

R E P O R T R E S U M E S

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ARCHITECTURE AND EQUIPMENT FOR THE LANGUAGE LABORATORY.

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PERKINS AND WILL, ARCHITECTS, CHICAGO, ILL.

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EQUIPMENT, EQUIPMENT, EQUIPMENT DESIGN, LANGUAGE INSTRUCTION,

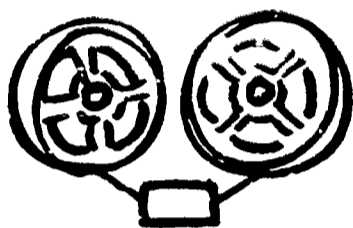
A SERIES OF BRIEF DISCUSSIONS ARE GIVEN OF LANGUAGE
LABORATORIES WITH RESPECT TO-- (1) HOW STUDENTS USE THE
FACILITIES, (2) COMPONENTS, (3) GROUP USE AND INDIVIDUAL
STUDY, (4) SCHEDULING IN A CURRICULUM, (5) LOCATION IN THE
SCHOOL, (6) DESIGN OF THE FACILITIES, (7) RECENT
DEVELOPMENTS, AND (8) FUTURE PROJECTION. (JT)

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ED017140

SKETCH
BOOK-



ARCHITECTURE AND EQUIPMENT FOR THE LANGUAGE LABORATORY

BY CHARLES WILLIAM BROBAKER
PERKINS & WILL, ARCHITECTS

LANGUAGE SKILL, SO NECESSARY FOR READING, WRITING, AND ORAL COMMUNICATION, IS ALSO ESSENTIAL FOR THE UNDERSTANDING OF FOREIGN CULTURES. SINCE THE LANGUAGE LEARNING PROCESS INVOLVES 1) UNDERSTANDING BY HEARING, 2) SPEAKING, 3) READING, AND 4) WRITING, IT IS APPARENT THAT EFFECTIVE LISTENING AND SPEAKING PRACTICE IS WORTH SEEKING. THE LANGUAGE LABORATORY, UNKNOWN 15 YEARS AGO, HAS BECOME AN EFFECTIVE TOOL FOR LEARNING. IN THIS STUDY, WE EXPLORE USES AND FUNCTIONS, BELIEVING THAT COMPREHENSION IS ESSENTIAL TO THE PROPER DESIGN AND SELECTION OF EQUIPMENT, AND IS AN ESSENTIAL INGREDIENT IN THE ARCHITECTURE OF SCHOOLS THAT ARE TO SERVE NOT ONLY TODAY'S KNOWN PROGRAMS BUT ALSO TOMORROW'S UNKNOWN PROGRAMS.

SKETCHBOOK PREPARED FOR THE CONFERENCE AT PURDUE UNIVERSITY, MARCH 23-25, 1961
" MATERIALS AND TECHNIQUES FOR THE LANGUAGE LABORATORY "

JOINTLY SPONSORED BY INDIANA UNIVERSITY AND PURDUE UNIVERSITY
AND MADE POSSIBLE BY A GRANT FROM THE EDUCATIONAL FACILITIES LABORATORIES.

ED017147

"IT IS CLEAR THAT THE LANGUAGE LABORATORY IS DEFINITELY ESTABLISHED AS A BASIC INGREDIENT IN A SUCCESSFUL FOREIGN LANGUAGE PROGRAM. THE LANGUAGE LABORATORY NOT ONLY IS INCLUDED IN MOST PREDICTIONS OF WHAT THE FUTURE SCHOOL WILL BE LIKE, BUT ALSO HOLDS PROMISES OF EVEN TRANSFORMING ITSELF INTO THE NEW CONCEPT OF THE TEACHING MACHINE."

(Joseph C. Hutchinson, at the 1960 Conference at Indiana University)

- " STUDENTS SHOULD HAVE OPPORTUNITIES TO REACH EDUCATIONAL GOALS FAR BEYOND THOSE USUALLY PROVIDED IN TODAY'S SCHOOLS.
 - " THE SIZE AND NATURE OF INSTRUCTIONAL GROUPS SHOULD VARY WITH THE PURPOSES TO BE ACHIEVED AND THE CONTENT TO BE LEARNED.
 - " SCHEDULES SHOULD PERMIT FLEXIBLE PROGRAMS AND STILL ACCOUNT ACCURATELY FOR STUDENTS.
 - " THE CURRICULUM SHOULD IMPEL MAXIMUM DEVELOPMENT OF THE INTELLECTUAL POWERS OF ALL STUDENTS.
 - " MORE VIGOROUS EFFORTS SHOULD BE MADE TO BRING THE MEANS OF COMMUNICATING IDEAS ABREAST OF THE LATEST SCIENTIFIC ADVANCES."
- Some notes from "NEW DIRECTIONS TO QUALITY EDUCATION" by J. Lloyd Trump.

LANGUAGE LABORATORY ARCHITECTURE AND EQUIPMENT ARE DETERMINED BY HOW THE STUDENT STUDIES

LISTENING ONLY (AUDIO-PASSIVE)

THE STUDENT, WEARING HEADPHONES,
HEARS THE MASTER RECORD OR
TAPE RECORDING.

LISTENING & RESPONDING (AUDIO-ACTIVE)

THE STUDENT LISTENS TO THE MASTER
RECORDING, RESPONDS INTO HIS MICROPHONE
AND HEARS HIS OWN VOICE INSTANTANEOUSLY
THRU HIS HEADPHONES.

LISTENING, RESPONDING, RECORDING & COMPARING (AUDIO-ACTIVE-COMPARATIVE)

THE STUDENT LISTENS
TO THE MASTER RECORDING,
RESPONDS, AND
RECORDS ON TAPE BOTH
THE MASTER VOICE AND
HIS OWN VOICE. HE THEN
PLAYS BACK THE TAPE
TO COMPARE THE MASTER
AND HIS OWN VOICE.

INDIVIDUAL STUDY

SAME AS ABOVE
EXCEPT EACH STUDENT
CAN WORK INDEPENDENTLY
(AT HIS OWN LEVEL AND RATE)
WITH MASTER TAPES
ON HIS OWN RECORDER.

LANGUAGE LABORATORY COMPONENTS -

**FOR THE GROUP
(USUALLY AT THE
TEACHER'S CONSOLE)**

**FOR THE
INDIVIDUAL
STUDENT
(AT HIS OWN PLACE)**

**RECORD
PLAYER**



TEACHER CAN PLAY RECORDS

**TAPE
RECORDER
& PLAYBACK**



TEACHER CAN MAKE RECORDINGS
AND PLAY MASTER TAPES



**HEAD-
PHONES**

STUDENT CAN LISTEN TO RECORDINGS



**MICRO-
PHONE**

STUDENT CAN LISTEN AND RESPOND
AND HEAR HIS OWN VOICE.

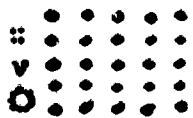


TEACHER CAN RECORD
STUDENTS' RESPONSES

**STUDENT
TAPE RECORDERS**

STUDENT CAN RECORD BOTH
MASTER AND HIS OWN VOICE
AND COMPARE.

