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The Extent and Nature of Cooperative Part-Time Vocational Training in Public High Schools of the United States: Part II

L. Clifford Herness

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The Extent and Nature of Cooperative Part-Time Vocational Training in Public High Schools of the United States

By

J. Clifford Hennes

A THESIS
Presented to the Graduate Division In the University of North Dakota In Partial Fulfillment of the Requirements for the Degree of Master of Science in Education Grand Forks, North Dakota 1933
Dear Sir:

Experience has convinced me that part-time cooperative vocational training in connection with public high schools has considerable merit and promise. Accordingly, I am attempting to determine the extent and nature to which this form of vocational preparation is being carried on.

Due to the lack of published and classified material it is necessary that I turn to Industrial Arts and Vocational Education men of wide acquaintance to locate schools offering such a program. Thus it will be a professional service, for which I shall be sincerely grateful, if you will fill in the names of such public high schools as you may know that now are offering part-time cooperative vocational training.

A brief summary and compilation of the data found in this study will be sent to you as the work is completed.

Thanking you for whatever assistance you may give, I am

Sincerely yours,

L. C. Herness

Approved by: Bollinger

Name of School  City  State  Name of Director
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Dear Sir:

By the cooperative part-time vocational training plan pupils are permitted to obtain vocational training in fields of industry and business while attending high school. Under this plan the pupil usually alternates between regular employment—instruction and instruction in school.

Experience has convinced me that part-time cooperative vocational training as an integral part of the regular public high schools has considerable merit and promise. Accordingly, I am attempting to determine the extent and nature to which this form of vocational preparation is being carried on.

Enclosed you will find a question blank. May I invite you to assist me by checking and filling in the questions, returning them to me at your earliest convenience in the envelope enclosed.

Other material such as bulletins, forms, reports, etc. which will be helpful in interpreting your program more fully will be greatly appreciated and valuable to me in this study.

A brief summary and compilation of the data found will be sent to you as the work is completed.

I am interested in the Cooperative Part-Time Vocational Training Plan under public high school supervision. If your school does not come under this classification, do not trouble to fill out this questionnaire.

Thanking you for whatever assistance you may care to give, I am

Very truly yours,

L. C. Herness

Approved by: W.C. Bohlman
University of North Dakota
A SURVEY OF COOPERATIVE PART-TIME VOCATIONAL EDUCATION
in the
PUBLIC HIGH SCHOOLS

mitted by: Date:

Name of school carrying on a part-time cooperative program

Location City Population

How long has the cooperative part-time vocational plan been in operation?

Is there a director in charge of this program? Name of director (Full time) (Part time)

If part time what is the proportion of time spent in administering cooperative work?

ADMINISTRATION

Director

Professional Preparation:

Major course in college Minors

Degree Kind of certificate

Experience:

a. How many years in vocational education? b. Practical experience? c. What practical experience have you had other than teaching?

Relationship to school: What are the director's school duties? (If teaching, list subjects)

What are his relationships to other administrative departments with respect to:

a. Records

b. Selection of courses
c. Superintendent
d. Principal, teachers, etc.

Relationship to pupils: Is pupil attendance checked at the cooperative establishments? Are students assembled at regular intervals for joint discussions and study of working conditions?

Relationship to trade instructors: How often does the director visit place of training to check progress of pupil? Are there any difficulties with trade instructors exploiting pupils for personal gain?

Course Content

Is training based on outlined course in order to conform with trade standards, also for purpose of uniformity? Is content of training left to employers serving as instructors instead of using outlined courses?

If instructors follow outlined course in order to determine content of training, briefly describe how these courses were formulated

Are pupils required to take examinations at the completion of course?

Are these standard or standardized for each trade? Briefly describe how these examinations were formulated

If an attempt is made to coordinate the courses in school with various trades, list below the trades and the coordinating subjects for each.

Trades Coordinating subjects
Course Content (continued)

Time Division
How many hours does the pupil spend each week at trade work?
What arrangement is made for granting credit for time spent at trade work?

What plan is followed for time allotment: (Alternate weeks) (Alternate days) 
(alternate months) or (half day in school and half day in employment) 
Describe your plan __________________________________________________________

Basis for Selection of pupils
Do pupils take occupational informational courses before enrolling for this train­
ing? When offered? 
Time spent in this type of course? 
Requirements ____________________________ When offered? __________________________________

What exploratory courses (Industrial Arts shop) are given? 

Is the vocational training preceded by counseling? 
What provision is made for a counselor? 
Are aptitude and abilities tests given as aid in selection of a trade? 
What tests are given? (List) ______________

Does academic success enter into the selection of pupils for trades training? 
Describe briefly ___________________________________________________________

Does the pupils' past employment experiences assist in occupational selection? 
Is provision made for changing a pupil from one trade to another if the pupil
proves likely to be unsuccessful in the first selection? 
Does credit earned in the industrial arts department affect the number which may 
be earned toward graduation under this plan? (Explain) __________________________

What credits earned under this plan are acceptable by universities and colleges 
in the state? _________________________

Are there restrictions as to the number of credits earned this way which may 
apply towards graduation? 
At what grade level does training under this plan begin? _______________________

Selection of places of training 
By whom are places selected and approved? _____________________________

What qualifications are necessary for a trade instructor? 

Briefly describe the necessary qualifications of place of training such as equip­
ment, working conditions, etc.

