responsibilities
- Part III - Work Habits

Basic Arithmetic (18 books)

- Understanding Addition
 - Book I - Arithmetic Fundamentals; part A
 - Book II - Arithmetic Fundamentals; part B
- Understanding Subtraction
 - Book I - Fundamentals of Subtraction; part A
 - Book II - Fundamentals of Subtraction; part B
 - Book III - Advanced Concepts in Subtraction
- Understanding Multiplication
 - Book I - Basic Concepts in Multiplication
 - Book II - Reading Problems in Multiplication
 - Book III - Practice Problems in Multiplication
- Multiplication Combinations
- Understanding Division
 - Book I - Fundamentals of Division
 - Book II - Division of Large Numbers
 - Book III - Checking Long Division Problems
- Division Combinations
- Introduction to Fractions; Meaning and Vocabulary Terms
- Simple Fractions; Selecting the Larger or Smaller Number
- Understanding Decimal Fractions
- Addition and Subtraction of Decimals
 - Book I - Introduction to Add. and Subt. of Decimals
 - Book II - Practice Problems in Add. and Subt. of Decimals

Practical Arithmetic (8 books)

- Signs, Symbols and Abbreviations
- Practice Problems in Adding Money
- Practice Problems in Using Money
- Writing Money
- Coins and Making Change
 - Book I - Introduction and Coin Combination
 - Book II - Word Problems in Making Change
- Monetary Values
- Budgeting

Measuring (5 books)

- Vocabulary Used in Measuring
- The Measurement of Commodities

Measuring (continued)

Linear Measurement

Book I - Recognition of units of measurements

Book II - Measuring with a Ruler

Learning to Tell Time

Using the Telephone (10 workbooks)

Book I - Basic Skills

Book II - Dialing Practice

Book III - Finding the Correct Number - Part 1

Books IV & V - Finding the Correct Number - Parts 2 & 3 (white pages)

Book VI - Finding the Correct Number - Parts 4a & 4b (yellow pages)

Book VII - Planning a Call

Books VIII & IX - Making a Call - Parts 1 & 2

Book X - Receiving a Call

Home Nursing (12 books)

Book I - Hand Washing

Book II - The Coverall Apron

Book III - The Back Rub

Book IV - The Bed Bath

Book V - Mouth Care

Book VI - Bedmaking - Part 1; Importance of Good Bedmaking

Book VII - Bedmaking - Part 2; Making an Unoccupied Bed

Book VIII - Bedmaking - Part 3; Making an Occupied Bed

Book IX - Making the Patient Comfortable in Bed

Book X - Helping the Patient Out of Bed

Book XI - Feeding the Patient

Book XII - Washing Rubber Gloves

Homemaking and Family Living (18 books)

Breakfast Table Setting

Baby Sitting

Home Safety (2 books)

Book I - Safety in the Kitchen

Book II - Safety in the Bathroom

Care of Fabrics (3 books)

Book I - Laundering; Part a

Book II - Laundering; Part b

Book III - Laundering; Part c

Hand Sewing Tools (5 books)

Book I - Cutting Tools and Pins

Book II - Measuring and Marking Tools

Book III - Needles

Hand Sewing Tools (continued)

- Book IV - Threads and Needle Threading
- Book V - Pressing Tools

Sewing on a Button

Cleaning in the Home (5 books)

- Book I - Sweeping
- Book II - Dusting
- Book III - Vacuuming
- Book IV - Waxing
- Book V - Cleaning Glass Surfaces

Food Facts for the Kitchen (9 books)

Measuring Spoons

Measuring Cups

Cooking Ingredients (2 books)

- Book I - Dry Ingredients
- Book II - Liquid Ingredients

Cooking Terms Used in Recipes (3 books)

- Book I - Stirring, Mixing, etc.
- Book II - Cutting, Slicing, etc.
- Book III - Baking, Boiling, etc.