**CONTROL
PANEL**



TEACHER CAN MONITOR, RECORD, AND
COMMUNICATE WITH ANY STUDENT

**MANY
PROGRAM
SOURCES**



TEACHER CAN DIRECT MANY
DIFFERENT PROGRAMS TO
DIFFERENT STUDENTS



**CHANNEL
SELECTOR**

STUDENT CAN SELECT HIS PROGRAM



**INDIVIDUAL
TAPE
RECORDER**

STUDENT CAN USE MASTERTAPES
TO SUIT HIS OWN NEEDS
AND AT HIS OWN RATE.



COORDINATED VISUAL AIDS

STUDENT CAN SEE
THE CULTURE OF
THE LANGUAGE.

TWO BASIC TYPES OF LANGUAGE LABORATORIES -

1. REGULAR CLASS-ASSIGNED GROUP USE

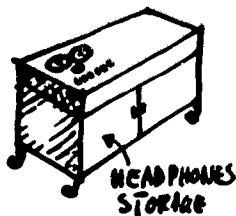
- A PART OF THE REGULAR CLASS ASSIGNMENT.
- CLASS USES THE LAB ON GROUP BASIS, DIRECTED BY TEACHER.
(FOR EXAMPLE - 2 OR 3 HALF-HOUR PERIODS EACH WEEK)
- COMMONLY USED IN HIGH SCHOOLS

2. INDEPENDENT STUDY FACILITY INDIVIDUAL USE

- A SUPPLEMENT TO CLASSROOM INSTRUCTION
- EACH STUDENT USES LAB ON INDIVIDUAL BASIS
(WHENEVER HIS OWN SCHEDULE PERMITS)
- COMMONLY USED IN COLLEGES
BUT ALSO RECOMMENDED FOR HIGH SCHOOLS

OTHER POSSIBILITIES -

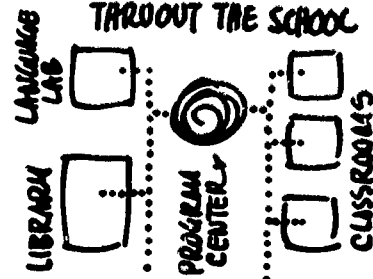
"MOBILE LAB"
ROLLS INTO
MANY ROOMS -



PRACTICE, OR
"DRILL ROOM"
... CLASS LISTENS,
& RESPONDS IN CHORUS
(ONLY PLAYER & SPEAKER REQUIRED)

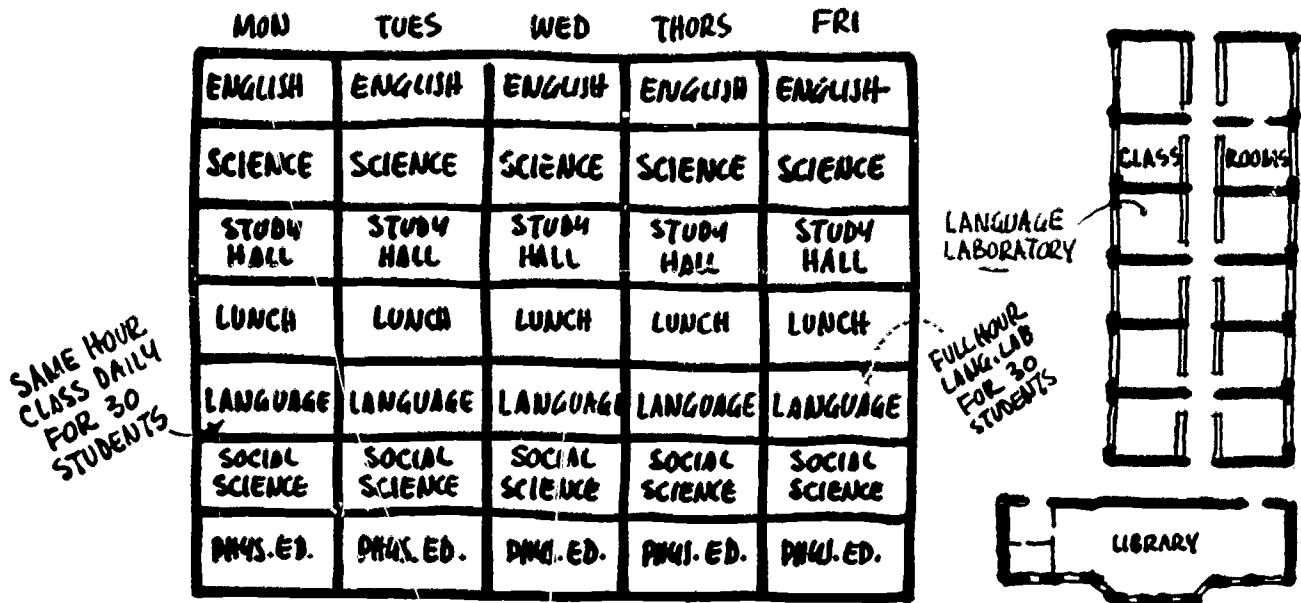
"LANGUAGE LOUNGE"
FOR GROUP CONVERSATION
EXPERIENCE & PRACTICE.