Is a limited number of students permitted in each establishment? 
What is this limit?
Is there a definite agreement between the school and employer? 
In brief, what are the provisions incorporated in the agreement? ___________________________

Is it verbal or written? 
If you have a standard agreement form please enclose one.
EXTENT OF PLAN

This is the total number of pupils in part-time cooperative classes for the years 9-30, 1930-31, 1931-32, 1932-33, 1933-34.

Below the trades for which training is provided:

<table>
<thead>
<tr>
<th>Trade</th>
<th>Number enrolled in:</th>
<th>1929-1930</th>
<th>1930-31</th>
<th>1931-32</th>
<th>1932-33</th>
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</table>

PLACEMENT

Is provision made for placement of those who complete the training?

You have a placement office or department?

What per cent of graduates successfully placed in 1929, 1930, 1931, 1932, 1933, 1934.

What per cent of the pupils are employed after graduation in the place of training?

What per cent of the pupils graduated in the past from your cooperative program approximate what per cent or proportion continue to work in the vocation for which they have been trained?

VALUE OF PLAN

Are there exploratory values in this form of training?

Do pupils who lack interest and ability or fail in academic work succeed in mastery trades under this plan?

Do you observed distinct improvement in quality of the pupils' academic work as a result of motivation through training in some specific vocation?

Do tradesmen object to the plan on the bases that pupils under this plan interfere with employment of regular full-time workers?

Is your plan is it the aim to develop specific trades skill to a point of average efficiency followed by placement in a given occupation?

What criticisms do you have of the present cooperative plan?

Is the future outlook for cooperative training in your school?

Describe the attitude of your community toward this form of vocational training?

Is attitude and degree of interest is shown by pupils who take advantage of this national preparation?

What percentage of pupils enrolled under this plan have failed in academic work?
FORM 3. EMPLOYER, PARENTS AND PUPIL AGREEMENT BLANK

CENTRAL HIGH SCHOOL
Red Wing, Minn.

APPRENTICESHIP AGREEMENT

Part I

This agreement made this ______ day of _______ 19 between

hereinafter known as "Company" and ____________ or
hereinafter known as "Guardian" whose relationship to the apprentice is
that of ___________ witnesseth that said __________ is a minor,
hereby becomes an apprentice to the Company and the Company hereby accepts
him subject to the terms herein stated, to learn the trade of __________

subject to the terms herein stated.

The apprentice and his Guardian hereby promise that the apprentice shall
conform to and abide by all the provisions of this agreement, and require­
ments by the school, and shall faithfully serve and cooperate with Company
and the high school during the period of training.

This agreement is to continue in force so long as said apprentice is
enrolled under this part-time cooperative plan.

1. The said Company reserves the right to dismiss said apprentices
and to annul and cancel this agreement or to suspend such
apprentice whose work or conduct is unsatisfactory.

2. The time lost due to any cause must be made up before starting
on advanced period.

3. That said apprentice during all of school term, unless sick or
otherwise excused, shall be punctual in commencing his work and
in performing same, shall work the regular number of required
hours each school day unless otherwise directed.

4. The said Company agrees to submit to the director of cooperative
training, upon his request, a report on the progress of the
apprentice.

5. The said Company agrees to teach the apprentice as much of the
trade as the equipment and personnel will permit.

6. The apprentice agrees to conform to the rules of the employer
and carry out directions to the best of his ability.

7. The apprentice agrees to work a total of ______ hours daily dur­
ing the school week for his employer.

In learning the trade of _____________ the above named apprentice
assumes all risk of life, and bodily injury and health, and I hereby
promise and agree to abide by all the conditions of this agreement, with
the provisions of which I admit entire familiarity. I further promise
that I shall perform all the duties connected with this work faithfully.

Company

Date
Parent
Place
Apprentice
APPRENTICESHIP INDENTURE

THIS INDENTURE, entered into under date of October 1, 1932, at Salem, Oregon, for the period of 8 months ending June 1, 1933, between

Eltje Beckman
hereafter known as the Apprentice,

and

Star Marke
hereafter known as the Employer,

WITNESSETH, That the Apprentice and the Employer for the considerations herein named agree as follows:

That the Employer takes the Apprentice for the purpose of enabling said apprentice to learn and acquire the trade or occupation of Meat Cutter.

That the Apprentice agrees to serve the Employer diligently throughout the period of this indenture and regularly attend the classes established by the local school in cooperation with the State Board for Vocational Education.

It is further agreed that the Apprentice is to be hired, worked, trained and paid as a learner, and that the provisions and regulations of the State Apprenticeship Commission are hereby agreed to.

IN WITNESS WHEREOF, we have hereunto set our hands.

Employer

Apprentice

Parent or Guardian

APPROVED:

Local Apprenticeship Commission, by

State Apprenticeship Commission of Oregon, by

Secretary or Chairman

Secretary or Authorized Deputy
FORM 1  WEEKLY REPORT CARD

COORDINATIVE PART-TIME COURSE  Bed Wing High School

Apprenticeship Training of

Report of week ending ____________________________ 19  


Present

Absent

Kind of work

Superior  Good  Average  Fair  Poor

Credit: ___________________________________________

Firm

By

FORM 2  VOCATIONAL TIME CARD

Date  Mon.  Tues.  Wed.  Thur.  Fri.

