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A Self-Instructional Program For the Technical Services of the Utah State University Library

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MERRILL-CAZIER LIBRARY

A SELF-INSTRUCTIONAL PROGRAM FOR THE TECHNICAL SERVICES

OF THE UTAH STATE UNIVERSITY LIBRARY

by

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of the requirements for the degree

of   .

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INTRODUCTION

Origin and nature of the problem

Self-instructional carrels and accompanying programs
are being utilized successfully in numerous areas of
education. In the field of Library Science the potential
is especially great because of the skills and knowledge
that can be conveyed in an individualized learning situa-
tion. To date in the USU Library, this concept has not
been applied. Distinct possibilities exist in the various
areas of the Library. The Technical Services of the Library
or that area where materials are ordered, received, and
prepared for the patron's use, lends itself particularly
to self-instruction. The work accomplished in Technical
Services is not understood by students, patrons, nor many
of the personnel working in the Library. A need for instruc-
tion and orientation is seen by the administration of the
Library and a self-instructional program may correct this
problem.

Objective

Create the message content and a self-instructional
carrel to teach the workings, processes, and procedures
of the Technical Services of the USU Library.

Behavorial objectives

1. Subjects will gain an overview of the Technical Services

of the USU Library evidenced by writing a paragraph summarizing its function.

2. Assist the subject in understanding three different ways Utah State University may derive catalog cards.

    a. Manually

    b. National Union Catalog

    c. Purchase LC Cards

This will be exhibited by listing the three methods and briefly describing each.

3. Acquaint the subject with standard cataloging tools as demonstrated by:

    a. Find the entry in National Union Catalog.

    b. Derive a subject heading from the Library of Congress List of Subject Headings.

    c. Determine the Dewey Classification number of a book from the Dewey Classification Tables.

    d. Ascertain the Cutter number from the Cutter Tables.

4. The subject will better understand the information found on a typical catalog card evidenced by his ability to successfully identify major aspects and write their names beside the information on a sample catalog card. The areas of the card to be identified are: author, title, imprint, collation, tracings, notes, call number, and series note.

5. The subject will understand the difference and value of shelf list, main card catalog, and divisional

listings of materials as demonstrated by answering correctly a short true and false quiz.

REVIEW OF LITERATURE

Introduction

The intent of this writer in this review of literature was to gather materials on self-instructional carrels related to teaching staff members of the function of the technical services of existing libraries. Evidently this study conducted in the USU Library was a pioneering effort in the field of Library Science. Nowhere in the available literature is a reference made to the training of staff members by a self-instructional method. The search was concentrated in Library Literature, The Educational Index, Library Abstracts, Education Abstracts, and ERIC. Many notable articles are recorded dealing with self-instruction as related to education in general. Inconsistent terminology greatly complicated the research because writers have freely interchanged the titles of the various teaching approaches. The search was conducted in the areas of Carrels, Instruction, Technical Services, Programed Learning, Personnel, and many other seemingly related areas.

Terminology defined

Self-instruction. Self-instruction is any means by which students can individually learn or gather information by the use of print and non print materials or audio visual media. The term self-instructional is synonymous with

auto-tutorial and auto-instructional, auto meaning self.
These three titles are used interchangeably in the litera-
ture.

Audio-tutorial. This term has gained considerable
popularity through the efforts of Dr. S. N. Postlethwait
of Purdue University. Through the medium of tape record-
ings, learning experiences are integrated into logical
and systematic programs of instruction. Occasionally other
mediums are utilized such as 16 mm films and 35 mm slides
(Postlethwait, 1969).

Teaching machines. Teaching machines generally refer
to question and answer devices which the learner controls
or operates himself. However, teaching machines often
utilize different media such as slides, charts, pictures,
and textual material on a screen (McCoy, 1962). Teaching
machines range from small plastic boxes (manufactured by
Grolier) to sophisticated electronic computer instruction
systems.

Programed learning--programed instruction. Programed
learning is an all encompassing title for any or all of
the previously mentioned teaching devices or methods. The
term denotes planned, orderly, sequential steps a student
follows to achieve a desired result which is usually pre-
viously outlined in behavorial or operational objectives.

Positive distinction between the terms and titles is
virtually impossible. Overlapping of different approaches
and terminology combined with the various forms of media

is found in library literature. In essence each is an
attempt to individualize learning. Most methods exist as
a combination of learning experiences.

Self-instructional carrel utilization

Many modified forms of self-instruction began appear-
ing in the late 1950's. The concept has gained tremendous
momentum as evidenced by the increased literature available
in current periodicals. One could rightfully guess that
for most areas of the curriculum, individualized programs
have or are being developed. For fifteen sources of pro-
gramed instruction, see "Teaching Machines and the Library"
(Lewis, 1962).

Teaching library skills

"Research completed to date has shown that automated
carrels are especially useful in teaching factual informa-
tion and skills. Library Science has its full share of
these elements..." (Wendt, 1967, p. 207).

One typical example of teaching library skills is
"Automation in Freshman Library Instruction" reported by
McCoy (1962) at Southern Illinois University. The program
is a combination slide, practical exercises using books,
indexes, etc., and a multiple choice testing device. McCoy's
teaching machine performed a "tutorial job without the
expense of the human factor" (McCoy, 1962, p. 470).

Another approach employing sophisticated machinery
(Videosonics, produced by Hughes Air Craft) was programed
to teach general information on the library and to give

instruction in the use of periodical indexes and card catalogs. Controlled study indicated that students who utilized the machine used the library more efficiently and sought services from staff members less frequently than students who did not utilize them (Genung, 1967).

Teaching the operation of audio visual equipment

"Syracuse University has self-instruction laboratories equiped with illustrated manual, tape recorder, a phonograph, a 2 by 2-inch slide projector with filmstrip adaptor, a 16 mm motion picture projector, and the necessary prerecorded tapes, practice films, and instructional tapes" (Rothenberg, 1967, p. 481).

Positive results indicated that transference of learning to other machines as well as keen interest and self confidence in the utilization of audio visual equipment was achieved (Rothenberg, 1967).

Another example concerning the teaching of audio visual equipment and simple graphics is termed an "Auto-Instructional Laboratory" housed at Wisconsin State University. The carrel, containing an 8 mm single concept motion projector, and an Eastman Kodak 2 by 2-inch slide projector, illustrates the process to be learned and performed in the "learn by doing" situation. The Auto-Instructional Laboratory is termed successful by the faculty and students using the program (Schlieve, 1967).

Dr. Robert Diamond in his article, "Programmed Instruction in Audio Visual Equipment Operation and Application,"

concluded his report by listing significant points relevant

to this area.

1. Audio-Visual equipment operation and application
    for both faculty and students can be effectively
    programmed.

2. An informal approach within the program appears
    to heighten student interest and reduce problems
    resulting from previous bias.

3. A short self-contained programmed sequence for
    each machine permits increased utilization and
    flexibility of scheduling.

4. Classroom application of the equipment can be
    effectively demonstrated by utilizing sample
    materials within the programmed sequence.
    (Diamond, 1965, p. 6)

Numerous citations are available to testify to the

efficient teaching of equipment utilization on a self-

instructional basis. For further reference see Curl (1967,

p. 480), Macklin (1967, p. 484-487), and Hess (1969, p.

70-71).

Self-instruction automation

Self-instruction programs and carrels can be extended

to every phase of the curriculum in our schools. Self-

instruction can take the form of 2 by 2-inch slides, 8mm

projectors, etc., or it can be a complex machine directed

and controlled by a computer.

To typify the extreme of automation and technology

and its potential, one more example will be cited. Although

this example is not directly related to Instructional Media

and Library Science, it portrays what can be accomplished

with technology in self-instruction. Termed the "Edison

Responsive Environment Machine," E.R.E. has enabled twenty

kindergarten children to achieve second grade reading

proficiency over a period of five months. The machine

is a

> computerized typewriter that reproduces several of
> the sensory responses of a human being. That is, it
> talks, it listens, it accepts, it responds, it presents
> pictorial or graphic materials, it comments or explains,
> it presents information, and it responds to being
> touched. (Martin, 1965, p. 9)

Several of the conclusions listed from the experiment were:

1. The E.R.E. Instrument taught within five months
   (actual time at instrument ranged from 22 hours
   to 36 hours) twenty kindergarten and mentally
   retarded young children to read significantly
   better than twenty children carefully matched
   by a series of criteria who were taught by enriched
   traditional reading methods.

2. The children with less intelligence scored as
   significantly superior as did the brighter
   children. (Martin, 1965, p. 10)

John E. Tirrell predicts a day when technology will

develop to the extent that most learning will occur in the

home, office, factory, and shopping center. Instruction

will be largely self-instructional. Tirrell foresees the

teacher "...as a producer of materials to meet individual

learner needs, a prescriber of materials for learner char-

acteristics and interests, and a tutor to facilitate the

achievement of obscure points." (Tirrell, 1968, p. 30)

Advantages

Self-instruction is vital aspect of many of America's

educational programs. A few of its advantages, some of

which have been cited by Curl (1967), are:

1. Self-instruction can be a time saver for the

teacher, releasing her to help individual students.