"PROGRAM
CENTER"
(EQUIPMENT)
SERVING MANY SPACES
THROUGHT THE SCHOOL

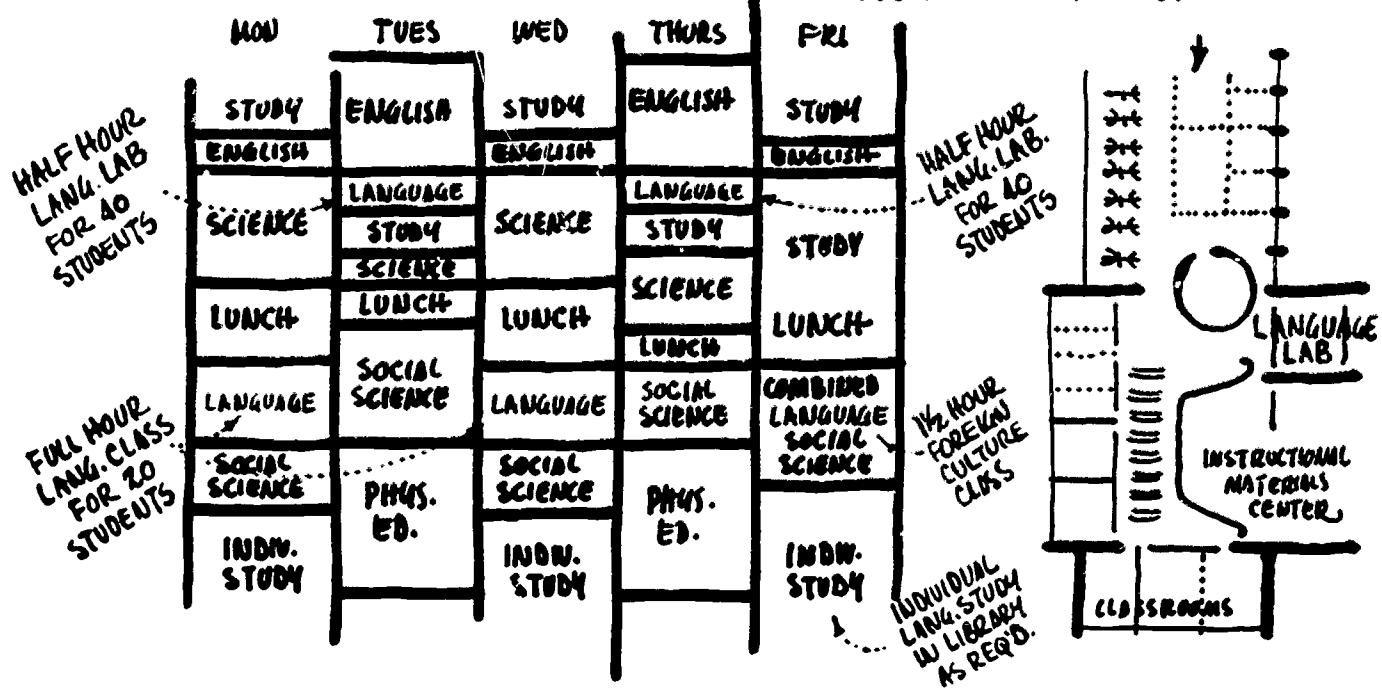


SCHEDULING

CLASSES OF 30 AND UNVARYING, RIGID SCHEDULES CREATE UNVARYING RIGID ROWS OF CLASSROOMS



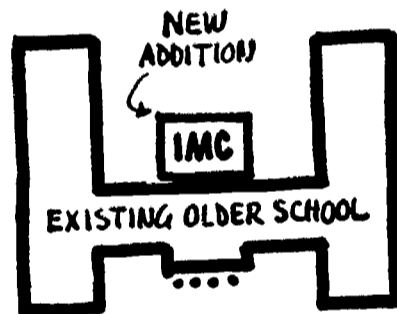
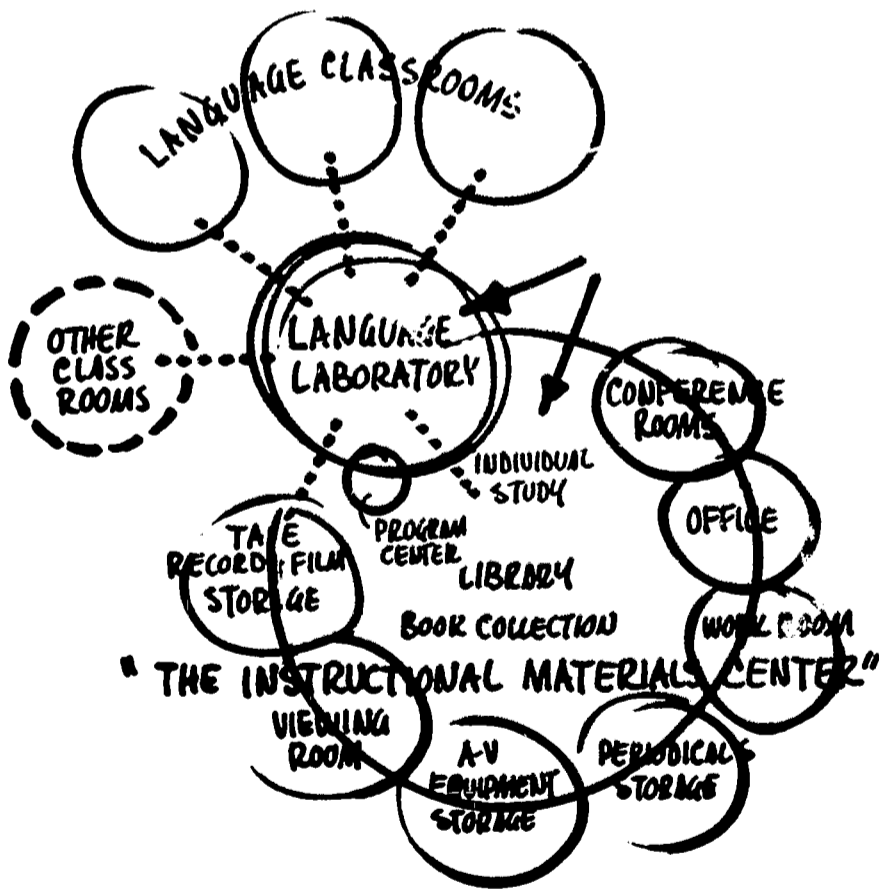
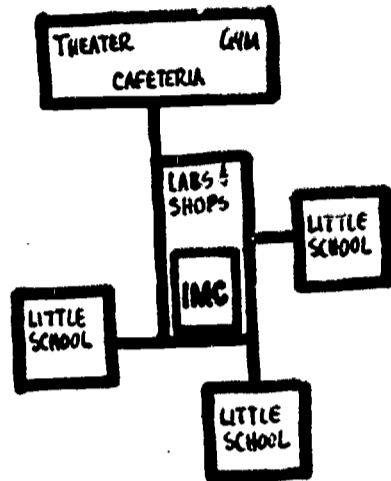
CLASSES OF VARYING SIZE AND FLEXIBLE INDIVIDUAL SCHEDULES CREATE FLEXIBLE LEARNING SPACES



LANGUAGE LABORATORY LOCATION IN THE SCHOOL -

SINCE TAPES, RECORDS, SLIDES & FILMS
ARE USED - AND BECAUSE IT IS
A LIBRARY-STUDY FACILITY (IN ADDITION TO
BEING A CLASSROOM)

THE LANGUAGE
LABORATORY SHOULD BE A PART OF THE
INSTRUCTIONAL MATERIALS CENTER (IMC)
AT THE HEART OF THE SCHOOL ...

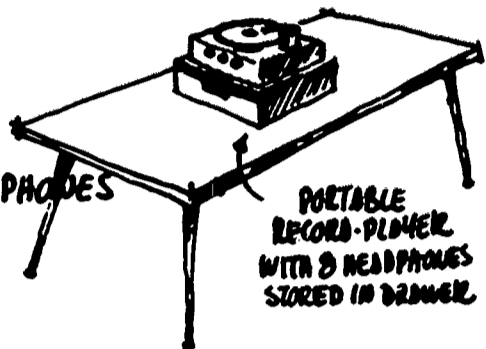


FOR ADDITIONAL
NOTES ON THE "IMC"
SEE "PLANNING SCHOOLS
FOR NEW MEDIA" BY
DE BERNARDS, DOMERTY,
WUNNEL, & BRUBAKER.