Time check: ___________________________________

Reason

Name  ______________________________  Employer or Instructor
JEWELRY AND WATCH REPAIRING
COURSE FOR VOCATIONAL TRAINING IN JEWELRY STORES

2 months: Store Arrangement:

Lines of merchandise carried by Jewelers
Proper arrangement of goods in the store
How the merchandise is purchased and obtained
Factories of various goods and where located
The general appearance of the Jewelry Store

2 months: Salesmanship:

Rudiments of selling
Meeting the trade in the store
Knowing prices of goods and where located
Conduct of sales-people towards customers

2 months: Window Dressing:

Types of display
Lighting of the display window
Color schemes
Novelty display
Seasonable display
Cleanliness of display

2 months: Mechanical:

Tempering steel
Drawing temper for tool edges
Drawing temper for mechanical purposes
Filing steel—i.e., four flat sides as on watch stem, etc.
Soft soldering and hard soldering
Sizing of Rings

1 month: General review:

Final review of all above subjects and examination.
Clock construction and repair
COURSE FOR WATCH REPAIRING

First 3 months:

Flat filing
Square filing
Roll filing, center to exactly in middle of end of shaft
Care of files
File up a set of engravers, harden and make complete to accuracy of .1 of a millimeter.

Next Period:

Use of lathe, its care etc.
Making of steel center punch, finish, harden to blue.
Make steel center punch, finish, harden and temper to dark straw. Measurements not to exceed error of .1 of millimeter.
Jeweling tool for jewel seat and vessel cutter.
Correlates drilling through use of drill press and care of twist drills, how sharpened etc.
Making of diamond drills and testing their durability.
Use of stub steel.
Inserting wheel teeth.

Supplementary Studies:

Watch and Clock Makers Handbook, by F. J. Britton
Publisher, Keystone Publishing Company.
Dictionary and Guide to Watch Makers
Publisher, Keystone Publishing Company.
Lock Wood's Manual for Clock Repairing and Making
By E. J. Garrard.
COMMERCIAL SIDE OF TELEGRAPHY
VOCATIONAL COURSE ON THE COMMERCIAL SIDE OF TELEGRAPHY

I Development of Telegraphy and Opportunities

A. Early means of Communication
B. Telegraphy
   1. History
   2. Present day justifications
   3. Branches or Divisions
   4. Successful leaders
   5. Qualities necessary for success
      a. Physical
      b. Mental
      c. Character and Personality

II Telegraphy Practice

A. Sending and Receiving
B. Typing

III Fundamentals of Electricity

A. Principles of Electricity
B. Principles of Batteries
C. Magnetism
   1. Permanent
   2. Electromagnets
D. Sounders and Relays
E. Resistances

IV Tariff Rates

A. Proper word count or checking messages
B. Press

V Money Orders

A. Domestic and Foreign
B. Express Orders
C. Cheques

VI Cables and Radios

A. Rates—Word Count—Form

VII Salesmanship

A. Selling of services
B. Contracting the Public
VIII Switch Board

A. Grounding
B. Patching
C. Crossing
D. Opening Wires, etc.

IX Simplex Operation

A. Sending
B. Gumming
C. Generator operation (principal)

X Different kinds of equipment in modern office

A. Uses
B. Underlying principles of operation
C. Care of equipment

XI Review

A. Review of course and examination
PLANT SIDE OF TELEGRAPHY
VOCATIONAL COURSE ON THE PLANT SIDE OF TELEGRAPHY

I Development of Telegraphy
   A. History
   B. Present day justifications
   C. Branches and divisions

II Qualities necessary for success
   A. Physical
   B. Mental
   C. Character and personality

III Code Practice
   A. The alphabet
   B. Hand sending
   C. Receiving practice
   D. How to rate a telegram

IV Electricity
   A. Magnatism
   B. Electro-dynamics
   C. Resistance
   D. Electrostatic capacity

V Telegraph Circuits
   A. Single morse lines
   B. Duplex systems
   C. Quadruplex systems
   D. Call circuits

VI Printers
   A. Tape machines
   B. Page machines
   C. Mux machines

VII Relay network system
   A. Way wire
   B. Trunk wire
   C. Rating system of:
      1. Telegrams
      2. Cablegrams
      3. Radiograms
      4. Money orders
      5. Press
VIII General Review

A. Review of course and examination.
Books relating to the different phases of the above outlined course will be studied by the student.
DENTAL OFFICE ASSISTANT
COURSE PERTAINING TO TRAINING FOR DENTAL OFFICE ASSISTANT

I General duties

A. Personal appearance
   1. Cleanliness
   2. Most essential aspects of the care of personal health
   3. Attitude toward patients
      a. Judging different types of patients
      b. Tact in caring for patients
      c. Acquiring traits necessary for a pleasant personality

II Care of office

A. Reception room
B. Operation room
C. Laboratory

III Care of instruments and equipment

A. Sterilization
B. Sanitation

IV Instruments

A. Classification and uses
B. Placement so that they are in order and will be easily accessible

V X-Ray

A. How to assist operator
B. Developing films
C. Filing films

VI Assisting operator

A. Making appointments
B. Assisting at chair
C. Assisting in laboratory

VII Office practice and accounting

A. General bookkeeping
B. Filing systems
   1. Filing of open accounts
   2. Filing of closed accounts
   3. Filing of records of work done
C. Correspondence
D. Records
E. Telephone (proper way to handle telephone connections)
F. Receiving payments and proper receipting
VIII Teeth

A. Anatomy of
B. Classification
C. Nomenclature
   1. Adaptation to records

IX Preventive medicine and public health

A. Family health care
B. First aids
C. Communicable disease
D. Transmission and prevention of communicable disease
E. Observation and care of patients for ordinary illnesses
   in the home

X Review

A. Review of course and examination
Certain parts of the course will have to be obtained from
periodicals and books.
Special tests during the year, to be determined by those in
charge, maybe given.
OUTLINE OF COURSE IN SHOE REPAIRING