2. Self-instruction in many instances is a faster
and more efficient means to convey information.

3. Students can proceed at their own pace and interest
by controlling the speed through the lessons.

4. Self-instruction denotes planned, programmed
teaching experiences, whereas traditional methods tend
to foster poorly planned, incidental teaching.

5. Cost, in many instances, is less than traditional
approaches depending on the equipment and programs purchased.

Rationale for self-instruction

In the late 1950's, America was shocked by the stun-
ning blow of a Russian Sputnik. Confronted with the real-
ization that inferior educational systems might be to
blame, educators and commercial enterprises set out to
alleviate the problem. At this point education was plagued
by the "Black Coffee Syndrome." Dr. Gabriel Ofiesh,
Professor of Educational Technology at Catholic University
explains this phenomenon.

> Our students go to the cafeteria and--by using
> nothing but machines--can get (1) black coffee; (2)
> coffee with cream; (3) coffee with heavy sugar; (4)
> coffee with cream and sugar; (5) coffee with heavy
> cream; (6) coffee with heavy sugar; (sic) (7-12) tea
> with all the options; (13) hot chocolate; (14) soup,
> etc... Yet, when they go down the hall to the class-
> room, the different abilities, preparations, and
> experiences are disregarded and unacknowledged. In
> effect, WE GIVE THEM ALL BLACK COFFEE. (Tirrell, 1968,
> p. 31)

Other problems are the time factor and increasing
enrollments. The public demands a better trained pupil

in less time. With the rate of knowledge explosion beyond the finite reasoning of man, the problems multiply in complexity and urgency.

Self-instruction is seen as a means to an end. That is, it is used to improve the learning experiences for students. Since the broad awakening of the late 1950's, much has been accomplished and education as a whole has improved greatly.

Conclusion

Self-instruction is only a minute aspect of the educational revolution in America. Ungraded classes, team teaching, dial access and computer assisted instruction, to mention a few, denote drastic changes over grandmother's day. As educators we have no other recourse but to innovate with programs that can do the job faster, with greater efficiency, and at less cost. Self-instruction should be a prime consideration of any educational program.

PROCEDURES AND HISTORY OF PROJECT

Origin of project

Winter quarter, 1969, this writer enrolled in Library
Practice 135. In this course, the instructor mentioned a
personnel problem confronting the Technical Services,
namely the training of the staff. The USU Library hires
students and student wives in many of the clerical posi-
tions available in Technical Services. Notoriously known
for a high rate of mobility, student help contributes to
a scene of continual change as staff members come and go.

In the past, no formal training has been given to
incoming staff members. Orientation and coaching by other
staff members has been freely given as needed by experienced
members of the staff. The inadequacy of this training has
been evident as each staff member assumed his individual
role in the Technical Services.

Suggested was the development of a formal means of
visualizing the functions of the Technical Services which
would orient new staff members as to their responsibilities
and present an overview of the Technical Services for staff
members outside the department who do not understand the
work accomplished in ordering, receiving, and preparing a
book to be placed on the shelf for a patron's use.

Seeing tremendous potential for a Masters project,
this writer accepted the responsibility of attempting

to develop a program and carrel. A committee was selected
and a proposal written which was later revised and then
accepted by committee members.

Concurrently enrolled in Education Administration
265, Computer Application and Systems Design in Education,
the writer studied techniques in systems design and their
application to problems in Education. As a final project,
each student was required to analyze a problem, then use
the system approach to show how this problem could be
corrected. Chosen for the area of concern was the Technical
Services of the USU Library. The problem encompassed the
need for formal instruction and orientation in Technical
Services for new as well as old members of the staff. The
flow chart objectives were developed. The entire three
months was occupied in speaking with knowledgeable people
about the problem confronting Technical Services and the
project. Numerous flow charts were designed, later to be
revised, in an attempt to graphically portray the essential
facets of Technical Services relevant to the problem.

Problem. A problem encountered was how much detail
to include in the flow chart. Consulted often were the
instructor and advisors who offered timely suggestions.

By the end of spring quarter, an acceptable system
supported by objectives of the carrel was completed.
Deemed necessary was the development of behavioral objectives
which was facilitated by reading Preparing Behavioral Objec-
tives by Robert Mager. A brief pre-test and post-test was

written which was intended as a guide and a constraint to facilitate the development of the project.

Subject content

Problem. The scope of the program posed a problem. What to include and delete in presenting an overview of Technical Services was not a simple task. This writer originally wrote the subject content following the sequence on the flow chart of Technical Services. It was then revised until it was deemed acceptable·by the committee members.

Physical aspects of the carrel

At this point the physical aspects of the carrel began to materialize. A used hardwood table, a one-half inch by 4 foot by 8 foot sheet of plywood, antique glaze, and mirrors from an overhead projector initiated the job. For further description, see physical aspects, page 52.

Integration of subject content with video and audio

A search was conducted for cataloging tools and books to be used in the carrel. Most of the tools were borrowed from the Instructional Media and Library Science department. Books in Print came from the USU Library.

Problem. An attempt to find two typical books which would serve as examples to demonstrate how the different segments of the catalog card are derived was made. Typical books were never found. The search commenced in the Cataloging Department and ended in the main card catalog.

Eventually, two books were chosen from looking at their respective catalog cards. Each had something missing. The book, How to Know the Weeds, did not contain notes but was finally selected as the book to demonstrate the different areas on the catalog card in the program.

With the subject content finally revised to meet the approval of the members concerned, plans for visualization began. Added to the subject content were an introduction and conclusion, phrases to connect pictures (slides) and referents (actual cataloging tools) to the subject content, and a booklet which contained examples of materials employed in ordering, receiving, and circulating library books.

With the dialogue ready for taping, a Honeywell Pentax 35 mm camera was borrowed from the Instructional Media and Library Science Department. Pictures were then taken on the Technical Services and areas of the library related to the project being designed. Additional pictures were shot the next day with a 154 Kodak Instamatic. Also shot, using photo floods and a copy stand, were the library cards used in the program to depict the process of original cataloging.

When the slides were returned from Photo Services of USU, both sets of Technical Services pictures were of good quality. The failures occurred in the close-ups of the individual library cards which were over exposed. With no other alternative, high contrast photography was employed and colored slides combined with black and white high

contrast slides were used on the rear screen of the carrel.

Flow chart

The flow chart developed earlier in the project was redrawn, color coded, mounted, and preserved with Seal-Lamin. Provisions to hang it in the back of the carrel were made.

Tape recording

After several dry runs, the dialogue was taped with a Rheem tape recorder by this writer.

The dialogue, now recorded on tape, the slides in the Kodak 850 Carousel, the reference booklet, the systems chart of Technical Services, and the actual cataloging tools were combined into a unit termed a self-instructional carrel. The entire unit was then dismantled and transported to the Technical Services area. Justification for moving the carrel into Technical Services included:

1. Association of subjects with the actual environment of Technical Services.

2. Accessibility of the Shelf List (positioned in front of the carrel) for individual reference during the program.

3. Accessibility of the National Union Catalog (positioned directly behind the subject) which was referred to in the program.

Pilot study

The carrel was evaluated by two instructors in the

Instructional Media and Library Science department. Their
suggestions included:

1. Better synchronization between slides and dialogue.
2. The addition of slides in the carousel.
3. Moving the slide changer and directions to the
   right side of the carrel.
4. The underlining of specific examples in the cata-
   loging tools with red pencil to facilitate easier
   reference.
5. Further clarification of parts of the dialogue.
6. Retaping the dialogue.

All of the above recommendations were then employed
into the development of the carrel.

Testing

Five days later, twenty subjects had taken the pre-
test, experienced the 45-minute presentation, and completed
the post-exam. Subjects were previously screened by the
following questions:

1. Have you ever worked in the Technical Services of
   a library?
2. Have you ever completed a cataloging and classifi-
   cation course?

Anyone who did not answer negatively to the above
questions was excluded from the project. The results of
the tests were tabulated and simple statistics drawn. From
these results the writer attempted to determine weaknesses
within the program and make recommendations to improve the

program.

During the time the carrel was available in the Technical Services, many interested individuals, staff members, and students took the opportunity to be instructed by the program. From them came valuable suggestions and recommendations. In addition to these timely suggestions each subject was asked to respond on the post-test to the following: Please list improvements that you feel would add to the effectiveness of this self-instructional carrel. Many weaknesses which would not have been apparent otherwise, were discovered through this technique.

From the recommendations of participants, staff members, and interested individuals combined with test results, conclusions of the success of the carrel were formulated.

SYSTEM DEPICTING THE PROCESSES AND PROCEDURES OF THE

TECHNICAL SERVICES OF THE USU LIBRARY

```
    ( Start )
        |
        +-------------------+
        |                   |
  +-----------+      +-----------------+
  | request   |----->| request filled  |<-----+
  | form      |      | out by          |      |
  | (card)    |      | requestor       |      |
  +-----------+      +-----------------+      |
                            |                 |
                     +-----------------+      |
                     | form sent to    |      |
                     | Acquisitions    |      |
                     +-----------------+      |
                            |                 |
  +-----------+      +-----------------+      |
  | Books in  |----->| request review  |      |
  | Print     |      | by staff for    |      |
  +-----------+      | proper title,   |      |
                     | author, etc.    |      |
                     +-----------------+      |
                            |                 |
                     +-----------------+      |
                     | request checked |      |
                     | against         |      |
                     | library         |      |
                     | holdings        |      |
                     +-----------------+      |
                            |                 |
                        /  book  \   yes  +-----------------+
                       <    in     >----->| send request    |
                        \ library?/       | back to         |
                            |             | requestor       |
                            no            | with call #     |
                            |             +-----------------+
                          ( A )
```

(A)

Jobbers
Direct Book
Co.