Reading a Recipe

Work Habits in the Kitchen

Using Tools (Tool Recognition - 6 workbooks)

Tool Recognition

- Book I
- Book II
- Book III
- Book IV
- Book V
- Book VI

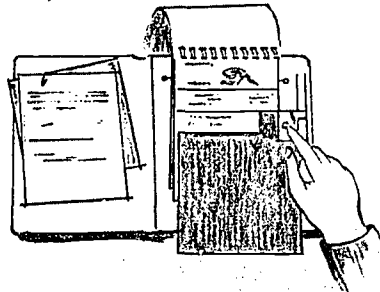
Programmed "Tower System" Unit

Electronics Assembly, Test I

EDUCATIONAL MATERIAL AVAILABLE FOR USE WITH
THE LEARN-EASE TEACHING AID

Devereux
TEACHING AID

LIFTING, CARRYING, AND LOWERING



A PROGRAMMED INSTRUCTIONAL WORKBOOK

THE DEVEREUX FOUNDATION
Institute for Research and Training
Devon, Pennsylvania 19333

BULLETIN - How to Use the Learn-Ease Teaching Aid; Suggestions for Classroom Use

MANUAL - How to Prepare Programs for Use on the Learn-Ease Teaching Aid.

INSTRUCTIONAL PROGRAMS - Learn-Ease Programs Available for Use with the National Learn-Ease Teaching Device:

Lifting, Carrying, and Lowering

INSTRUCTIONAL PROGRAMS (continued)

Using the Telephone (10 workbooks)

- Book I - Basic Skills
- Book II - Dialing Practice
- Book III - Finding the Correct Number - Part 1
- Book IV - Finding the Correct Number - Part 2 (white pages of telephone directory)
- Book V - Finding the Correct Number - Part 3 (yellow pages of telephone directory)
- Book VI - Finding the Correct Number - (Yellow pages of telephone directory)
Parts 4a and 4b
- Book VII - Planning a Call
- Book VIII - Making a Call - Part 1
- Book IX - Making a Call - Part 2
- Book X - Receiving a Call

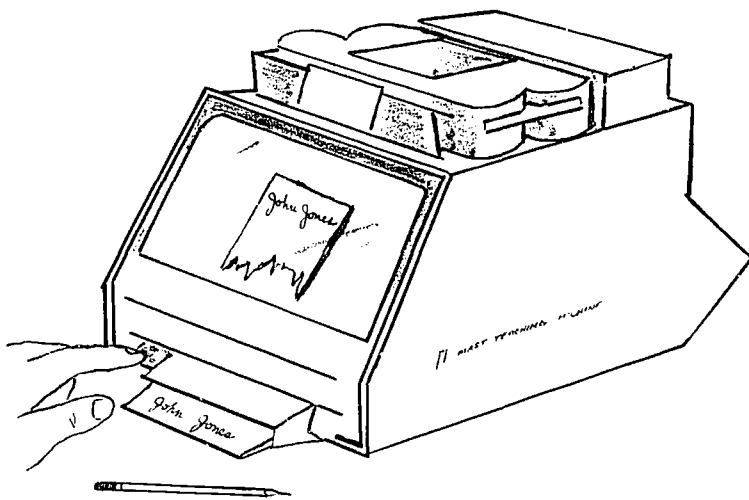
Home Nursing (12 books)

- Book I - Hand Washing
- Book II - The Coverall Apron
- Book III - The Back Rub
- Book IV - The Bed Bath
- Book V - Mouth Care
- Book VI - Bedmaking - Part 1; Importance of Good Bedmaking
- Book VII - Bedmaking - Part 2; Making an Unoccupied Bed
- Book VIII - Bedmaking - Part 3; Making an Occupied Bed
- Book IX - Making the Patient Comfortable in Bed
- Book X - Helping the Patient Out of Bed
- Book XI - Feeding the Patient
- Book XII - Washing Rubber Gloves

The Learn-Ease Program on Using the Telephone is adapted from similar content material developed for the programmed workbooks employed with the Devereux Model 50 Teaching Aid. Both the Learn-Ease and Model 50 programs were developed for use with the Teletrainer, a set of two telephones and a central control unit which is available on loan from most Bell Telephone Company Business Offices. The sample telephone directory, which accompanied both the Learn-Ease and Model 50 program on the telephone, is necessary for use with several workbooks which are utilized to provide practice in the use of the white and yellow pages of a telephone directory.

The Learn-Ease Program on Home Nursing is adapted from similar content material prepared in the form of programmed workbooks for the Devereux Model 50 Teaching Aid. Upon completion of the Learn-Ease or Model 50 Program on Home Nursing, a Certificate in Home Nursing may be offered by the American Red Cross if the course is taught by a certified Red Cross instructor.