I  Different kinds of shoes
   A. Kinds of shoes worn by people in different types of work
      1. Heavy labor
      2. Work requiring much walking
      3. Standing
      4. Work of light nature (office workers, professional)
   B. Sport purposes
   C. Geographical effects
      1. In different countries
      2. Sections of our country

II  Kinds of tannages
   A. Leather for uppers
      1. Men's shoes
         a. Work shoes
            Elk Split
            Betan
            Cordovan
         b. Dress shoes
            Kid
            Calf
            Kip—cow
      2. Women's shoes
         a. Comfort
            Kid
            Felt
         b. Dress
            Kid
            Calf
            Satin
            Suede
   B. For soles
      1. Men's shoes
         a. Chrome
         b. Oak
         c. Bark

III  Grades of leather
   A. Sole leather
      1. Prime
      2. Fine
      3. Semi fine
   B. Uppers
IV Constructions of shoes (Different kinds)

A. Turn shoe
B. Mshay or nailed
C. Welt
   1. Goodyear welt
   2. Sewed
   3. Double welt
D. Little way
E. Stitch down
F. Compos
G. Genuine moccasin
H. Standard screw, nail, wooden peg
I. Construction of the Russell booth

V Attaching Heels

A. Kind of heels
B. Spacing
C. Attaching
D. Cement
E. Trimming
F. Burnishing

VI Resoling men’s, ladies and children’s shoes

A. Tools used and other materials necessary
   1. Kinds of tools and their adaptability
   2. Selection of proper materials and their preparation
B. Steps in resoling of shoes
   1. Preparing shoes to be repaired
      a. Removal of old parts
      b. Cutting of new materials and fitting into place
   2. Attaching
      a. Stitching
      b. Nailing
      c. Cementing
   3. Finishing
      a. Trimming
      b. Burnishing
      c. Polishing

VII Dying and refining shoes

A. Tools and materials used
   1. Kinds of tools and how to use them
   2. Kinds of dye materials and polishing materials
      a. Their adaptability
B. Steps in dyeing and refinishing of shoes
   1. Cleaning
   2. Dying
   3. Drying
   4. Polishing
VIII Equipment in shoe repairing shops
   A. Kinds of machines and their uses
   B. Tools
      1. How to keep in shape
      2. Proper way of usage

IX Repairing of Rubbers

X What is Russel booth

XI How genuine moccasins are made

XII Supplies
   A. Kinds
   B. Where obtained
VOCATIONAL COURSE IN PRINTING

I Development

A. History
   1. Work done
   2. Processes
   3. Equipment
B. Inventors and successful leaders
C. Branches and divisions
D. Service
E. Qualities necessary for success
   1. Physical
   2. Mental
   3. Character and personality

II Modern equipment

A. Press
   1. Cylinder
   2. Offset
   3. Platen
   4. Rotary
   5. Color Press
B. Other equipments
   1. Linotype
   2. Cutters
   3. Punchers
   4. Perforators
   5. Folders
   6. Stitches

III Process of Engraving

A. Sterotype
B. Electrotype
C. Zinc itching
D. Copper itching

IV Type manufacture

A. Linotype
B. Monotype
C. Foundry type

V Elements of Hand Composition

A.
   1. Learning the case
   2. Distinguish Rule and Border
3. Learning furniture sizes
4. Leads and slugs
5. Spacing materials

B.
1. Set single lines
2. Flush lines
3. Distribution
4. Tying up jobs

VI Impression and stone work

A.
1. Transferring
2. Lock up (different methods)
3. Correct position in chase
4. Testing to pick
5. Quoins and key (position)

B.
1. Laying out forms
2. Magazine pages
3. Color work (Two runs)

VII Press (Platen)

A.
1. Feeding
2. Jogging
3. Ink
4. Wash up
5. Making ready
6. Impression

B.
1. Two color
2. Register
3. Inks (color)
4. Work and turn
5. Numbering

VIII Stock

A.
1. Figure cutting
2. Grain of stock
3. Trim
4. Waste
5. Two on
6. Work and turn
B.
1. Sizes
2. Grades
3. Colors
4. Contents
5. Uses

IX Inks
A.
1. Kinds
2. Uses
3. Dryers
4. Reducers

X Binding
A.
1. Perforating (Round hole)
2. Punching
3. Gathering
4. Counting
5. Numbering (Hand)
6. Stitching

XI Cost estimating
A.
1. Composition
2. Press
3. Stock
4. Make ready—Ink—Binding—Distribution
5. Profit

XII Review
A. Review of course and examination
B. Reading Materials
   1. Practice of Printing, By Polk
COURSE FOR STUDENTS IN RADIOSHOP

I. Symbols and units of measure used in radioshops

A. Symbols found on drawings and diagrams for:
   1. Headphones
   2. Wires connected
   3. Wires crossed but not connected
   4. Ammeter
   5. Voltmeter
   6. Galvanometer
   7. Reversing switch
   8. Single pole double throw switch
   9. Double pole double throw switch (D.P.D.T.)
   10. Single pole single throw switch (S.P.S.T.)
   11. Key
   12. Closed circuit jack
   13. Inductance
   14. Capacity
   15. Resistance
   16. Ohms
   17. Megohms
   18. Microfarads
   19. Micro microfarads
   20. Fixed inductance
   21. Varimoter
   22. Transformer with fixed coupling
   23. Transformer with variable coupling
   24. Iron core choke
   25. Iron core transformer
   26. Fixed capacity or condenser
   27. Variable capacity or condenser
   28. Antenna
   29. Ground
   30. Resistance or impedance fixed
   31. Variable resistance
   32. Three element tube
   33. Heater type of A. C. tube
   34. Four element or rectifier tube
   35. Microphone