→

necessary forms
filled out
book is ordered

book received
by library

book checked
with invoice

copies of in-
voice sent to
controller's
office for
payment

book trans-
ferred to
cataloging area
with original
order card

book stamped
with USU stamp
pocket for com-
puter card
glued in

(B)

```
                              ( C )
                               no

                              LC
      ( B )──────────────── Cards sup-  ──no──▶  ┌──────────┐
                            plied with the       │ order LC │
                              book?               │  Cards   │
                                                  └──────────┘
                               yes                     │
                                                       │
                                               ┌───────┴──────┐     ( F )
  ┌─────────────────┐    ┌──────────────┐      ▼              │
  │ Dewey Class-    │    │  Dewey #     │   ┌──────────┐◀──────┘
  │  ification      │───▶│ adjusted to  │◀──│ LC Cards │
  │  Tables &       │    │ suit library │   │ received │
  │   Index         │    └──────────────┘   └──────────┘
  └─────────────────┘           │
                                ▼
  ┌─────────────┐        ┌──────────────┐
  │  Cutter     │───────▶│  Cutter #    │
  │  Tables     │        │ ascertained  │
  └─────────────┘        │ and typed    │
                         └──────────────┘
                                │
                                ▼
  ┌─────────────┐        ┌──────────────┐
  │ LC Subject  │───────▶│ type added   │
  │ Headings    │        │ entries that │
  └─────────────┘        │ apply to     │
                         │ library      │
                         └──────────────┘
                                │
                                ▼
                         ┌──────────────┐
                         │ cards are    │◀──( G )
                         │ checked for  │
                         │ errors       │
                         └──────────────┘
                                │
                                ▼
                              is
                         information ──no──▶  ┌───────────────┐
                           correct?          │ cards returned│
                                             │ to typist for │
                               yes           │ correction    │
                                             └───────────────┘
                         ┌──────────────┐           │
                         │ book added   │◀──────────┘
                         │ to Library   │
                         │ Statistics   │
                         └──────────────┘
                                │
                              ( D )
```

(C)

National
Union
Catalog

staff member
attempts to
find entry

is
entry
listed?

yes → type entry
card using
format in
Nat. Cat. → F

no

book to be
cataloged

Author of
book typed
on card

Title of book
determined
and typed on
card

Imprint deter-
mined and
typed on card

Collation is
determined
and typed

Series note
(if any)
is typed on
card

E

(E)

```
add notes
if necessary
```

```
determine              /LC Subject\
added entries          \Headings  /
and type
tracings
```

```
classify book          /Dewey Classi-\
and give Dewey         \ fication    /
number                 / Tables &    \
                       \ Index       /
```

```
Cutter # is            / Cutter \
found and              \ Tables /
added to form
call number
```

```
call # typed
on card
```

```
type additional
unit cards
```

(G) see page 21

(D)

cards filed in
Shelf List
Division Cat.
Main Card Cat.

Call #
stylused on
spine of
book

computer cir-
culation card
is punched

book shelved
for use

original order
card returned
to Acquisitions

notification
sent to re-
questor with
call # of book

original order
card filed in
Dead Order
Drawer → (feedback) → to start

DIALOGUE

Welcome to a self-instructional carrel. The purpose of this carrel is to help you better understand the functions of the Technical Services of the USU Library. The test you just completed will be given again to you as a means of determining the value of this program and to ascertain its worth in future programs in teaching various aspects of the library.

Look around the carrel. On your left and also in front of you are books which you will be using. Note that the books have numbers attached to their spines and covers. We will refer to each book by its number as the time and occasion arises.

Directly in front of you, on the back of the carrel wall, is a system. This system is a visual means of depicting the function and processes of the Technical Services. Note the different colors denoting separate areas to which we will later make reference.

On the table and to your right is a reference booklet containing examples of different materials used in ordering, receiving and cataloging books. These examples will be referred to as Example A, B, C, etc., in the program and you can easily refer to the appropriate example by turning to the specified tab on the right side of each page.

This program is combination tape and slide presentation. Beneath the table on your left is a 35 mm slide projector. Note that the control has four positions: off, fan, low, and high. At this time would you please switch the control to low. You should have a picture on the screen to your left. You can change the picture by merely pressing the forward button on the little black box (slide changer) near the right wall of the carrel. Each time you hear the ring of a bell, press the forward button. If at any time you wish to repeat a picture, just press this button. Remember, however, unless you stop the tape it will continue playing.

Please be mindful that you are in complete control of this carrel. If at any time you desire to stop, pull down the green knob on the tape deck and the tape will stop. You can rewind the tape by merely moving the green knob to rewind position. Please feel free to back up and rewind the tape any time you feel you have missed some aspect of this presentation.

You are sitting in the cataloging area of the Technical Services of the USU Library. The Technical Services consists of three main areas: Serials, Acquisitions, and Cataloging. We are going to follow step by step the process and procedures of ordering, cataloging and eventually placing a book on the shelf for the patron's use.

We are now ready to proceed. Initially, someone decides that a particular book is needed in the library. He

requests that book by filling out a card called the "orig-
inal order card." Refer to the reference booklet, example
A. On this card the requestor, which may be a professor,
supplies the appropriate information in the designated
spaces. Spaces are provided for the author, title, date,
edition, publisher, address of publisher, and the person
requesting the book. The space for the call number and
order number on the left hand side of the card will be
filled in later by the library staff.

After the card is filled out, it is sent to the acqui-
sitions department of the Technical Services of the library.
(bell I) Press the forward button on the black box. On
slide one you see the acquisitions department which is that
area of the Technical Services that orders and receives
new materials for the library.

Figure 1. Acquisitions department

In acquisitions the request form is reviewed and the
information on the card is verified. The title, author,
and other necessary bibliographic information must be

correct. Books in Print and other library reference books
are used to ascertain the correct information. Take book
I from the shelf. Look through its contents. Note that
books are listed by the author and latter in the text by
title. Each entry contains all the imformation necessary
to order a book. This book is one of several tools widely
used by librarians and is considered of utmost value to
verify author and title. Return book I to the shelf.

The request is then checked against the library hold-
ings (the books in the library) to make sure that the book
will not be duplicated. (bell 2)

Figure 2. Main card catalog

First a staff member goes to the main card catalog on
the first floor and looks for the book by author or title.
Someone else may have ordered the book and this checking
will avoid needless duplication. If the staff member finds
that the book is in the library, or that the book is being
ordered or presently being processed im the library, he
merely writes the call number of the book on the original

order card and sends it back to the requestor. Remember on example card A, that a space is provided on the card for the call number of the book.

If the book is not in the library, an order is typed by a staff member on an order form. See reference booklet, card B. The extra carbon copies are for different uses by the staff. We will refer to the last carbon later.

The order form is then sent to a book jobber. A book jobber is a company that handles bulk printed materials, making it possible for a buyer to send one large order instead of small separate orders to individual companies. Stacy, and Baker and Taylor are two jobbers that supply USU with many of its books. If the book jobber is unable to supply a particular book, the library must send direct to the publisher or some smaller book company.

The book is received from the jobber. With each shipment is an invoice. See reference booklet, card C. An invoice is a list of all the books sent. A staff member carefully checks the invoice to make certain that the books ordered have been received, or will be shipped later. Copies of the invoice are sent to the Comptroller's Office of USU, and it is he who sends payment to the book jobber for the books received.

(bell 3) The book is then transferred to the cataloging area as shown in the slide. The original order card, example card A, is paper clipped on the inside cover.

Figure 3. Cataloging area

(bell 4) The book is stamped to identify the book
as property of USU, and a corner pocket is then pasted on
the inside cover. This pocket will later contain the com-
puter card used in checking out the book at the circulation
desk.

Figure 4. Corner pocket and USU stamp

Refer to the systems chart in front of you. Observe
the pink section to review what has been accomplished thus
far. The request form, example card A, is filled out by
the requestor. It is then sent to the acquisitions depart-

ment of the Technical Services where the title, author,
and other information is checked for accuracy using Books
in Print, book I in our carrel. The request is then
checked against the holdings of the library and also with
the books on order. (bell 4A) This slide shows the
original order drawer which is a record of all the books
being ordered.

Figure 4a. Original order drawer

If the book is not currently in the library collec-
tion or being ordered, an order form is filled out. The
order form is sent to a book jobber. When the shipment
is received, the invoice is checked to be sure all the
books ordered are accounted for. A copy of the invoice
is sent to the Comptroller's Office for payment to the
jobber. The book is then sent to the cataloging area where
it is stamped and a pocket is glued to the inside cover to
hold a computer card.