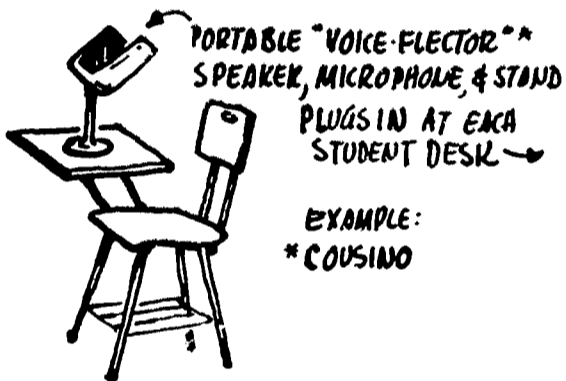
LABORATORY DESIGN-

MINIMUM FACILITY FOR ELEMENTARY SCHOOLS -

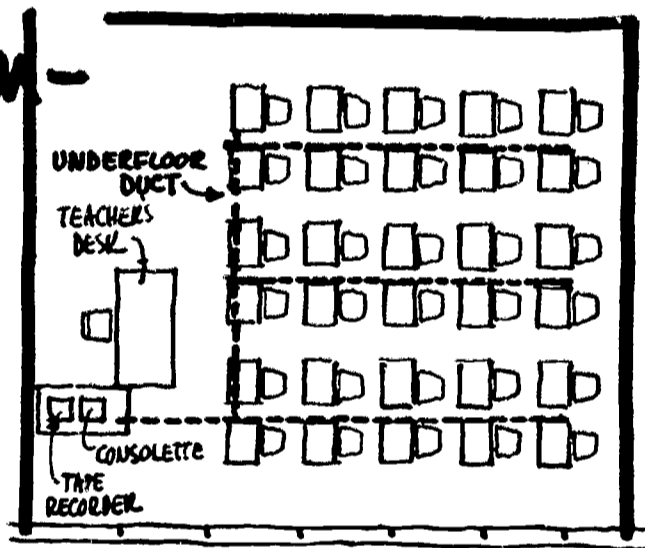
STUDENTS SIT AROUND TABLE FOR LISTENING ONLY - WITH HEADPHONES



LANGUAGE LABORATORY USING REGULAR DESKS IN STANDARD CLASSROOM -



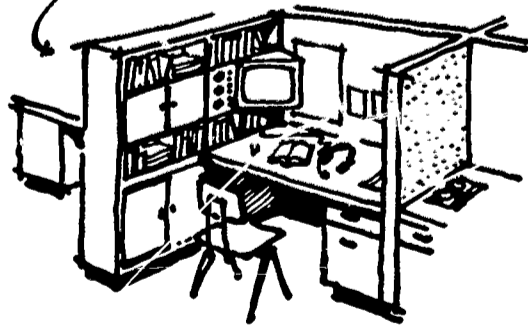
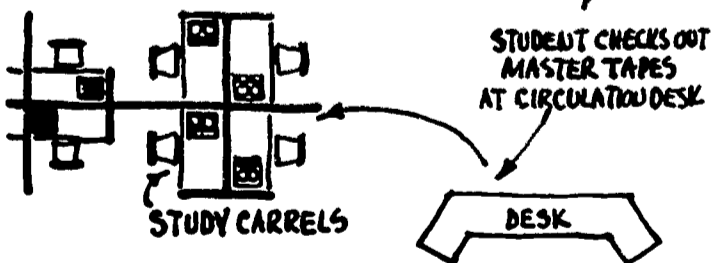
EXAMPLE:
* COUSINO



INDIVIDUAL STUDY -

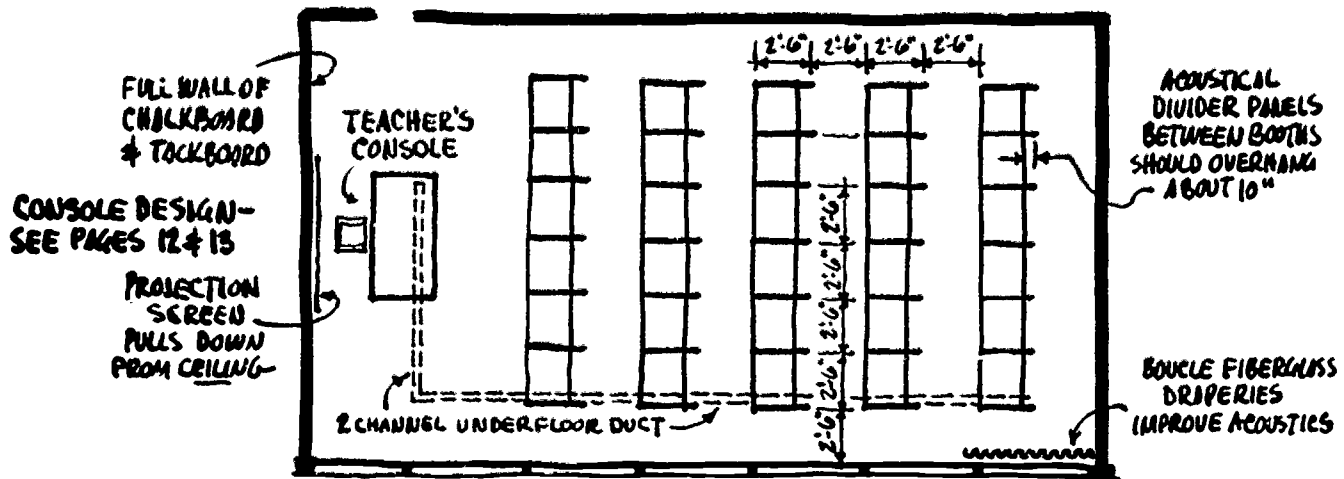
(ONE STUDENT USING MASTERTAPES INDIVIDUALLY AND AT HIS OWN RATE...)

- CAN OCCUR IN A LAB. PROPERLY EQUIPPED -
- BUT ALSO CAN OCCUR IN THE LIBRARY OR IN ONE STUDENT'S Q-SPACE -
- SPACE FOR INDIVIDUAL LEARNING.



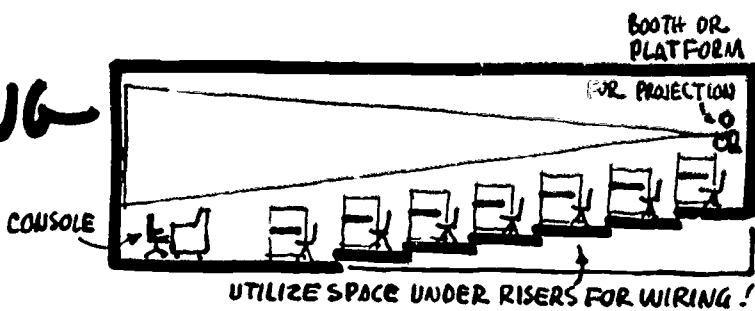
TYPICAL 30 BOOTH LANGUAGE LABORATORY-

BOOTH DESIGN-
SEE PAGES 10 & 11



STEPPED FLOOR IMPROVES VIEWING

EXAMPLE:
PURDUE'S NEW LABS
IN COULTER HALL.

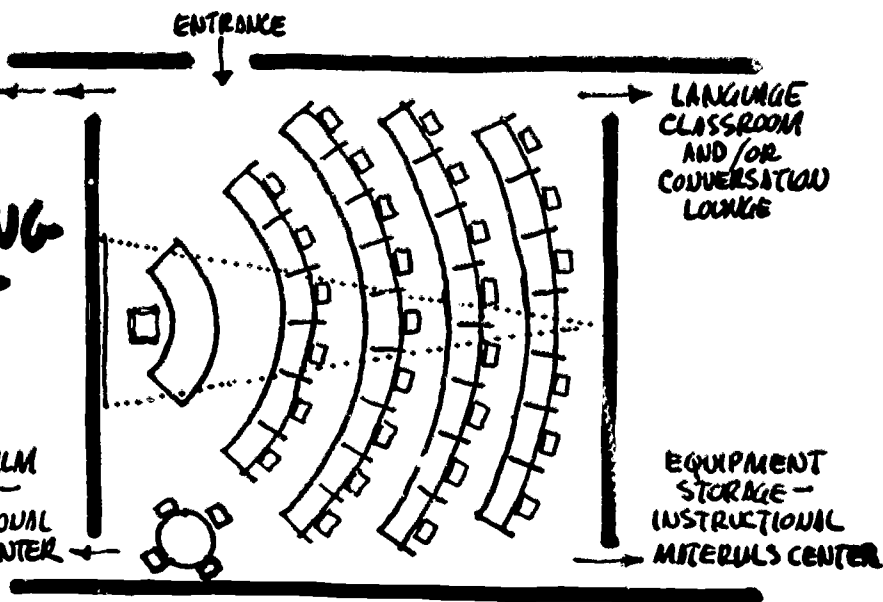


CURVED ROWS IMPROVE VIEWING AND CONTROL-

EXAMPLE:
ECKEL

"SPOKEN LANGUAGE GAINS IN MEANING BY ITS RELATION TO THE IMMEDIATE VISUAL CONTEXT" (Elton Hacking)