EDUCATIONAL MATERIAL AVAILABLE FOR USE WITH
THE MAST TEACHING MACHINE



BULLETIN - How to Use the Mast Teaching Machine; Suggestions for Classroom Use.

MANUAL - How to Prepare Programs for the Mast Teaching Machine.

SAMPLE PROGRAM - An excerpt from a sample Mast Program on How to Cash a Pay Check

INSTRUCTIONAL PROGRAMS - Cartridge Programs available for use with Mast Teaching Machines:

Your Paycheck

Cartridge I	Lesson 1a:	Exchange Work for Wages
	Lesson 1b:	What the Paycheck Looks like
Cartridge II	Lesson 2:	How to Cash Paychecks
Cartridge III	Lesson 3:	Paycheck Deductions
Cartridge IV	Lesson 4:	Deductions for Income Tax
Cartridge V	Lesson 5:	Deductions for Social Security Tax

The Bank and Its Services

Cartridge VI	Lesson 1:	Checking and Savings Accounts
Cartridge VII	Lesson 2:	Lending and Borrowing Money

Social Security

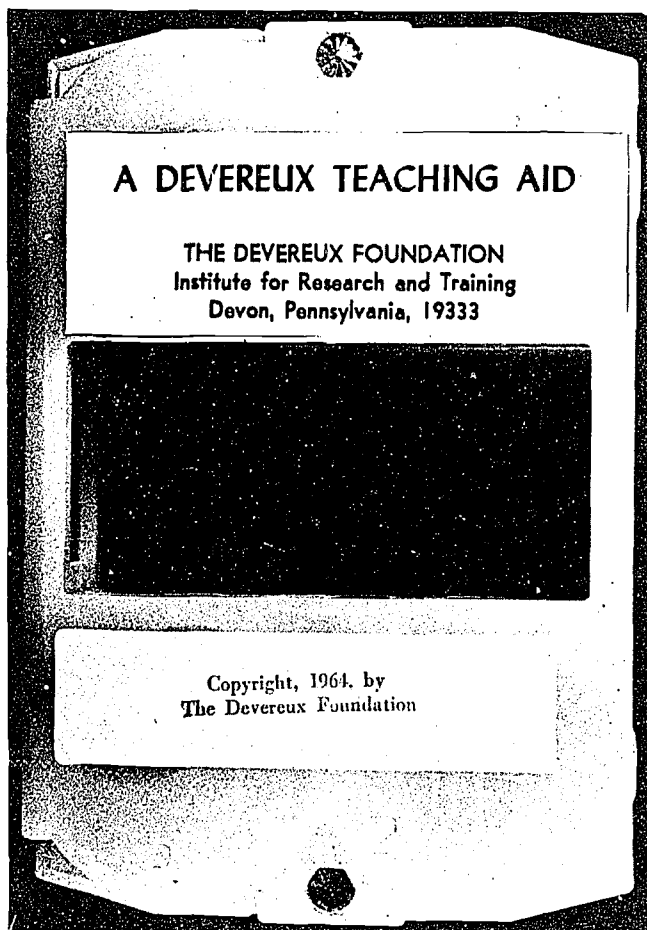
Cartridge VIII Lesson 1: Fundamentals of Social Security

Filling Out the Job Application Form

Cartridge IX Lesson 1: Personal Information
Cartridge X Lesson 2: Type of Position
Lesson 3: Previous Employment Record
Lesson 4: Educational Record
Cartridge XI Lesson 5: Personal References