After the pocket for the computer circulation card
has been glued to the inside cover, a decision is made

whether or not to order catalog cards. Many book com-
panies supply catalog cards with the books ordered. Turn
now to the booklet, page D, for an example of cards sent
with books. If catalog cards are not supplied with the
book, several alternatives exist. One is to order them
from the Library of Congress. This is easily done because
most books printed in America contain the Library of Congress
order number, more commonly referred to as the LC order
number. This number is usually found on the back of the
title page in most books. Refer now to reference book-
let, page E. The library has only to specify this LC order
number to order a set of cards.

Another commonly used method to obtain cataloging in-
formation is to refer to the National Union Catalog. This
multivolume work is directly behind you. In it, in most
cases, the books are entered alphabetically by author. You
begin by searching in the volume listing the year the book
was published. Book 3, volume 23, in our carrel is just
one volume of the National Union Catalog. Remove this
volume, book 3, from the shelf. Also remove book 2, How
to Know the Weeds, from the shelf. Notice the author of
book 2 is Jaques, H. E. This entry is on page 192 of this
volume of the National Union Catalog, book 3, and is entered
under Jaques' full name, Henry Edwin. Refer to the tab.
A staff member would simply copy this information on to a
blank catalog card. Briefly thumb through this volume of
the National Union Catalog noting particularly how entries

are listed, by the last name of the author. Please replace book 3, the volume of the National Union Catalog, to the shelf.

Let us suppose, however, that the cataloging information for our book 2 is not contained in the National Union Catalog and cards are not available from the Library of Congress. Then the cataloger or staff member would have to catalog the book himself obtaining the needed information directly from the book. Let's follow this process of original cataloging step by step using book 2.

Author. (bell 5) On a blank catalog card the cataloger types the name of the author.

Jaques, Harry Edwin, 1880-
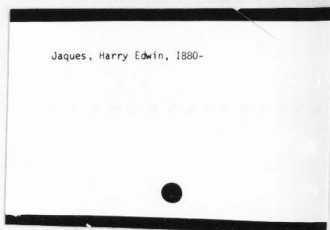
Figure 5. Author

Refer to the tabbed title page in book 2. The title page usually serves as the basis for the information to be placed on the catalog card concerning the author.

The typical book has an author. Note that the author of this book is H. E. Jaques. It is typed on the book card, last name first followed by the given name.

Title. (bell 6) Following the author, on the next line, is the title of the work as shown in slide 6. The title of our book is How to Know the Weeds. The subtitle also included here is Pictured-Keys for identifying the more common weeds of farm and garden, with interesting facts concerning them.
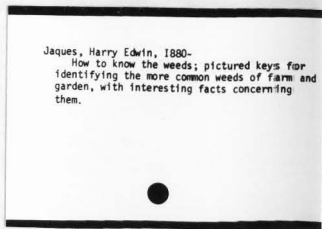

Jaques, Harry Edwin, 1880-
    How to know the weeds; pictured keys for identifying the more common weeds of farm and garden, with interesting facts concerning them.

Figure 6. Title

Imprint. (bell 7) Following the title is the imprint.

Jaques, Harry Edwin, 1880-
    How to know the weeds; pictured keys for identifying the more common weeds of farm and garden, with interesting facts concerning them. Dubuque, Iowa. W. C. Brown Co. [c1959]
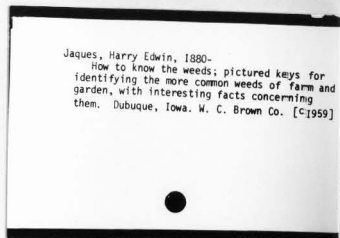
Figure 7. Imprint

The imprint is the information that includes the publisher, place of publication, and date of publication, and

is usually found on the title page. In this case, the
date of publication is found on the back of the title
page. The imprint may serve two purposes: 1. Provide
identification for the book. 2. Indicate where it may
be purchased. Our book was published by the William C.
Brown Company in Dubuque, Iowa, in the year 1959. The
imprint is typed after the title is shown. You can easily
remember imprint because it tells where the book was
printed, the date, and the name of the publisher.

Collation. (bell 8) Next comes the collation which
is the cataloger's physical description of the book.

Jaques, Harry Edwin, 1880-
    How to know the weeds; pictured keys for
identifying the more common weeds of farm and
garden, with interesting facts concerning
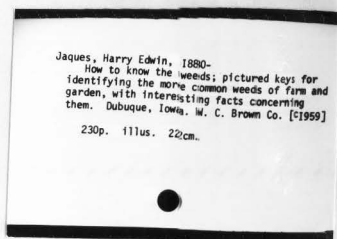them. Dubuque, Iowa. W. C. Brown Co. [c1959]

    230p. illus. 22cm.

Figure 8. Collation

It consists, basically, of abbreviations for the
number of pages, illustrations, and the height of the book
in centimeters. Note the total pages of our book is 230.
It contains illustrations, and the size is 22 centimeters.
A simple means to remember the collation is to recall
that the word collate means "to bring together." In our
collation we brought together 230 pages and illustrations

in a book 22 centimeters high.

Series note. (bell 9) Books often belong to a
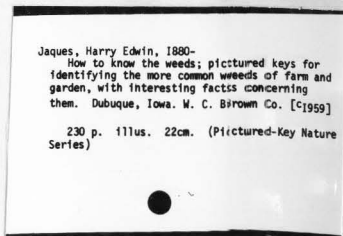series and it is important to include this information
on the card.

Figure 9. Series note

A series is a number of related volumes. The name
of the series is enclosed in parentheses directly follow-
ing the collation. Our book is one volume of the Pictured-
Key Nature Series, as indicated on the title page. Note on the
back of the title page the other books included in this series.

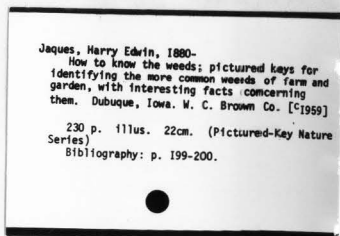Notes. (bell 10) Notes may be added as seen neces-
sary by the cataloger.

Figure 10. Notes

The notes serve to supply additional information. Bibliographical information and other explanatory material are often included here. Bibliographies are common notes. Our book does not contain a bibliography. However, if it did, it would appear below the collation, as indicated on slide 10.

Tracings and subject headings. (bell 11) The tracing is the record on the bottom of the card which shows all the additional areas under which the librarian has entered cards in the card catalog for a specific book.

Jaques, Harry Edwin, 1880-
    How to know the weeds; pictured keys for
identifying the more common weeds of farm and
garden, with interesting facts concerning
them. Dubuque, Iowa. W. C. Brown Co. [c1959]

    230 p. illus. 22cm. (Pictured-Key Nature
Series)
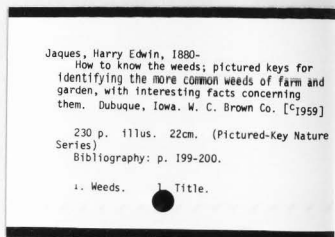   Bibliography: p. 199-200.

1. Weeds.   1. Title.

Figure 11. Tracings and subject headings

The term tracing is easily remembered by noting that by the tracing you can trace all the cards representing a particular book. The first segment of the tracings contains subject headings listed with Arabic numerals. The subject heading is a word or group of words indicating the subject under which all books or materials dealing with the same theme or subject are listed in the card catalog. Subject headings are for the most part pre-determined by

the Library of Congress and are not randomly assigned by
the person preparing the catalog card. The recommended
subject headings are found in the compilation known as the
Library of Congress List of Subject Headings. Take book
4 from the shelf. With this guide, the subject headings
are standardized. Likely you could find the same book in
New York listed under the same subject as in a library in
Logan. The book we are cataloging, book 2, How to Know
Weeds, is about weeds. Look under weeds in the Library of
Congress List of Subject Headings. Note the tab, page
1399. For our purposes today, the only subheadings that
we will use are those listed in bold black type. There-
fore, the subject heading which we will type on the card
is Weeds. Note the subject weeds is recorded on the cata-
log card preceded by an Arabic numeral 1.

Often included in the tracings are joint authors,
editors, and the title by which our book could be found.
On our card, we have title preceded by the Roman Numeral I.
These tracings, or added entries as they are called, tell
the exact cards the cataloger has made for the book.
Should a book be withdrawn, the librarian has a record of
the cards he must also withdraw. Another purpose is to
inform the patron of other possible subject areas in which
he may look for related information. Return book 4, the
Library of Congress List of Subject Headings, to the shelf.

We now have all the information you need to catalog
the book.

Classification. (bell 12) We are now ready to class-
ify; that is, assign a number to each book by which it
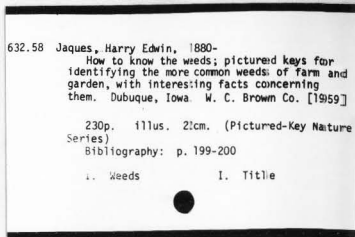could be found in the library collection.