TAPE & FILM LIBRARY-
INSTRUCTIONAL MATERIALS CENTER



DESIGN OF STUDENT BOOTHS -

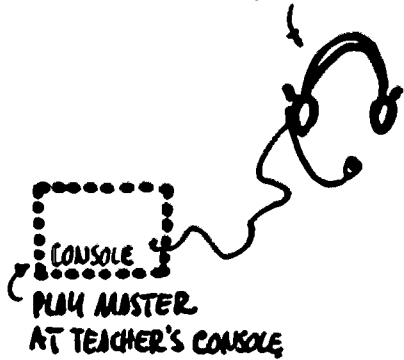
THREE MAJOR FUNCTIONAL TYPES :

MOST ECONOMIC TYPE

I AUDIO- ACTIVE

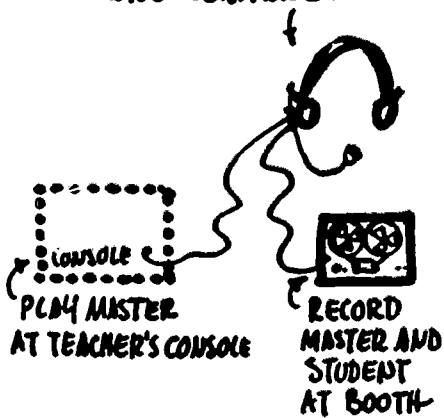


STUDENT HEARS MASTER TAPE THRU HEADPHONES, RESPONDS BY SPEAKING INTO HIS MICROPHONE, HEARS HIMSELF INSTANTANEOUSLY THRU HIS HEADPHONES.



II AUDIO- ACTIVE- COMPARATIVE

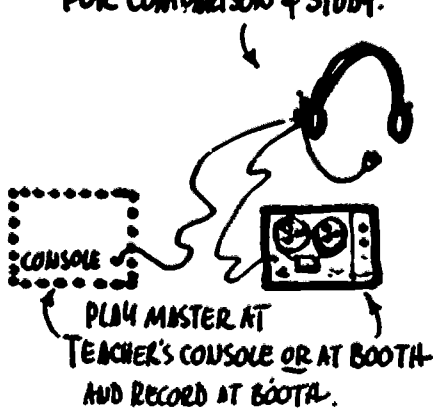
STUDENT CAN RECORD BOTH THE MASTER AND HIS OWN SPEECH ON TAPE, THEN PLAYBACK THE RECORDING, LISTEN AND COMPARE.



III INDIVIDUAL STUDY



STUDENT CAN WORK INDEPENDENTLY WITH APPROPRIATE MASTER TAPE, RECORD BOTH MASTER AND HIS OWN RESPONSES, THEN PLAYBACK THE RECORDING FOR COMPARISON & STUDY.



MOST EXPENSIVE (BUT MOST USEFUL)

FOR REGULAR CLASS USE TEACHER CAN DIRECT DIFFERENT PROGRAMS TO VARIOUS GROUPS IN THE CLASS.

FOR BOTH CLASS AND LIBRARY OR INDIVIDUAL STUDY.

THE STUDENT CAN -

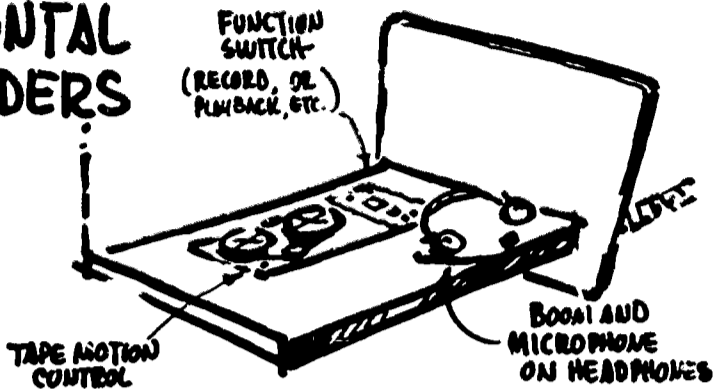
- I LISTEN TO MASTER LESSONS.
- I RESPOND AND HEAR HIS OWN VOICE.
- I COMMUNICATE WITH THE TEACHER, AND OTHER STUDENTS.

- I RECORD BOTH THE MASTER AND HIS OWN VOICE.
- I COMPARE HIS OWN VOICE WITH THE MASTER MODEL VOICE.

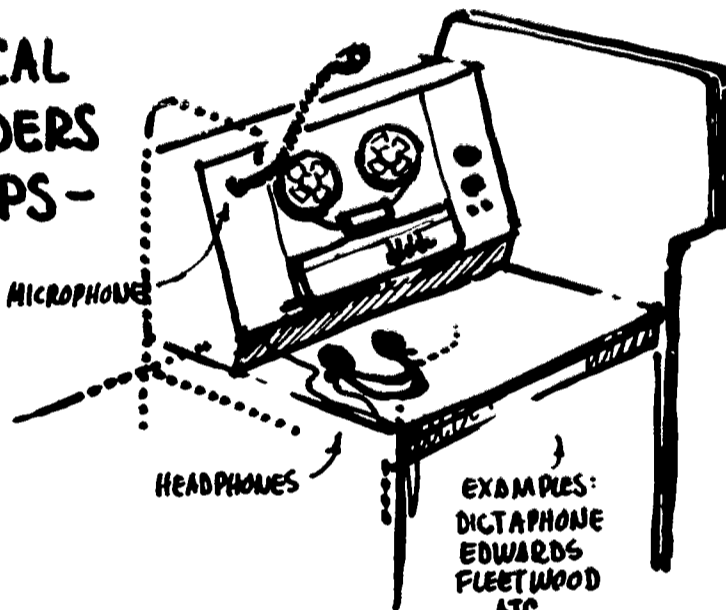
- III STUDY INDIVIDUALLY WORKING WITH A SPECIAL MASTERTAPE APPROPRIATE TO HIS OWN NEEDS ... AND AT HIS OWN RATE.