Home Nursing

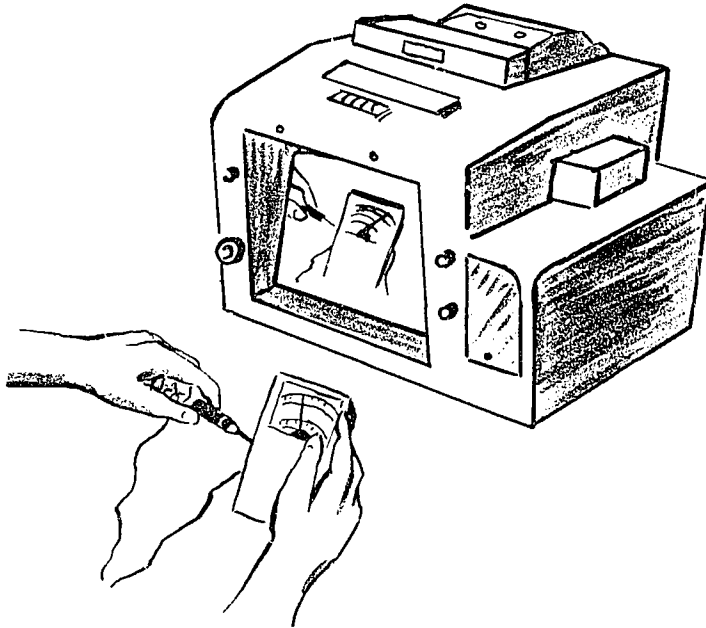
Cartridge XII Lesson 1: Hand Washing
Lesson 2: The Coverall Apron



Top view of Lesson Cartridge for Mast Teaching Machine

The Mast Teaching Machine may be purchased from the Mast Development Corporation, Davenport, Iowa.

EDUCATIONAL MATERIAL AVAILABLE FOR USE WITH
THE GRAFLEX AUDIO-GRAPHIC INSTRUCTOR



BULLETIN - How to Use the Graflex Audio-Graphic Instructor; Suggestions for Classroom Use.

MANUAL - How to Prepare Programs for the Graflex Audio-Graphic Instructor

INSTRUCTIONAL PROGRAMS - Coordinated tapes and colored slides developed for Graflex Teaching Aid Programs:

Applying for a Job

Slide Tray I	Lesson 1a - The First Impression; part 1
Slide Tray II	Lesson 1b - The First Impression; part 2
	Lesson 2 - Arriving for the Interview
Slide Tray III	Lesson 3 - The Interview; part 1
	Lesson 4 - The Interview; part 2

How to File Income Tax, form 1040A

Slide Tray I	Lesson 1 - Filling Out the Front Part
Slide Tray II	Lesson 2 - Filling Out the Back Part

How to Use a Cash Register

The Waitress

Measuring With a Ruler

- Part 1: Measuring with the Inch
- Part 2: Measuring with 1/4", 1/2", 3/4" Units
- Part 3: Using the 1/16", 1/8" Units of Measurement

Programmed Lesson Units Related to the Tower System of Simulated Work Samples

Electronics Assembly Test

- | | | |
|----------------|---------|---|
| Slide Tray I | Test 1 | - Learning the Color Code |
| | Test 2 | - Following Blue Prints and Running Wires |
| | Test 3 | - Inspecting the Job |
| Slide Tray II | Test 4A | - Tying the Knot Used in Lacing |
| | Test 4B | - Tying the Knot Used in Lacing |
| | Test 5 | - Running a Cable Harness |
| Slide Tray III | Test 6 | - Inspecting the Job |
| | Test 7 | - Lacing |
| | Test 8 | - Measuring and Cutting Wires |
| | Test 9 | - Stripping Wires |
| | Test 10 | - Tinning Wires |

Leathergoods Test

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|----------------|---------|--|
| Slide Tray I | Test 1 | - Measuring With the Ruler |
| Slide Tray II | Test 2 | - Drawing and Cutting Cardboard Rectangles |
| | Test 3 | - Using Dividers to Mark Cardboard |
| | Test 4 | - Pasting |
| Slide Tray III | Test 5 | - Directions for Making a Frame |
| | Test 6 | - Making a Frame |
| Slide Tray IV | Test 7 | - Constructing a Pen and Pencil Tray |
| Slide Tray V | Test 8 | - Using a Cutting Machine |
| | Test 9 | - Making a Desk Blotter |
| Slide Tray VI | Test 10 | - Making an Ashtray |

How to Use a Drill Press

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|---------------|----------|-----------------------------------|
| Slide Tray I | Lesson 1 | - Introduction to the Drill Press |
| Slide Tray II | Lesson 2 | - Capacity of the Drill Press |