Figure 12. Classification number

The USU Library uses the Dewey Decimal Classification
system. This system is said to be used by 95% of all the
libraries in the nation. Its purpose is to give the patron
an address by which he can find the book on the shelves.
Also, it groups related materials together. The system
has ten major divisions beginning with 000 and ending with
900. Refer to book 5 which is the Dewey Decimal Classifi-
cation Tables. Note these ten divisions, yellow tab,
page 109. Each of these ten divisions represents some
major discipline. Note for example, 400 represents lan-
guages. Each of the ten divisions is then broken down into
ten subdivisions. Turn the page to 110. Note that Greek
is 480. Each subdivision is further broken down or sub-
divided until most subjects thought of by man can be re-
presented by a number. Briefly look through the book and

notice the detail and extent many numbers are subdivided. Many numbers extend to seven and eight digits. It is the cataloger's responsibility to find the number which most nearly represents the subject of every book.

If you were cataloging, how would you find a Dewey number? Along with the Dewey tables is included an index. Refer now to this index, book 6. First we look at the book to be classified very carefully and decide what subject it is about. Our book 2 is about weeds. Now look under weeds in the Dewey Classification Index. Note the pink tab, page 2458. The area most closely relating to our book is weeds agricultural pests, and suggested number is 632.58. Refer now to the blue tab, page 812, in the Dewey Classification Tables for this number. Plants, injuries, disease, pests and their control is 632. Moving down the page, we see that 632.1 represents "from the elements," 632.3 "Bacterial diseases," 632.5 "Plants," and 632.58 "Weeds." The number we will use is 632.58. Replace books 5 and 6, the Dewey Tables and Index, to the shelves. As review remember the Index refers a cataloger to the Tables. Catalogers do not rely on the Index for classification. The Index is merely a tool to guide you to more specific numbers in the Dewey Classification Tables. The Dewey number is typed on the left side of the catalog card as seen on slide 12.

Cutter numbers. (bell 13) Below the Dewey number on the spine of our book 2 is the letter J followed by the number 36.
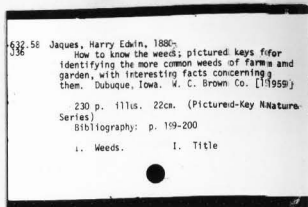
Figure 13.   Cutter number

This is the Cutter number. There are possibly many
books on the same subject with exactly the same classifi-
cation number. We need to distinguish the book further,
and we do it with a Cutter number. To further classify
our book, we assign a letter and a number to the author's
last name and then type it directly below the Dewey Class-
ification number. These Cutter numbers are found by re-
ferring to the Cutter Author Table. Take book 7 from the
shelf. Beside each alphabetical entry is found a number.
The cataloger looks down the list of alphabetical symbols
until he finds the entry that most closely represents
the last name of the author. Let's find the entry for our
book. Since the author's name is Jaques, look under the
J's. Observe that the closest entry to Jaques is J A Q.
Therefore the Cutter number will be J36. The cataloger
writes the first letter of the author's last name and the
number below the Dewey number, as depicted in slide 13.
The Dewey Classification number combined with the Cutter

number is called the Call Number. Variations exist in
Cutter numbers which will not be discussed in this presen-
tation. Replace book 7.

Let's review at this point. Refer to the systems
chart. Recall the three sources from which to obtain
cataloging information if the cards were not sent with
the book: 1. Order the cards from the Library of Congress,
shown in the green area. 2. Refer to the National Union
Catalog to obtain the information needed. Observe the
black area. 3. Catalog the book ourselves, orange area.
This involves finding for the book the (bell 14) author,
title, imprint, collation, series note , notes, tracing,
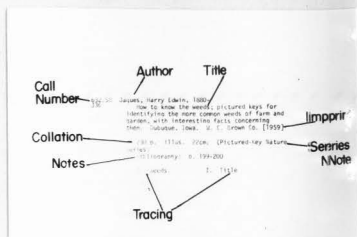and call number.

Figure 14.   Catalog card

If you feel it necessary, stop the tape and study the
different areas on the card. To find the Dewey Classifi-
cation number, we used the Dewey Classification Index,
book 6, which referred us to the Dewey Classification Tables,
book 5. We also further classified our book by selecting

a letter and number from the Cutter Tables, book 7, re-
presenting the author's last name. The Dewey Classifi-
cation number and Cutter number are then typed on the card
and are referred to as the Call Number.

If you feel that you are in need of a break, hang
up the head phones, turn off the tape recorder, and turn
the projector to the fan position.

Now that we have the catalog card complete with im-
print, subject heading, and call number we must prepare
other cards to be placed in the card catalog. Recall we
mentioned that a patron could find the same book by either
looking under the author's name, the subject, or the title
of the work. Each entry requires a separate card. The
USU Library uses what is termed the unit card for this pur-
pose. One basic format is used for the author, subject,
and title cards. The author card is already typed and only
needs to be filed alphabetically by the last name of the
author in the card catalog. See example F in the reference
booklet, card 1.

Directly on the first line of another card is typed
the subject in red. Notice card 2. This card is placed
in the card catalog along with the other cards representing
a particular subject. The title of the book is typed on
the top of another card in black. Notice card 3. Then
it is placed alphabetically in the card catalog.

(bell 15) Before the cards are filed, they are
checked for errors. In slide 15, you see Dixie Drage

carefully looking over typed unit cards.

Figure 15.   Checking cards

If the cards are found complete in format, informa-
tion, and call number, the book becomes part of the library
statistics.   (bell 16) Here you see a staff member hold-
ing a rather large booklet which contains the monthly book
totals.   This running total is kept up to date on the number
of books contained in the library as well as on those books
in each major division.

Figure 16.   Library statistics

Following this procedure the cards are placed in the appropriate card catalogs.

Main card catalog. (bell 17) On the first floor near the north east corner is a card catalog as you see on slide 17.

Figure 17. Main card catalog

It is termed the main card catalog because it contains a record of all the materials and books which can be found by referring to the Dewey system in the USU Library. You will find books listed by author, title, and subject. Cards for each book are placed in the main card file alphabetically by their author, title, and subject.

Shelf list. On the first floor in the cataloging area out of sight of the patron, is the shelf list. The shelf list is also a record of all the books in the library but the cards are arranged and filed as the books are arranged on the shelves. That is, all the cards are filed by their call number. You could begin in the 000 numbers and proceed through the shelf list to the 900 numbers.

The shelf list is of use to the staff for several reasons.
It is an accurate record of the entire holdings of the
library and it is a record of the number of books in a
particular area or subject. The card file you see on the
other side of the post in front of you is the shelf list.
Feel free to stop the tape, take off the ear phones, and
briefly look at the shelf list. Pull out a drawer and
note how the cards are arranged. You may now stop the
tape by pulling back on the green knob.

Division catalogs. In addition to the main catalog
on the first floor, you will find separate card catalogs
for each floor of the library. We term these card catalogs
the Division catalogs because each floor of the USU Library
is known as a division. (bell 18) The second floor is
the Science Division, (bell 19) third floor the Social
Sciences, (bell 20) and fourth, the Humanities.
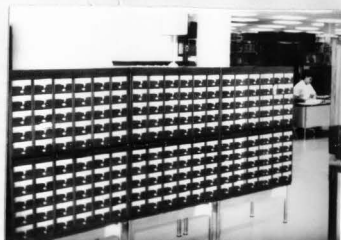
Figure 18. Science division catalog

Figure 19. Social science division catalog

Figure 20. Humanities division catalog

If a book is located on the third floor of the library, the division catalog would have an author, title, and subject card there for the patron's reference. An author, title, and subject card would also be included in the main card catalog on the first floor.

Call number stylused. (bell 21) The call number must be permanently placed on the spine of the book.

Figure 21. Stylusing

This process is known as stylusing and is done by
typing the call number on a special adhesive material.
Then the adhesive material is ironed on the spine of the
book for permanent identification, as shown in slide 21.

Computer circulation card. (bell 22) Utah State
University employs the use of the computer in checking out
books.

Figure 22. Card punch machine

Cards are punched by a card punch machine. A sample
computer card is contained in the reference booklet, tab G.

The computer card is placed in the card pocket in the
front of the book. The title and author of the book is
represented on the card by the holes. (bell 23) When
the book is checked out, the card is read by a card reader.
Then the information is fed into a computer for further
reference.

Figure 23. Circulation desk

(bell 24) The book and computer circulation card
are shelved in the stacks prior to checkout.

Figure 24. Book shelved

The original order card, booklet example A, which
has been with the book during the entire cataloging process
is now sent back to the acquisitions area in the Technical
Services. A sample notification card is found on page H
in the reference booklet. This card is then sent to the
original requestor with the call number indicating that
the book is available for his use. (bell 25) The origi-
nal order card, example card A, is then filed in a dead
order drawer.

Figure 25. Dead order drawer

This concludes the overview of the Technical Services
of the USU Library. Your participation is appreciated and
we sincerely hope you have benefited from this experience.

For evaluation purposes of this program, not for eval-
uation of you as an individual, please take the short exam
again. Note that the post exam has one additional question.
What would you recommend to improve this self-instructional
carrel? Respond freely and frankly to this question.
(bell 26)
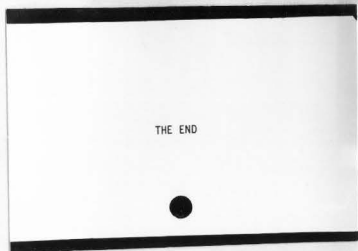
Figure 26. The end

Please turn the slide projector to the fan position
for cooling. Return the head phones to the hook, and turn
the blue knob on the tape deck to the off position. Thank
you very much.