BOOTHS WITH HORIZONTAL STUDENT TAPE RECORDERS IN DESK TOPS -

EXAMPLES:
MONITOR
RHEEM-CALIFONE
DUKANE
RCA
JENTZEN-MILLER



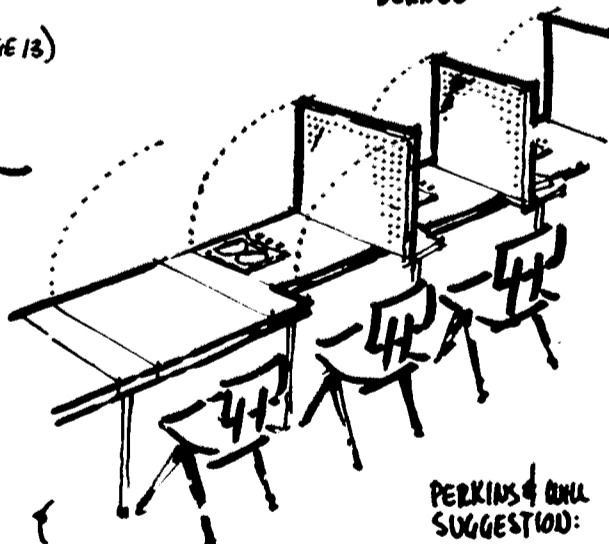
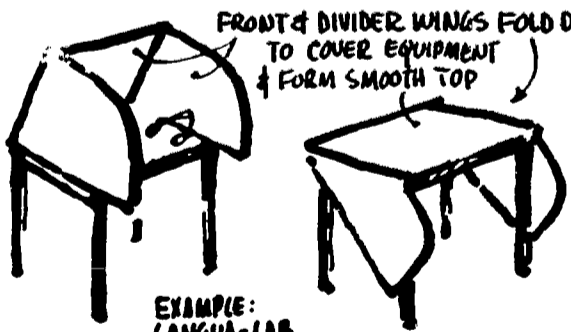
BOOTHS WITH VERTICAL STUDENT TAPE RECORDERS AT FRONT OF DESK TOPS -



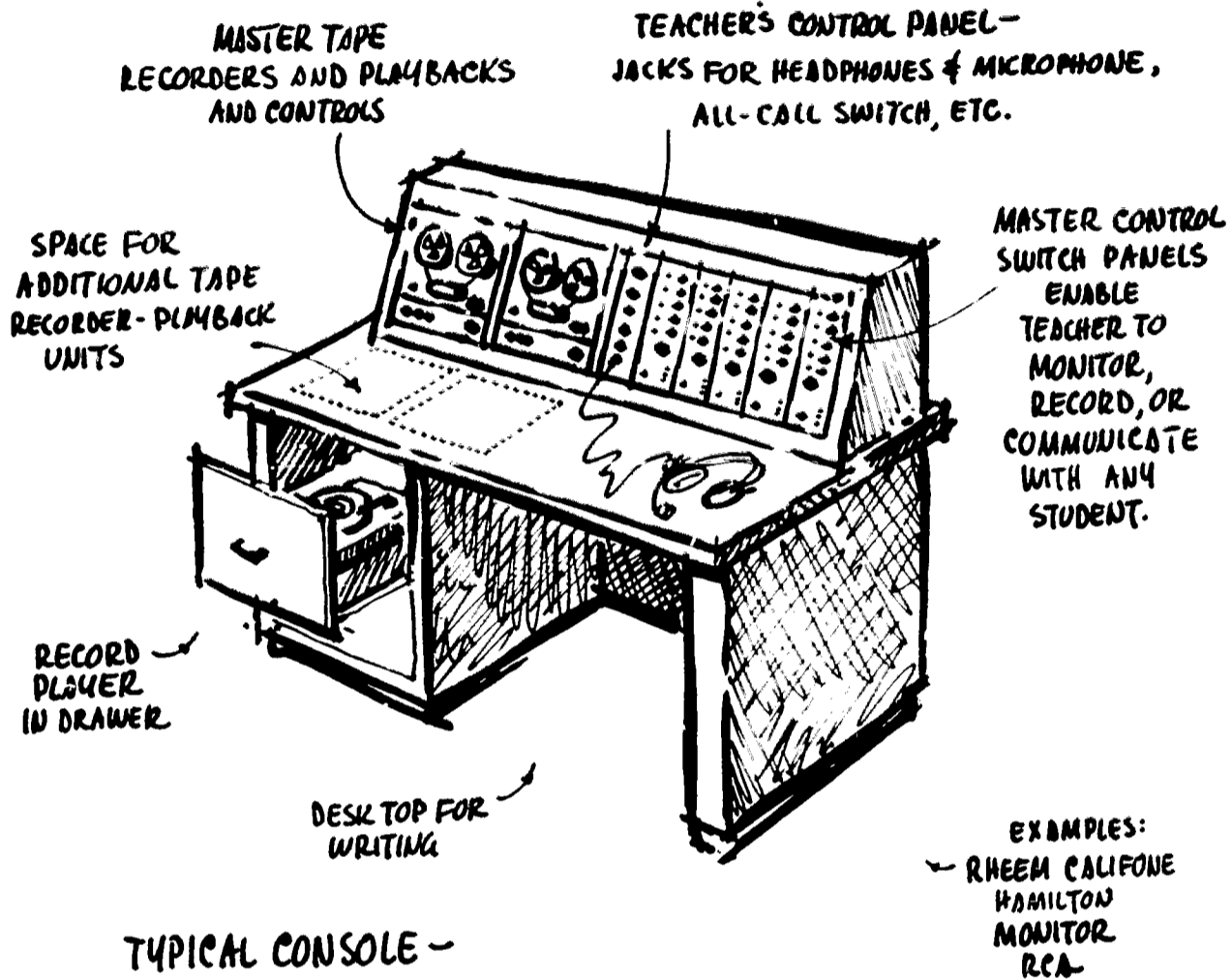
BOOTHS WITH STUDENT RECORDERS AT REMOTE LOCATION -

EITHER AT TEACHER'S CONSOLE (SEE AMERICAN SEATING, PAGE 13)
OR AT REMOTE CABINET (SEE PAGE 15)

CONVERTIBLE BOOTHS -



DESIGN OF TEACHER'S CONSOLE -



TYPICAL CONSOLE -

THE TEACHER CAN -

DIRECT DIFFERENT LESSON PROGRAMS TO SELECTED STUDENTS.

DIVIDE CLASS INTO GROUPS

MONITOR (LISTEN TO) EACH INDIVIDUAL STUDENT'S RESPONSES.

COMMUNICATE WITH ANY STUDENT, TO CORRECT & INSTRUCT.

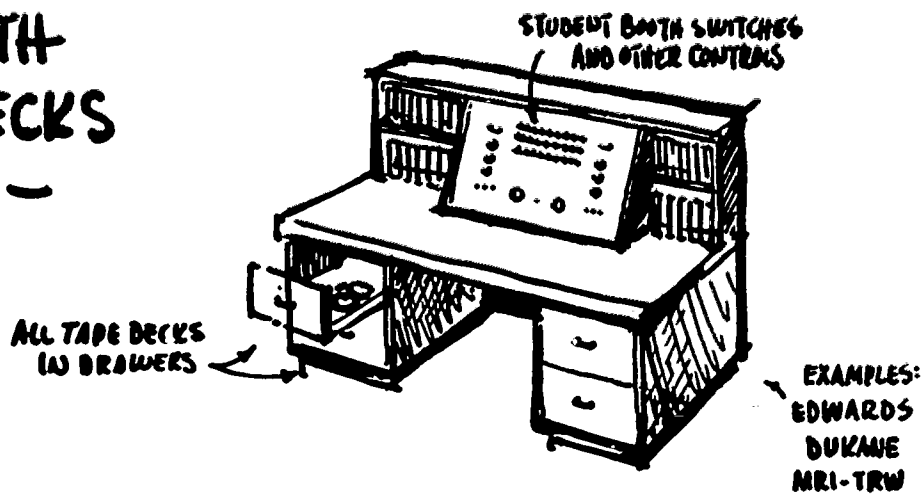
RECORD ANY STUDENT'S RESPONSES ON A TAPE AT THE CONSOLE.