B. Units of measure for electric currents and resistances
   1. Ampere (what it means)
   2. Volt
   3. Ohms
II Simple Radio Principles

A. Antennas, transmission, etc.
   1. Types of antennas
   2. Radio waves (their characteristics)
   3. Wave length means
   4. Elimination of man made interference
   5. Receiving currents

B. Production of currents by batteries
   1. Cell in parallel
   2. Cells in series
   3. Power lost due to resistances of conductors

C. Resistance
   1. What it is, causes and effects
   2. Applications in radio

D. Inductions
   1. Cutting down hums in power pack
   2. Choking out R. F. currents

E. Condensers (their principles, properties and uses)
   1. Storing up of currents (its action as a reservoir)
   2. Properties of condensers
   3. Shunting R. F. to the ground
   4. Filtering
   5. Coupling and
   6. Application in tuning devices

F. Transformers (principles and uses of)
   1. Radio
   2. Audio
   3. Power

G. Speakers and headphones
   1. Principles of dynamic speakers
   2. Principles of the magnetic speakers

H. Vacuum tubes (principles of)
   1. Purpose of the filament
   2. Purpose of the plate
   3. Purpose of the grid
   4. Types of tube filaments and how each type works
   5. Heater types of tubes (principles of)
   6. Effect of filament voltage
   7. Effect of filament grid
   8. Grid voltage
   9. Plate voltage
   10. Action of tubes
       a. Detector tube
       b. Oscillating tube
       c. R. F. Tube
       d. A. C. Tube
       e. Power Tube
       f. Rectifying tube
   11. Common ways of abusing tubes
   12. Screen grid
   13. Suppressor grid
   14. Troubles in radio reception which are caused by tubes
III Receiving systems (how they work)
A. Simple one tube circuits
B. Simple A.C. Set
C. Tuned radio frequency circuits
  1. Neutralizing neutralizers
D. The Autodyne
E. Superheterodyne circuit
  1. Balancing superhet
F. Harmonics (phenomenon of beats)
G. Automatic tuning
H. Tone control

IV Audio Amplifiers (how they work)
A. Simple two stage audio amplifiers
B. Push pull amplifier
C. Screen grid amplifier
D. Volume control
E. Impedance coupling
F. Electrostatic coupling
G. Effect of leaky condensers

V Rectifiers (principles of)
A. The fundamental rectifier circuit
B. Kinds of rectifiers (be able to explain each kind)
   1. Disc
   2. Mercury vapor
   3. Raytheon
   4. Tube rectifier

VI Detection
A. Conditions for best detection
B. Modulation
C. Demodulation
D. Detection in radio frequency amplifier
E. Grid leak and condenser detector
F. Effect of grid leak and condenser values
G. Detector action

VII Radio shop equipment (use of)
A. Testers and meters
B. Other equipment
VIII Radio Servicing Cases (know reasons for difficulties and how remedied)

A. Distorted reception
B. Volume control
   1. Different ways of using them
   2. Volume control noisy
C. The 280 tube plate turns red hot
D. Fading
E. Transformer heats up
F. Oscillates
G. Motor boats
H. Cuts off after playing 5 or 10 minutes of reception
I. Pilot light lights and goes out
J. The set is dead
K. No plate voltage on R. F. tubes
L. Tone control not working
M. Interferences
   1. Causes or kinds
   2. Remedies

IX Examination

X References

A. Practical Radio Construction and Repairing, by Moyer and Wastrel
   Published by McGraw-Hill Book Co. Inc., 375 7th Ave., N. Y.
B. Practical Radio, by Moyer and Wastrel, same publisher as above.
C. Servicing Superhetordynes, by John F. Rider
   Published by Radio Tretise Co. Inc., 1440 Broadway, N. Y.
D. Practical Radio Repairing Hints, by John F. Rider
   Published by Radio Treatise Co. Inc., 1440 Broadway, N. Y.
HARDWARE STORE AND SHEET METAL
VOCATIONAL TRAINING IN HARDWARE STORE AND SHEET METAL

I Hardware store operation

A. Location and size
   1. Convenience merchandise—small items bought daily or often
   2. Shopping merchandise—type of merchandise people do not
      buy often takes shopping location

B. Market in which we buy, that is, how we go about to buy
   1. Contacts
      a. Conventions
      b. Displays
      c. Traveling salesmen
   2. Knowledge of merchandise
      a. Quality and materials
      b. Quantity and assortments

C. Store arrangement—associated items—pleasing appearance
   1. Styles—articles having visual appeal should have front
      location
   2. Service articles—should have convenient location
   3. Seasonable and fast turning articles—table and counter
      display locations
   4. Slow turning—extensive assortments (small items) should
      have shelf and cabinet position

D. Keeping stock
   1. Fill in orders—forward—reserve
   2. Appearance of merchandise
   3. Keep appearance

E. Market trends
   1. To realize how they change (effect of geographic location, etc)

F. Market in which we sell
   1. Potentialities
      a. Amount of money turning in the community
         Bank deposits are indicative of conditions
         Volume of manufacture and volume of agriculture
         Number of people employed in factories, etc.
   2. Displays of merchandise
      a. Purpose of displays
         Institutional—information regarding the organization
         as to its character, etc.
         Merchandise—sales appeal
         Community—manufacture—social, etc.
      b. Window
         Arrangement and balancing
         Feature items
      c. Interior
         Ledge
         Counter
3. Advertising merchandise—writes—limits—advantages
   a. Word of mouth
   b. Newspaper
   c. Bills
   d. Catalogues
4. Merchandising stock
   a. Market trends
      - Going styles—keep display push
      - Balance effort and staple merchandise
   b. Recognize passing styles before gone
   c. Keep new, fresh, clean merchandise