PHYSICAL ASPECTS OF CARREL
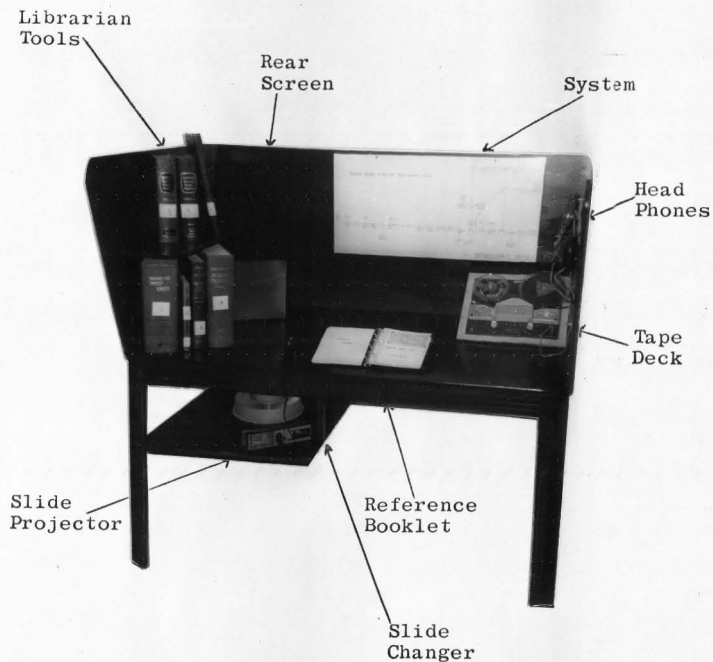
Figure 27. Physical aspects of carrel.

Dimensions

Wooden table: height 30 inches, length 64 inches depth 31 inches.

Sides: one half inch plywood, 24 inches in height.

Shelf for slide projector: one half inch plywood, 24 inches by 31 inches.

Finish

Antique tudor glaze paint.

Equipment

Slide projector: 35 mm Eastman Kodak Carousel 850 with automatic focus and zoom lenses.

Tape deck: (play only) Audiotronic Model 110P, manufactured by Audiotronic Corporation, North Hollywood, California.

Head phones: Audiotronic, manufactured by Audiotronic Corporation, North Hollywood, California.

Projection System
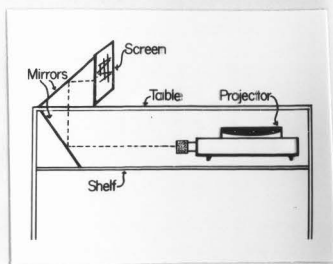
Figure 28.   Projection system

The mirrors used were property of the Instructional
Media and Library Science Department and were taken from
a discarded US Army surplus overhead projector. Minor
revisions were made but generally speaking they converted
very easily into the carrel. The screen used was the
"head" of the overhead projector which contained a 9-inch
by 10-inch sheet of window glass and metal frame. One
sheet of 9-inch by 10-inch matte acetate positioned directly
behind the glass served to stop the image projected by the
850 Carousel, creating a suitable rear screen.

Limitations

The rear screen would not project high contrast nega-
tive slides. A minor problem occurred in an attempt to
produce and utilize the negatives from the catalog cards
to depict cataloging procedures. Four images were cast
on the screen. When positive film was developed and
framed into 2 inch by 2-inch slides, the problem was elim-
inated.

The rear screen and mirror arrangement would not
accommodate 8 mm projection. The two mirrors reflected
an image up-side-down and backwards. The 8 mm projector
can be turned up-side-down but a third mirror will be
necessary to reverse the image on the screen.

Recommendation. The 8 mm projector is small and the
carrel is plenty large enough to accommodate a small screen
on the back wall if future programming warranted the util-
ization of the 8 mm medium.

Overall performance

The tape deck was mounted at a 45 degree angle,
facilitating ease of operation.

The performance of the rear screen Carousel projector
and tape deck surpassed all expectations. The overall
construction, design, and size of the carrel were adequate.

Cost estimate of physical aspects of carrel

Carrel, general construction.

Cost	Item
$ 5.00	Used table
$ 8.50	One-half inch plywood, good on both sides
$ 5.00	Miscellaneous--screws, metal plates, etc.
$ 4.00	Paint, Bennets antique tudor
$22.50	Total

Equipment.

Cost	Item
$126.00	Kodak 850 Carousel projector
$ 85.00	Audiotronic tape deck and earphones
$211.00	Total
	(The above equipment was borrowed from the Instructional Media and Library Science Department.)

Software.

Cost	Item
$10.00	Slides, Ektachrome--two rolls of twenty
$ 3.50	High contrast film
$ 3.00	Recording tape, 1200 foot reel
$16.50	Total

Estimated total cost to duplicate carrel and program.

Cost	Item
$ 22.50	Carrel, general construction
$211.00	Equipment
$ 16.50	Software
$250.00	Total (This total cost does not include the value of the books used in the carrel.)

Books utilized in the carrel

(Numbered as they appeared in the carrel.)

1. Books in Print
2. How to Know the Weeds by Henry Edwin Jaques
3. Library of Congress National Union Catalog,
   volume 23, 1959-62
4. Library of Congress Subject Headings
5. Dewey Decimal Classification Tables
6. Dewey Decimal Classification Index
7. Cutter Author Tables

Additional books used in pre and post tests

The Locust by R. Barras

Dewey Decimal Classification Tables

Dewey Decimal Classification Index

Library of Congress Subject Headings

Library of Congress National Union Catalog, volume 4,
1963-67

Cutter Author Tables

System depicting the technical services

The flow chart which hung on the back of the carrel
wall measured 15 inches by $30\frac{1}{2}$ inches. Its basic construc-
tion consisted of the system processes typed with a carbon
ribbon type writer on white $8\frac{1}{2}$ by $11\frac{1}{2}$ inch paper. The
paper was then mounted with MT-5 onto 28 ply card board.
Glossy Seal-Lamin was later applied as a protective cover-
ing and black tape formed a border around the outside.

Instructions

The carrel was designed to be self-instructional.
Therefore anyone desiring to experience the program could
do so without assistance. Directions taped on the table
of the carrel read:

1. Put on the head phones hanging on the right carrel
   wall.

2. Turn the blue knob to 4 or 5.

3. Push the green knob to start position.

4. Adjust the volume by turning the black knob.

Additional instructions were typed and taped to the
slide projector shelf to denote the controls of the 35 mm
slide projector.

Finally, instructions were added to the right side
of the carrel by the slide changer to clarify forward and
reverse. Other instructions were those given audibly by
means of the tape recorder.

RESULTS AND CONCLUSIONS

The results gathered from the pre-test, post-test, recommendations from subjects, and casual inspection by interested individuals were most enlightening. The subjects honestly and frankly gave constructive criticisms at the conclusion of the post-test and in conversation after the experience. Several staff members of Technical Services took the occasion to review the carrel and without exception gave favorable comments as well as helpful recommendations for further studies or programs which may be devised for the USU Library. The carrel apparently was a success; however, judged from the data of the pre-test and post-test, success was achieved in some areas but not in others. The software must now be revised to capitalize on the strengths and alleviate the weaknesses.

Behavioral objectives

At the onset of this study, behavioral objectives were created. The results of the self-instructional carrel can only realistically be ascertained as they are compared with the original objectives. By noting the frequency of correctly and incorrectly answered questions on the pre-tests and post-tests, Table 1, the writer has drawn generalizations as to the success of the carrel in accomplishing the behavioral objectives.

Table 1. Frequency of correctly and incorrectly answered
questions on the pre- and post-tests

Test Items		Pre-Test Questions Correctly Answered			Post-Test Questions Incorrectly Answered		
		Male	Female	Comb.	Male	Female	Comb.
1.		0	0	0	0	1	1
2a.	N.U.Cat.	1	1	2	0	5	5
2b.	LC Cards	2	0	2	4	5	9
2c.	Manually	0	0	0	4	9	13
3a.		7	6	13	0	1	1
3b.		0	3	3	4	2	6
3c.		3	2	5	1	2	3
3d.		0	1	1	3	3	6
4.	Author	9	9	18	0	0	0
	Call No.	9	7	16	0	0	0
	Collation	0	0	0	0	1	1
	Notes	2	0	2	0	2	2
	Tracings	0	2	2	2	2	4
	Series	1	0	1	1	1	2
	Imprint	1	0	1	1	1	2
	Title	6	5	11	0	1	1
True and False							
1.		4	2	6	0	1	1
2.		4	1	5	0	0	0
3.		6	2	8	1	2	3
4.		1	1	2	1	3	4
5.		6	4	10	1	2	3
6.		6	1	7	2	3	5
7.		2	1	3	2	3	5

Refer to the pre- and post-tests page 71.

Behavioral objective 1. Subjects will gain an over-
view of the Technical Services of the USU Library evidenced
by writing a paragraph summarizing its function. With
the exception of one individual, every subject achieved
this goal. Success was realized by 95% of those experi-
encing the program.