TALK TO AN INDIVIDUAL, A ROW, A GROUP OR TO THE ENTIRE CLASS.

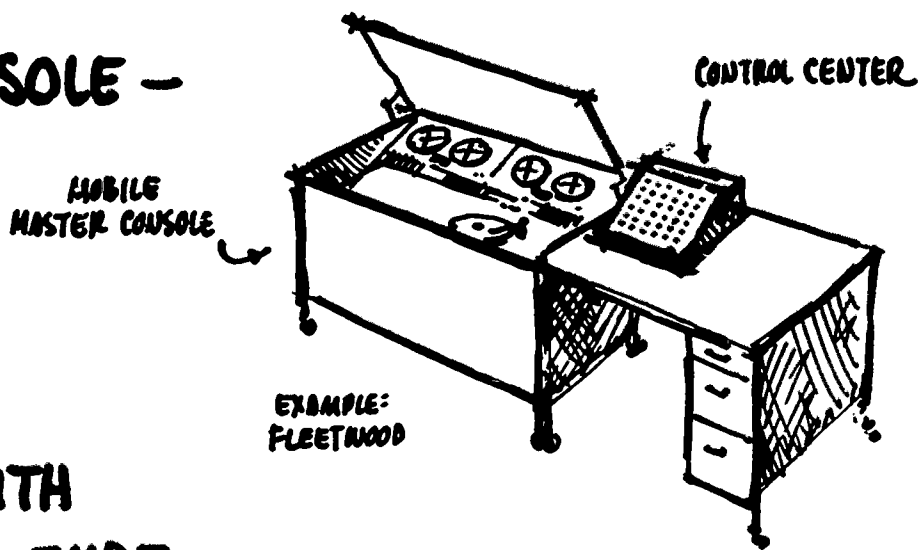
BROADCAST ONE, OR TWO STUDENTS' CONVERSATION TO A GROUP OR THE CLASS.

DUPLICATE MASTER TAPES, AND RECORD MASTER LESSONS ON TAPE.

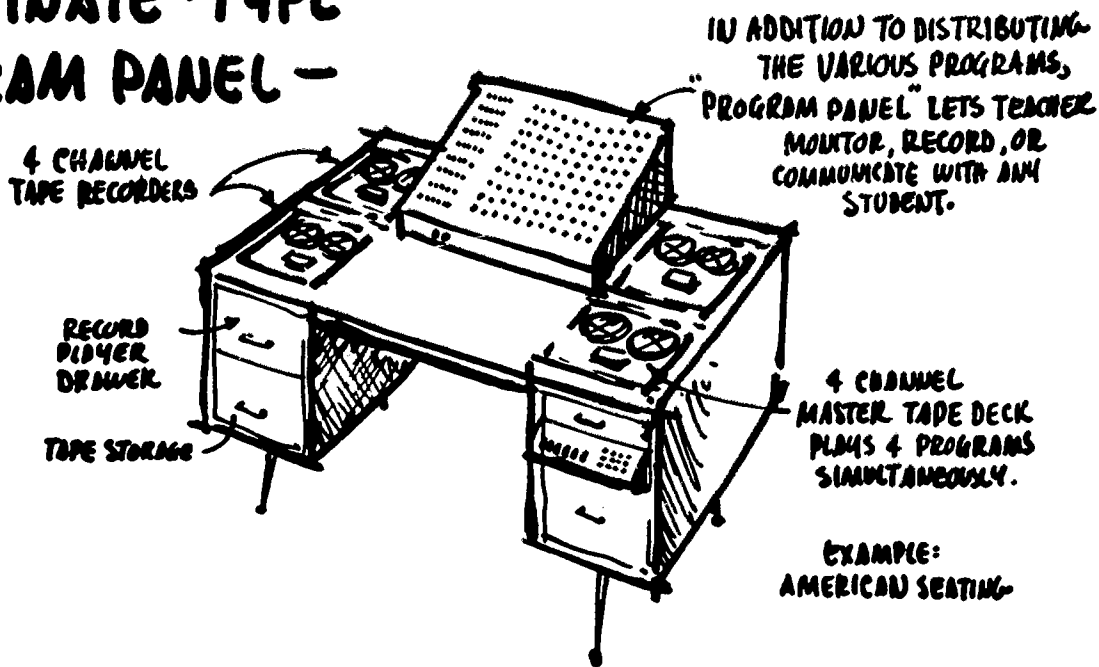
CONSOLE WITH ALL TAPE DECKS IN DRAWERS -



MOBILE CONSOLE -



CONSOLE WITH COORDINATE-TYPE PROGRAM PANEL -



SOME RECENT DEVELOPMENTS-

REMINER: LANGUAGE IS MULTI-SENSORY" (Hocking)

TREND: COORDINATED USE OF AUDIO AND VISUAL MATERIALS

... WE CAN EXPECT EVEN GREATER REINFORCEMENT IN THE VISUAL AIDS IN THE NEAR FUTURE AS A RESULT OF... PROJECTS WHICH ARE COMPLETELY INTEGRATING AUDIO AND VISUAL MATERIALS FOR CLASS AND LABORATORY WORK."

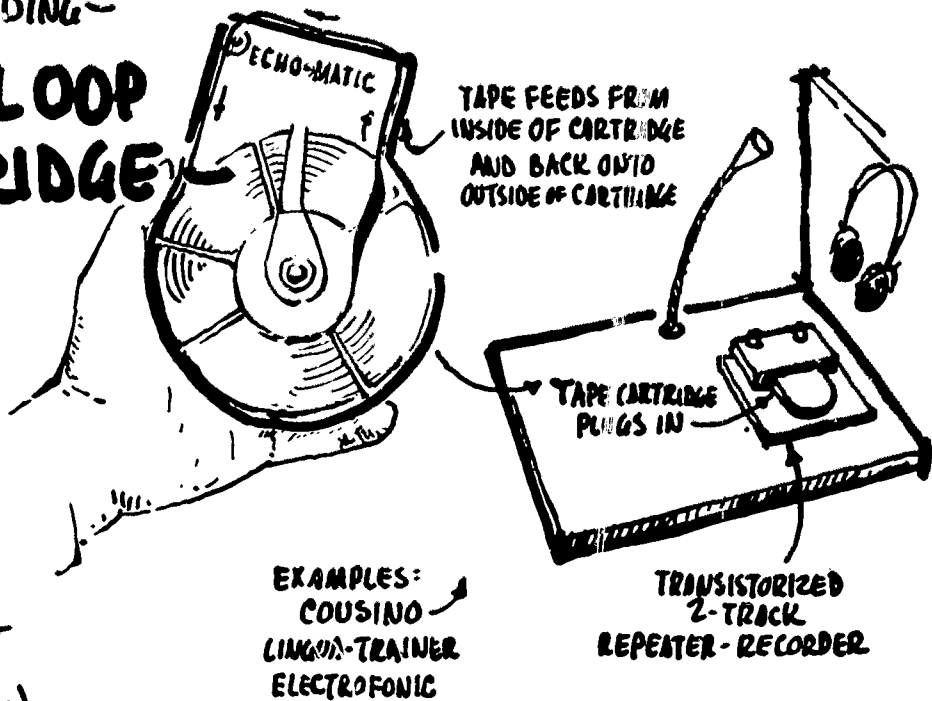
(Hutchinson)

OBJECTS, MODELS
MAPS, POSTERS
PHOTOGRAPHS, SLIDES,
FILMSTRIP
(EXAMPLE: SVE)
MOTION PICTURES
(EXAMPLE: RECENT
PURDUE FILMS FOR
LANGUAGE LABS.)
AND NEXT...
VIDEO-TAPE!