II Principles and relations

A. Personal organization
   1. Appearance
      a. Dress
      b. Speech
   2. Health
      a. How to maintain proper conditions for this work
      b. To appreciate why proper health is necessary toward success in this work
3. Education
   a. Business English (oral)
   b. Letter writing
      - Applications
      - Business correspondence
4. Industry
   a. Habits of work
5. Integrity—dependability
   a. Honesty
   b. Personality
   c. Frugality
   d. Punctuality

B. Firm
   1. Goodwill
      a. Principles
      b. Policies
   2. Personality of firm
      a. Position in community
      b. Service in community

III Sheet Metal Department

A. Basic tools and machines used
   1. Tools
      a. Kinds
      b. Used
      c. Care
2. Machines
   a. Kinds
   b. Uses
   c. Care

2. Basic things done
   1. Bench work
      a. Soldering
      b. Reviting
      c. Tinning
      d. Slitting
      e. Seaming
      f. Raising
      g. Forming
      h. Forming Conical
      i. Cutting
      j. Laying
      k. Braking
      l. Grooving
      m. Assembling
      n. Hinging
      o. Double Seaming
      p. Double Cylindrical
      q. Double Conical
      r. Double Rectltr
      s. Punching
      t. Peaning

2. Machine work
   a. Folding Edge
   b. Wire Edge
   c. Single Hem
   d. Double Hem
   e. Forming
   f. Grooving
   g. Edging
   h. Flangeing
   i. Borrung
   j. Seaming
   k. Wire Edge Curve
   l. Elbow Edge
   m. Swagging
   n. Wiring
   o. Bending
   p. Crimping
   q. Cutting
   r. Setting Down
   s. Double Seaming
   t. Braking
   u. Circular Cutting
   v. Slitting
   w. Gutter Boarding
   x. Elbow Bending
   y. Punching
3. Drafting
   a. Parallel
   b. Radial
   c. Triangulation
   d. Approximation

IV Salesmanship

A. Meeting Customers
   1. Approach (channels of approach)
      a. Seeing
      b. Hearing
      c. Feeling

B. Customer Types
   1. Silent
   2. Loud speaker
   3. Egotistical (know it all)
   4. Undecided customer
   5. Doubting customers
   6. Friendly
   7. Dignified
   8. Looker (Just looking around)
   9. Impatient
   10. Patient
   11. Fussy

C. Making sale
   1. Triangle
      a. Store—Confidence in the store born of knowledge
      b. Customer—Confidence leads to continued patronage
      c. Salesman—Vital force in store
      Avoid dishonest and tricky methods
      Sell service to customer

2. Appeal
   a. Pride,—vanity
   b. Power,—merchandise will last etc.
   c. Preservation,—is warm garment etc.
   d. Gain,—price, bargain

3. Suggestion selling
   a. Associated items
   b. Seasonable items

D. Wrapping "Goodwill"

V Review

A. Review of course outlined and examination
   Books relating to the different parts of the course will be studied.
Some suggested types of work through which many of the objectives of the course may be attained while the student is on duty:

A. Unpacking freight
B. Assemble KD merchandise
C. Fill nail bins
D. Wipe off stoves and appliances
E. Move surplus from store room to main sales floor
F. Clean stock on main floor
G. Replace worn price tickets
H. Keep stock of window trim in order
I. Keep stock of package inserts in order and imprinted
J. Write show cards
K. Transfer ledger sheets
L. Add journal column
M. Pick up merchandise for window schedule
N. Help on service jobs
O. Help set up stoves and ranges
P. Classify electrotypes
Q. Check stock control cards
R. Write window price cards
S. Clip and file newspaper advertising

Many of the objectives of this course will have to be attained through study of journals, periodicals and through other sources of reading.
OFFICE WORK
OUTLINE OF COURSE IN OFFICE TRAINING

I Correspondence

A. Correct and rapid transcription of notes
B. Attractive arrangement of business letters
C. Addressing envelopes and postal cards
D. Correct folding and insertion of letters
E. Carbon copies

II Filing (student should acquire ability not only in quickly and accurately filing material, but also locating filed material quickly)

A. Alphabetizing
B. Systems of filing
   1. Alphabetic
   2. Subject
   3. Geographic

III Bookkeeping

A. Making out charge slips
B. Posting to customers accounts
C. Billing
D. Balancing cash
E. Bank deposits
F. Reconciling bank statements
G. Receipts

IV Miscellaneous stenographic duties

A. Care of the office
B. Incoming mail
C. Outgoing mail
D. Meeting sellers
E. Answering the telephone
F. Accepting and signing for freight or express shipments
G. Sending or accepting telegrams
H. Mailing packages, papers, etc.