Behavioral objective 2. Assist the subject in under-
standing three different ways USU may derive catalog cards:
a. National Union Catalog, b. Library of Congress Cards,
c. Manually. This will be exhibited by listing the three
methods and briefly describing each. The success of this
behavioral objective as shown by the test results indicated
a weakness in the program. Only 55% of the subjects
achieved this goal.

Recommendation. This area must be reprogramed for
greater efficiency. Note the recommendations of subjects
in the appendix concerning question number two on the test.
Also the test question must be revised. Many subjects
commented after the experience that they didn't understand
the question.

Behavioral objective 3. Acquaint the subject with
standard cataloging tools as demonstrated by: a. Find the
entry in the National Union Catalog, b. Derive a subject
heading from the Library of Congress List of Subject Head-
ings, c. Determine the Dewey Classification number of a
book from the Dewey Decimal Classification Tables, d. Ascer-
tain the Cutter number from the Cutter Tables.

In the pre-test, question 3a, 65% of the subjects
derived the entry from the National Union Catalog. Observ-
ing this phenomena, this writer realized that no great
skill was needed to alphabetically derive an entry. The
task was made easier by the fact that the particular volume
needed was placed with the several cataloging tools at the
subject's easy disposal instead of in the multi-volume
set. Only one subject was unable to find the entry in
the post-test.

Recommendation. If the question concerning the
National Union Catalog is contained in subsequent pre-
tests and post-tests, the subject should be required to
look in the multi-volume set just as catalogers do in
searching for an entry.

The subject heading question, 3b, was correctly
answered with 70% efficiency on the post-test which repre-
sents a 55% improvement over the performance on the pre-
test.

Recommendation. This area could stand some improve-
ment, possibly more practical application such as finding
two or three subject headings for various books in the
experience.

The Dewey number, question 3c, was derived by 85% of
the subjects on the post-test. This writer must admit
that the number was a relatively easy number to determine
as shown by the 25% of the subjects who found the number
in the pre-test.

Recommendation. Rework this area to include several
practical exercises within the experience to give the sub-
jects an opportunity to more fully grasp the concept of
finding Dewey numbers.

Answers to question 3d concerning the Cutter Number
improved from the pre-test to the post-test by 65%. Six
subjects were unable to find the Cutter Number on the
post-test and nineteen were unable to find it on the pre-
test.

Recommendation. Many observers from the Technical
Services staff expressed the opinion that this aspect was
presented too simply. Variations do exist in the Cutter
Numbers which were excluded in the program. This should
be a future consideration.

Behavioral objective 4. The subject will better under-
stand the information found on a typical catalog card
evidenced by his ability to successfully identify major
aspects and write their names beside the information on
a sample catalog card. The areas of the card to be ident-
ified are: author, title, imprint, collation, tracings,
notes, call number, and series note.

On the pre-test, question four, 109 points were missed
out of the possible 160 for all twenty subjects. Only 12
points were missed on the post-test indicating an improve-
ment of 60.7%.

Recommendation. This section could profit with some
improvement. It would lend itself to an entire discussion

and lesson of about 15 to 20 minutes duration. The USU
Library could certainly utilize a self-instructional carrel
near the main card catalog programmed to instruct patrons
how to find books by subject, author, and title, and to
inform them of the significance and importance of the
various areas on the catalog card.

Behavioral objective 5. The subject will understand
the difference and value of shelf list, main card catalog,
and divisional listings of materials as demonstrated by
answering correctly a short true and false quiz.

This objective was deemed fairly successful by an
improvement of the subjects of 55.8%. However, question
number seven in the pre-test and post-test concerning the
availability of the shelf list should be revised. The
question stated, "The shelf list is accessible to all
patrons of the library." The answer is debatable. The
shelf list is accessible but patrons are not generally
encouraged to use it. This question drew comments from
individuals, especially those who work in Technical Services.

This writer felt that the true and false section of
the test was a valid means of testing the comprehension of
the subjects of the various card catalogs. Instructions
preceded each test to leave the spaces blank if the answers
were not known.

Observations

Although the intent and purpose of this study was not

to compare the achievement of the males with the females, several interesting observations were noted. The overall per cent of improvement of the men was 9.5% less than the women. (See Table 2) One might generalize that the men did not do as well in the program unless the range of the questions answered correctly in the pre-test was considered. This range for the males was 17.4%-52.2% as compared with the range of the females of 0%-39.1%. Careful analysis indicated that the men knew more about cataloging and the Technical Services before experiencing the program in the carrel. On the post-test the ladies scored from 26%-100% correct while the men ranged from 56.5%-95.6%. Note the men had less range to improve which clarifies the phenomena.

Further comments could be made concerning the total time and number of repeats and stops, but the nature of this study was to determine if self-instruction could assist in teaching the processes and procedures of the Technical Services of the USU Library. The per cent of improvement was felt to be the most significant factor. The subjects showed an overall improvement of 57.4%.

Additional recommendations

The shelf list instructions must be clarified. Almost all of the subjects had to ask where to locate the shelf list. The tape script mentioned that the shelf list was directly in front of the carrel. The subjects became confused when they stopped the tape and took off the ear phones.

Table 2. Range, mode, median, and mean of data

Category	Range	Mode	Median	Mean
Age				
Female	14-56	32	28	28.3
Male	24-43	27, 29	29	31.5
Combination	14-56	29	28.5	29.8
Time-Pre-Test (min.)				
Female	5-20	10, 12	12	12.2
Male	7-30	15, 20	15	16.7
Combination	5-30	10, 20	12.5	14.2
Time-Carrel (min.)				
Female	46-60	45	46	48.5
Male	45-67	45	46	49.4
Combination	45-67	45	46	48.9
No. of stops				
Female	1-2	1	1	1.3
Male	0-8	1	1	2.5
Combination	0-8	1	1	1.8
No. of repeats				
Female	0-15	0	1	3.0
Male	0-12	0	0	3.3
Combination	0-15	0	0.5	3.1
Time-Post-Test (min.)				
Female	12-30	20	20	21.1
Male	12-23	20	18	17.7
Combination	12-30	20	20	20.6
Time-total (min.)				
Female	63-100	82	82	81.7
Male	69-105	80	82	83.8
Combination	63-105	80, 82	82	82.6
Pre-Test-%Correct				
Female	0-39.1	21.7	21.7	18.9
Male	17.4-52.2	30.4	30.4	33.8
Combination	0-52.2	30.4	28.2	25.6
Post-Test-%Correct				
Female	26-100	82.6	82.6	80.6
Male	56.5-95.6	87	87	86.0
Combination	26-100	87	87	83.0

Table 2. Continued

Category	Range	Mode	Median	Mean
% Improvement				
Female	26-82.6	60.9	61	61.7
Male	26.1-78.2	-	56.5	52.2
Combination	26-82.6	60.9	60.9	57.4

The program needs more reviews. These could possibly be accomplished by additional slides dealing with the area being reviewed.

Incorporation of more practical experiences in the program is highly recommended as noted from the many suggestions to this effect on the post-test. This feature was considered by many as an area of needed improvement.

Questionable is the technique of color coding as employed to indicate different areas of the system on the back of the carrel wall and also on the tape deck control knobs. Two of the nine male subjects tested were severely color blind and both experienced difficulties as colors were referred to. This problem could easily be eliminated by using digital forms for identification rather than colors.

For selected recommendations and suggestions from the subjects, see the appendix.

This writer proposes that self-instruction can greatly assist in the initial training of new employees in the

Technical Services of the USU Library. As one considers
the rather unique situation as new personnel come into the
Technical Services, self-instruction can offer a flexible,
individualized, and personal means to convey necessary
information.

Several recommendations significant to future programs
are: (1) to limit the area studied and presented in the
self-instructional situation and (2) to shorten the total
time of the experience. For example, in 20 minutes instead
of 45 minutes, the carrel could be programed to instruct
the staff on variations of titles and how these variations
appear on catalog cards.

The response of the subjects, staff members of Techni-
cal Services, and other interested individuals was most
heartening. Almost without exception, the people who are
engaged in the teaching profession commented after exper-
iencing the program, "How I could use this in teaching,"
or "Imagine what I could do with this in my school."

As mentioned previously, this writer highly recommends
consideration of self-instructional programs and carrels
to be placed near the card catalogs to assist patrons in
various reference problems. Divisions of the library could
also utilize carrels in presenting small lessons or even
programs describing collections of which patrons are not
aware. Of concern to this writer is the collection of
Government Documents of which USU is a depositary. Students
are hesitant if not apprehensive to search this collection.

A self-instructional carrel programed to orient patrons
to the accessibility of these documents would greatly
increase the utilization of this valuable collection.

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APPENDIX

PRE-AND POST-TEST

1. In a short paragraph, summarize the work accomplished
   in the Technical Services of the USU Library.

2. USU derives the information for its catalog cards from
   three different sources. What are they? Briefly
   describe each.

    a.

    b.

    c.