TO ELIMINATE RE-WINDING-

ENDLESS LOOP TAPE CARTRIDGE

NOTE:
SIMPLICITY OF OPERATION
SOMETIMES REQUIRES
COMPLEXITY OF EQUIPMENT!
THEREFORE -
WE SHOULD SEEK EQUIPMENT
"AS RELIABLE AS THE
DIAL TELEPHONE" (WM. LOCKE)

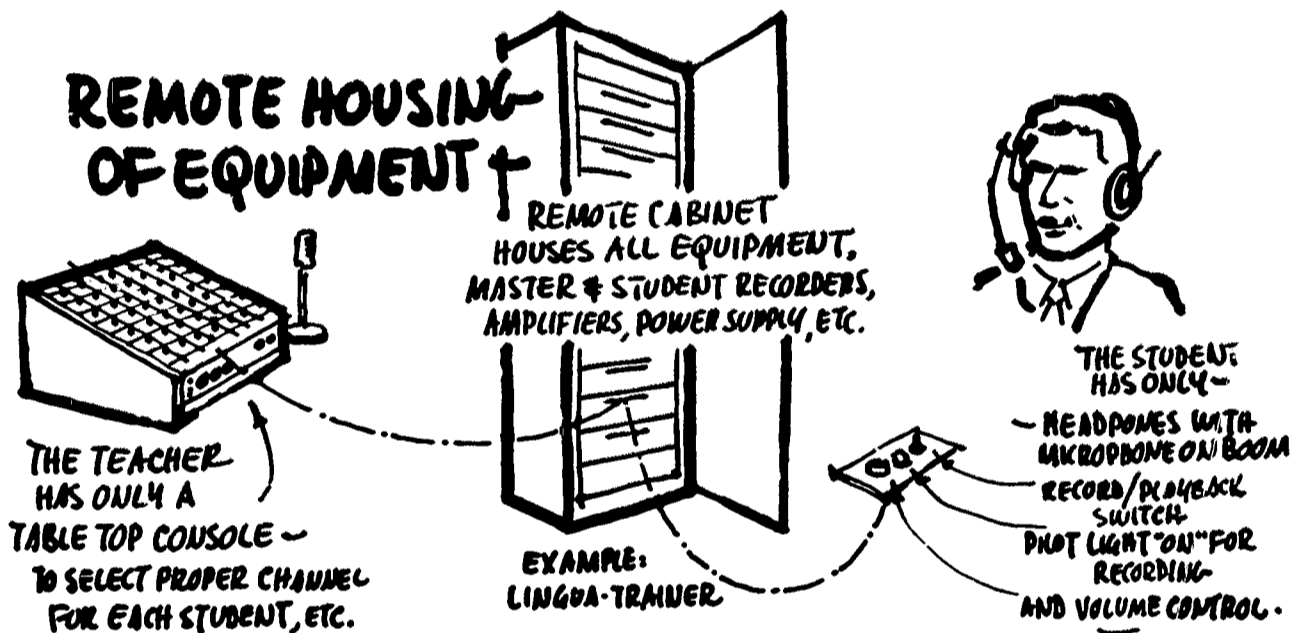


DESIRE FOR SIMPLICITY OF OPERATION AND BROAD SELECTION OF MASTER TAPES:

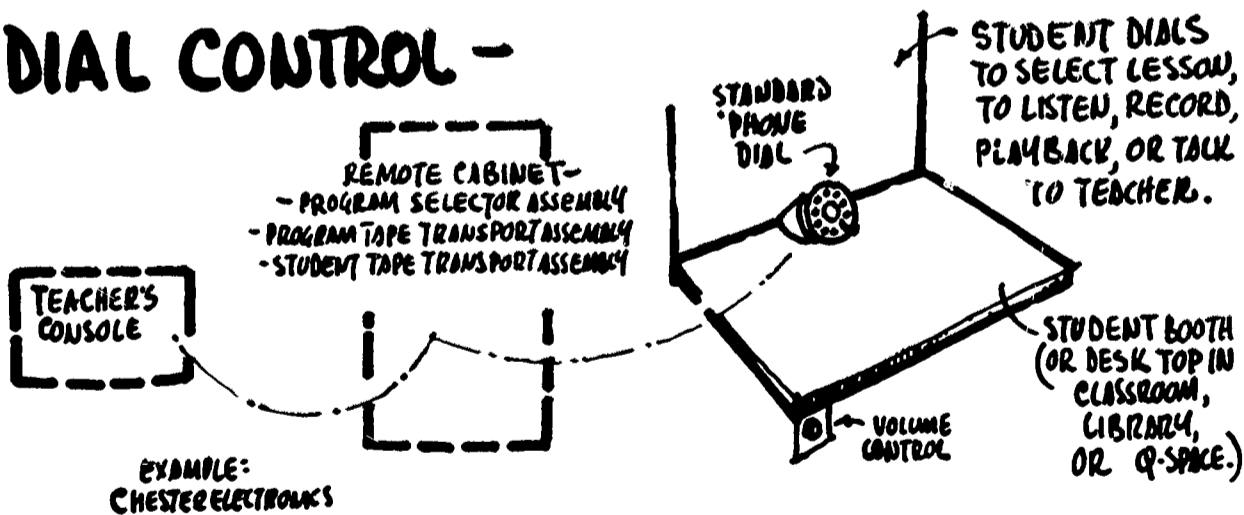
PERHAPS TOO MUCH EQUIPMENT IN FRONT OF THE STUDENT DETRACTS HIM FROM LANGUAGE.

THE STUDENT SHOULD HAVE AVAILABLE TO HIM MANY MASTER TAPES THAT VARY IN DIFFICULTY, KIND, AND NATIVE VOICE.

TREND: AUTOMATIC ^{REMOTE CONTROL} LANGUAGE LAB SYSTEM



DIAL CONTROL -



TOMORROW—



STUDENTS WILL HAVE
MORE OPPORTUNITY FOR
INDIVIDUAL STUDY.

LANGUAGE LABORATORY SYSTEMS
WILL BECOME MORE AUTOMATIC
WITH SIMPLICITY OF OPERATION, AND
BROAD SELECTION OF MATERIALS.

SYSTEMS MAY
BECOME WIRELESS.

AUDIO AND VISUAL MATERIALS
WILL BE COORDINATED.

VIDEO-TAPE WILL SERVE
GROUP AND INDIVIDUAL LEARNING.

THE TEACHING MACHINE
(SUPPLYING THE READING-WRITING-TESTING ELEMENTS)
MAY JOIN THE AUDIO & VISUAL COMPONENTS.

THE "LANGUAGE LABORATORY" MAY BECOME
THE LEARNING LABORATORY
— ALL FOR MORE EFFECTIVE LANGUAGE LEARNING.

—ASTORY FOR THE EDUCATIONAL FACILITIES LABORATORIES
BY CHARLES WILLIAM BRUBAKER; PERKINS & WILL, ARCHITECTS

1961