V Operation of office machinery

A. Typewriter
B. Adding machine
C. Comptometer or calculating machine
D. Cash register
E. Check protector
VI Review

A. Review of course and examination.

Books relating to the different phases of the course outlined will be studied by the student.
I  Floor coverings

A. Kinds of floor coverings
   1. Inlaid linoleum
   2. Rubber tile
   3. Asphalt tile
   4. Printed linoleum
   5. Printed felt base
      a. Types of inlaid linoleum
         - Plain and Battleship, A, B, C, and D gauges
         - Jasper linoleum, A, B, C, and D gauges
         - Straight line inlaid, A, B, C, and D gauges
         - Hand made marbles, A, and B gauges
         - Moulded inlaids, A, B, C, and D gauges

B. History of floor coverings and floors
   1. History of linoleum
   2. Story of floors

C. Linoleum laying and floor maintenance
   1. Tools used and other materials necessary
      a. Kinds and their uses
   2. Steps in laying floors
      a. Preparing sub-floors for linoleum
         - Wood floors
         - Cement floors
      b. Laying deadening felt
      c. Cutting and fitting linoleum
      d. Pasting linoleum to felt
      e. Cutting and sealing linoleum seams
   3. Laying borders, feature strips insets and etc.
   4. Maintenance of floors

II  Window shades

A. Common types of shades
   1. Holland shades
      a. Uses—what adapted for
      b. Construction and materials
   2. Painted shades
      a. Construction and materials (colors, oils)
      b. Uses of this type of shade
   3. Pyroxyln shades
      a. Construction and materials
      b. Uses for which best adapted

B. Making shades
   1. Cutting cloth neatly and evenly
   2. Attaching cloth to rollers so that shades will roll evenly
   3. Folding hems evenly and sewing
C. Installation
1. Three most usual installations
   a. Boston hung
   b. Single inside hung
   c. Single outside hung
2. Other installations
   a. Double hung
      Inside
      Outside
      Center
   b. Bottom hung
   c. French door hanging

III Floor covering and drapery shop operation

A. Location and size of shop

B. How are materials and merchandise bought
   1. Markets in which we buy
      a. Conventions
      b. Traveling salesmen
      c. Other methods
   2. Knowledge of merchandise
      a. Quality and materials
      b. Quantity and assortments

C. Store arrangement—associated items—pleasing appearance
   1. Styles—should have front location
   2. Service articles—should have convenient location
   3. Seasonable and fast turning articles—should have table and counter display locations
   4. Slow turning articles—extensive assortments (small items) should have shelf and cabinet positions

D. Keeping stock
   1. Appearance of merchandise
   2. Fill in orders—forward—reserve

E. Market trends
   1. To realize how they change—factors that determine the kind of merchandise in demand

F. Market in which we sell
   1. Potentialities
      a. Constructions—homes—office buildings—others
      b. Business conditions—people employed etc.
   2. Displays of merchandise
      a. Purpose of displays
      Institutional—information regarding the organization as to its character and place in the community
      Merchandise—sales appeal
      Community displays—social—manufacture etc.
      b. Window
      Arrangement and balancing
      Do not over crowd
      Display built around central feature
      Principle of balancing observed
      Color harmony
      Display express a dominant idea
Feature items
Single appeal
Association
c. Interior displays
Ledge
Counter

3. Advertising merchandise as to merits, limits, advantages
   a. Word of mouth
   b. Newspaper
   c. Bills
   d. Booklets on linoleum, shades, rugs
   e. Model room displays
   f. Prospect letters
      Movers and new comers
      Birth and marriage lists
      Building permits

4. Merchandising stock
   a. Market trends
      Going styles—keep a display push
      Balance the effort and staple merchandise
   b. Recognize passing styles before gone
   c. Keep new, fresh, clean, merchandise

IV Salesmanship

A. Meeting customers
   1. Approach (channels of approach)
      a. Seeing
      b. Hearing
      c. Feeling

B. Customers types
   1. Silent
   2. Loud speaker
   3. Egotistical (know it all type)
   4. Undecided customer
   5. Doubting customers
   6. Friendly
   7. Dignified
   8. Looker (just looking around)
   9. Impatient
   10. Patient
   11. Fussy

C. Making sale
   1. Triangle
      a. Store—Confidence in store born of knowledge
      b. Customer—Confidence leads to continued patronage
      c. Salesman—vital force in store
      Sell service to customers
      Employee honest methods, always being truthful
2. Appeal
   a. Pride (vanity)
   b. Power (merchandise will last)
   c. Preservation (protective)
   d. Gain (the price item)

3. Winning the "Goodwill" of the customer

V Principles and policies

A. Personal organization
   1. Industry
      a. Habits of work
   2. Integrity—dependability
      a. Honesty
      b. Personality
      c. Frugality
      d. Punctuality
   3. Health
      a. Importance of health
      b. Factors involved in maintaining proper health
   4. Education—Business English—Letter writing

B. Firm
   1. Personality
      a. Position in community
      b. Service in community
   2. Goodwill—Principles—Policies

VI Review

A. Review of course and examination
Books relating to the different parts of the course will be studied
BUSINESS AND SALES TRAINING
I. Retail store organization

A. Early history of stores
   1. Craftsmen
   2. Paddlers
   3. Shopkeepers
   4. Specialty stores
   5. Department stores
   6. Multiplication of stores
      a. Chain stores
      b. Mail order houses
   7. Manufacturers' agent

B. Development of commerce
   1. Bartering
   2. Medium of exchange
      a. Handiwork
      b. Beads, spices, jewels
      c. Monetary system
         Checks
         Sight drafts
         Orders
         O. O. D.
         Order notify by freight
   3. Pooling of assets
      a. Partnership
      b. Private
      c. Limited
      d. Corporations
      e. Trusts and monopolies