3. Before you is a book to be cataloged and classified.
   Can you:

    a. find its entry in the National Union Catalog?

            no_____
            yes_____page_____

    b. select one suitable subject heading from the
   Library of Congress List of Subject Headings?

       no_____
       yes_____ Subject Heading_____

    c. determine the Classification Number from the
   Dewey Classification Tables?

       no_____
       yes_____ Classification Number_____

    d. find the Cutter Number from the Cutter Author
   Tables?

       no_____
       yes_____ Cutter Number_____

4. In the spaces provided, identify each area represented on the typical catalog card: title, author, tracings notes, collation, imprint, series note, and call number.

```
301.362 Buder, Stanley.
B927          Pullman; an experiment in indus-
         trial order and community planning.
         N.Y., Oxford Univ. Press, 1967.
            xii, 263 p. illus., port. 22 cm.
         (The Urban life in America series)

            Bibliographical references in-
         cluded in "Notes"  (pp. 235-255)


      1.  Pullman, Ill.      I.  Title.
```

True and False Questions

Fill in the blanks with true or false.

_____ 1. The difference between the main card catalog and the shelf list is that books are alphabetically listed in the shelf list.

_____ 2. The shelf list is a record of all the books being ordered for the library.

_____ 3. A division card catalog contains a listing of all the books in the library.

_____ 4. The cards in the shelf list are entered alphabetically by title and/or author.

_____ 5. The main card catalog is located on the second floor of the USU Library.

_____ 6. Cards are entered by call number in the main card catalog.

_____ 7. The shelf list is accessible to all patrons of the library.

The following question was present on the post test only.
Please list improvements that you feel would add to the effectiveness of this self-instructional carrel.

Table 3. Pre-test, post-test, carrel, and total time in
          minutes

Subjects	Pre-Test	Post-Test	Carrel			Total
Female	Time	Time	Time	Stops	Repeats	Time
1.	12	15	45	1	0	72
2.	8	18	55	1	8	81
3.	10	20	60	1	15	90
4.	11	30	45	1	0	86
5.	20	30	50	2	0	100
6.	10	25	45	1	1	80
7.	12	20	50	1	6	82
8.	13	19	46	1	2	78
9.	17	23	45	2	1	85
10.	16	20	46	1	0	82
11.	5	12	46	2	0	63
Male						
1.	25	12	45	0	0	82
2.	20	15	45	3	0	80
3.	30	20	47	1	2	97
4.	15	20	50	1	5	85
5.	15	23	67	7	11	105
6.	7	18	45	1	0	70
7.	8	17	55	8	12	80
8.	10	14	45	1	0	69
9.	20	20	46	1	0	86

Table 4. Raw scores, percents, and percent improvement
on pre-test and post-test

Subjects	Age	Pre-Test		Post-Test		Percent Improvement
		Raw Score	Per-cent	Raw Score	Per-cent	
Female						
1.	19	5	21.7	22	95.6	73.9
2.	18	1	4.3	16	69.5	65.2
3.	14	0	0.0	6	26.0	26.0
4.	29	3	13.0	18	78.3	65.3
5.	32	0	0.0	19	82.6	82.6
6.	56	7	30.4	20	87.0	56.6
7.	23	5	21.7	19	82.6	60.9
8.	25	7	30.4	23	100.0	69.6
9.	35	5	21.7	19	82.6	60.9
10.	28	6	26.0	20	87.0	61.0
11.	32	9	39.1	22	95.6	56.6
Male						
1.	27	12	52.2	20	87.0	34.8
2.	24	9	39.1	22	95.6	56.5
3.	43	7	30.4	13	56.5	26.1
4.	29	7	30.4	21	91.3	60.9
5.	41	7	30.4	20	87.0	56.6
6.	28	4	17.4	22	95.6	78.2
7.	27	4	17.4	21	91.3	73.9
8.	29	9	39.1	19	82.6	43.5
9.	36	11	47.8	20	87.0	39.2

The raw score represents the number correct out of 23 items.

Recommendations suggested by subjects

1. Need more reviews of the diagram (system) at the front as we go through the tape. People are lazy. If not told to review, they won't.

2. Question 3b is confusing.

3. I think only that I needed more time so as to be released from some pressure. I do believe however, that too much time would reduce the effectiveness of the program.

4. The use of the index and tables needs some expanding.

5. More automated. (Cassett tape recorder)

6. Questions too heavy loaded.

7. Took the program for the test.

8. Interpretation of question 2 ambiguous. Need the word methods instead of sources.

9. The carrel is put together effectively; easily followed and informational. The only criticism would be the amount of material covered, and length. I found it was difficult to remember the whole process of cataloging. The carrel from a standpoint of conveying to the listener this amount of information would have to be given more than one time.

10. Have an index available to specific portions of the tape.

11. Have a self test on cataloging the books, right on the tape.

12. Have more detail in looking up a Dewey number.

13.   Need the opportunity to repeat and fill out several library cards.

14.   Run it slightly slower for people with run down reflexes.

Reference

Booklet

Jaques, H. E.

How to know the weeds

9/23/68 $3.25   I   I

W. C. Brown
Dubuque, Iowa

Dr. John Smith

Original Order Card

Example A

P.O. No.	THIS IS AN ORDER Please Send Invoice in Triplicate Listing Purchase Order No. To	LIBRARY UTAH STATE UNIVERSITY LOGAN, UTAH 84321

FUND	AUTHOR Jaques, Harry Edwin	
DATE ORDERED	TITLE How to know the weeds	
DEALER		
COST	PRICE $3.25	NO. OF COPIES I	YEAR 1959
	PUBLISHER	
DATE REC'D	W. C. Brown	
	RECOMMENDED BY	
CALL NO.	Dr. John Smith	
	SIGNED BY:	
		ACQUISITIONS DEPT.

Order Form

Example B

TERMS - 30 DAYS NET

CUSTOMER'S ORDER NUMBER

DATE	INVOICE NUMBER	PAGE NO.
7-5-79	224003	

SHIP TO

BILL TO

PLEASE MAKE PAYMENTS ON THIS INVOICE

NO OTHER STATEMENT WILL BE SENT

Stacey's SCIENTIFIC & PROFESSIONAL BOOK CENTER

2575 HANOVER STREET, PALO ALTO, CALIFORNIA 943

PHONE (415) 326-9955

80

Invoice Example C

Johnson, Elmer D

Johnson, Elmer D

Johnson, Elmer D

Johnson, Elmer D

Johnson, Elmer D
     Communication; an introduction to the history of writ
ing, printing, books and libraries, by Elmer D. Johnson
3d ed.   New York, Scarecrow Press, 1966.

     304 p.   22 cm.

     Includes bibliographies.

THIS IS YOUR SET OF CATALOG CARDS

     1. Libraries—Hist.   I. Title.

     Z721.J6   1966   027.009   66—

     Library of Congress   .63m/20.

LC   Cards

Example   D

LC Order #

Example E

632.58 Jaques, Harry Edwin, 1880-
J276   How to know the weeds; pictured keys for

1

Weeds.
632.58 Jaques, Harry Edwin, 1880-
J276   How to know the weeds; pictured keys for
            identifying the more common weeds of farm and

2

How to know the weeds.
632.58 Jaques, Harry Edwin, 1880-
J276   How to know the weeds; pictured keys for
            identifying the more common weeds of farm and
            garden, with interesting facts concerning
            them. Dubuque, Iowa. W. C. Brown Co. [1959]

            230 p. illus. 22cm. (Pictured-Key Nature
        Series)
            Bibliography: p. I00-200.

            1. Weeds.   I. Title.

3

Author, Subject, Title-Cards

Example F

P.O. No.	LIBRARY UTAH STATE UNIVERSITY LOGAN, UTAH 84321		L.C. CARD NO.
FUND	AUTHOR Jaques, Harry Edwin		
DATE ORDERED 4/23/68	TITLE how to know the weeds		
DEALER Stacey	PRICE $3.25	NO. OF COPIES 1	YEAR 1959
COST $3.25	PUBLISHER J. C. Brown		
DATE REC'D 3/6/69	RECOMMENDED BY Dr. John Smith		
CALL NO. 632.59 J27c	SIGNED BY:		
	THE BOOK YOU REQUESTED IS NOW IN THE LIBRARY		

Notification Card

Example H

VITA

Heber Clark Barzee

Candidate for the Degree of

Master of Education

Report:A Self-Instructional Program for the Technical
Services of the Utah State University Library

Major Field: Instructional Media and Library Science

Biographical Information:

Personal Data: Born at Idaho Falls, Idaho, November
21, 1940, son of Arlo Everett and Sarah Hammon
Barzee; married Jessie Lynne Lovell June 28, 1963;
two children--Adele and Stanley.

Education: Attended elementary school in Hamer, Idaho;
attended Roberts High School and graduated from
West Jefferson High School in Terreton, Idaho in
1959; attended Brigham Young University and Ricks
College and received the Bachelor of Arts degree
from Idaho State University with a major in
Elementary Education in 1966; completed require-
ments for the Master of Education degree in
Instructional Media and Library Science at Utah
State University in 1969.

Professional Experience: Taught 5th grade at Burton
Elementary School, Rexburg, Idaho, 1966-67;
served as Principal and teacher at Newton Elemen-
tary School, Newton, Utah, 1967-68; served as
graduate assistant in Instructional Media and
Library Science Department, Utah State University,
1968-69.