The Wood Turning Lathe

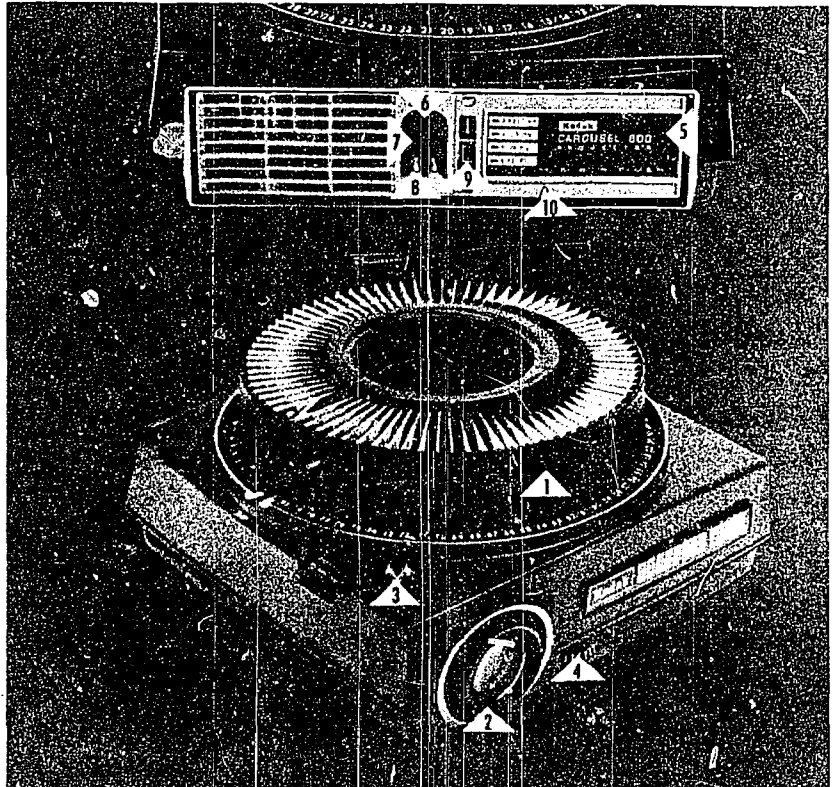
- | | | |
|---------------|----------|----------------------------------|
| Slide Tray I | Lesson 1 | - Introduction to the Wood Lathe |
| Slide Tray II | Lesson 2 | - Wood Turning |

Continuity Checks

The Graflex Audio-Graphic Instructor may be purchased from The Graflex Corporation, Rochester, New York.

THE CAR-TAP TEACHING AID

- 1 SLIDE TRAY
- 2 LENS
- 3 FOCUS KNOB
- 4 ELEVATION WHEEL
- 5 ILLUMINATED CONTROL PANEL
- 6 REMOTE CONTROL RECEPTACLE
- 7 DISSOLVE CONTROL RECEPTACLE
- 8 POWER CORD RECEPTACLE
- 9 SELECTOR SWITCH
- 10 AUTOMATIC TIMER



THE RECORDING COMPONENTS OF THE CAROUSEL PROJECTOR

BULLETIN - How to Use the Car-Tap Teaching Aid; a leaflet describing the use of an Eastman Kodak Carousel Slide Projector and an ordinary tape recorder for simultaneous audio-visual presentation. The unit is an adaptation of the technique which utilizes the Graflex Audio-Graphic Instructor. The coordinated taped and slide program is similar to that employed with the Graflex but does not require a special tape cartridge and utilizes a regular take up reel for the tape.

The Kodak Carousel Projector and Programmer may be purchased from most local distributors of Eastman Kodak products. Further information on this equipment may be obtained from Eastman Kodak Co., Customer Service Division, Rochester, New York.

EDUCATIONAL MATERIAL AVAILABLE FOR USE WITH
THE A-V-K TECHNIQUE



Utilizing the A-V-K Technique

BULLETIN - The A-V-K Technique; Suggestions for Classroom Use

MANUAL - How to Prepare Programs Utilizing the A-V-K- Technique

INSTRUCTIONAL PROGRAMS - Coordinated tapes and graphic materials developed for A-V-K Programs. Each program is also available in a special adaptation utilizing transparencies for use on overhead projectors:

Cook's Helper

A Dishwasher

Measuring in the Kitchen

A Breakfast Setting

Jobs in the Laundry

A Gas Station Attendant