C. Financing and Assuring
   1. Kinds and types of loans and collaterals
      a. Long term note
      b. Secured note
      c. Personal loans
      d. Chattel mortgage on stock
      e. Sixty day loans
      f. Assigning stock to financier and operating on percentage basis
   2. Classes of risks
      a. Those reasonably safe
      b. Those questionably doubtful (Risks are incurred by the type of merchandise handled)
   3. Investment control
      a. Having peak load stock in peak demand season
      b. Low demand stock in low demand season
4. Advantages in buying, discounts, datings
   a. Seasonable—getting early with right quantity
   b. Staple
   c. Freight
      Order notify
      C. O. D.
      Prepaid
   d. Express
      C. O. D.
      Collect
      Prepaid
   e. Parcel post
      C. O. D.
      Prepaid

II Specialty store operation

A. Location and size
   1. Convenience merchandise—small items bought daily or often
   2. Shopping merchandise—type of merchandise people do not
      buy often takes shopping location

B. Market in which we buy, that is, how we go about to buy
   1. Contacts
      a. Conventions
      b. Displays
      c. Travelling salesmen
   2. Knowledge of merchandise
      a. Quality and materials
      b. Quantity and assortments

C. Store arrangement—associated items—pleasing appearance
   1. Styles—should have front location
   2. Service articles—should have convenient location
   3. Seasonable and fast turning articles—table and counter
      display locations
   4. Slow turning—extensive assortments (small items) should
      have shelf and cabinet position

D. Keeping stock
   1. Fill in orders—forward—reserve
   2. Appearance of merchandise
   3. Keep appearance

E. Market trends
   1. To realize how they change (effect of geographic location)

F. Market in which we sell
   1. Potentialities
      a. Amount of money turning in the community
      Bank deposits are indicative of conditions
      Volume of manufacture and volume of agriculture
      Number of people employed in factories etc.
   2. Displays of merchandise
      a. Purpose of displays
      Institutional—information regarding the organization
      as to its character etc.
      Merchandise—sales appeal
      Community—manufacture—social etc.
b. Windows
   Arrangement and balancing
   Feature items

3. Advertising merchandise—merits—limits—advantages
   a. Word of mouth
   b. Newspaper
   c. Hills
   d. Catalogue

4. Merchandising stock
   a. Market trends
      Going styles—keep display push
      Balance effort and staple merchandise
   b. Recognize passing styles before gone
   c. Keep new, fresh, clean merchandise

III Principles and Policies

A. Personal organization
   1. Appearance
      a. Dress
      b. Speech
   2. Health
      a. How to maintain proper conditions for this work
      b. To appreciate why proper health is necessary toward success in this work

3. Education
   a. Business English (oral)
   b. Letter writing
      Applications
      Business correspondence

4. Industry
   a. Habits of work

5. Integrity—dependability
   a. Honesty
   b. Personality
   c. Frugality
   d. Punctuality

B. Firm
   1. Goodwill
      a. Principles
      b. Policies
   2. Personality of firm
      a. Position in community
      b. Service in community
IV Salesmanship

A. Meeting customers
   1. Approach (channels of approach)
      a. Seeing
      b. Hearing
      c. Feeling
   B. Customers types
      1. Silent
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   C. Making sale
      1. Triangle
         a. Store—Confidence of store born of knowledge
         b. Customer—Confidence leads to continued patronage
         c. Salesman—Vital force in store
            Avoid dishonest and tricky methods
            Sell service to customer
      2. Appeal
         a. Pride—vanity
         b. Power—merchandise will last etc.
         c. Preservation—is warm garment etc.
         d. Gain—price, bargain
      3. Suggestion selling
         a. Associated items
         b. Reasonable items
   D. Wrapping "Goodwill"

V Review

A. Review of course outlined and examination
   Books relating to the different parts of the course will be studied.
PHOTOGRAPHY
I General studio duties
A. Upkeep of studio appearance
B. Clerical duties
C. Receiving customers

II Kodak finishing
A. Sorting
B. Trimming
C. Filing
D. Fixing, washing, drying
E. Developing films
F. Printing from kodak films
G. Coloring of prints
H. Retouching of prints

III Photographic work
A. Mounting photographs
B. Framing
C. Coloring photographs
D. Kinds of colors and materials used

IV General review
A. An attempt will be made to supply the student with reading material related to the above course
COURSE FOR DENTAL ASSISTANTS' TRAINING

I Personal hygiene
   A. The most essential aspects of the care of personal health

II Hygiene (oral)
   A. Theory and practice in the technic and application of dental prophylaxis and oral hygiene
   B. Causes for disease
   C. Prevention of dental disease

III Dental instruments
   A. Their preparation and care
   B. Classification and uses

IV Sterilization
   A. Principles and technic of general bacteriology
   B. Bacteria of water and food products
   C. Morphologic and biologic characters of common bacteria
   D. Disinfectants and disinfection

V Anatomy (oral)
   A. Nomenclature of the teeth
   B. Anatomy of teeth
   C. Physiological function of tooth forms and their practical application

VI Dental laboratory
   A. Technic in manipulation of:
      1. Waxes
      2. Metals
      3. Investments
      4. Porcelain
      5. Simple bridge construction

VII Prosthetic
   A. Kinds of impression materials
   B. Manipulation of impression materials
   C. Important phases of denture construction

VIII Handling of patients
Preventive medicine and public health

A. Health of the family (health care)
B. First aid
C. Communicable disease
D. Transmission and prevention of communicable disease
E. Hygiene of infancy, maidenhood, maturity
F. Care of sick rooms
G. Observation and care of patient

Office practice (study of approved practices used in dental offices)

A. Appliances
B. Telephone work
C. Records
D. Filing systems
E. Correspondence
F. Accounts

Review and test

Suggested Reading: Dental Assistant, by McGaw, Published by The C. V. Mosby Company, St. Louis, Mo.