A research project investigated the effectiveness of the use of a tape recorder and taped lessons with accompanying worksheets for independent work activities in the 1st grade. An experimental group heard lessons on reading readiness, auditory perception, phonics, and reading skills, in addition to having regular instruction from the teacher. The control group received only regular instruction. It was hypothesized that the former would demonstrate greater gains in knowledge of rhyming words and initial sounds, would have greater word knowledge and word discrimination skills, and would show greater composite reading skills. Post-test data did not support any of the hypotheses. It was possible that the objectives were overly ambitious and that the individual differences between subjects were not accounted for completely by the differences in individual test scores. It appeared that further study should investigate the impact of the individual's cultural background upon his ability to read. The use of audio tapes did, however, improve students' listening skills and help to maintain order in the classroom. (PB)
Audio-Tapes for Independent Reading Activities

CENTRAL ARK EDUCATION CENTER
TITLE: AN EXPERIMENT TO DETERMINE THE EFFECTIVENESS OF USING AUDIO-TAPES FOR INDEPENDENT ACTIVITIES AT THE FIRST GRADE

DATE: 1971-1972

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   Mini-Grant Recipient(s)

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AN EXPERIMENT TO DETERMINE THE EFFECTIVENESS
OF USING AUDIO-TAPES FOR INDEPENDENT
ACTIVITIES IN A FIRST GRADE

by
Mary Button
August 18, 1971
AN EXPERIMENT TO DETERMINE THE EFFECTIVENESS
OF USING AUDIO-TAPES FOR INDEPENDENT
ACTIVITIES IN A FIRST GRADE

PROBLEM

Introduction

Six year olds entering school for the first time
lean heavily upon a personal relationship with their class-
room teacher. She is their mother-image. During the first
couple of school, the first grade teacher may plan activi-
ties that involve the whole group doing the same thing at
the same time. But soon, if academic learning is to take
place, she begins to work with a small group of children for
fifteen to thirty minutes while two-thirds to three-fourths
of the classroom group must engage in independent activities
without the teacher's direct supervision. Therein lies the
problem.

Independence is a matter of gradual developmental
growth. Many young children find it difficult to be respon-
sible for their own behavior and learning for more than very
brief periods of time. They find it difficult to remember
and follow directions, particularly when more than one thing
at a time is to be remembered.

Statement of the Problem

The purpose of this study is to determine the effect-
iveness of the use of the tape recorder, headphones, and
accompanying worksheets with first grade children during their independent working time.

Significance of the Problem

The easiest part of the teaching experience is direct teaching. College courses are taught and teacher's guidebooks have been written to assure the teacher of success in this process. But very little has been offered to help the teacher keep the group of children who are not involved in the direct teaching-learning situation gainfully occupied. On the primary level, approximately two-thirds of the children two-thirds of the time are not engaged in a direct teaching-learning situation with their teacher. Valuable school learning time is wasted if these children are not engaged in profitable independent activities.

Limitations of the Problem

This experimental comparison study will be limited to two classrooms of first grade children at Jefferson Elementary School in Little Rock, Arkansas. Each class will have approximately twenty-five children enrolled. Some effort is made to equalize the number of boys and girls in each classroom.

REVIEW OF RELATED LITERATURE

Meaningful independent activities have long been the bane of the primary teacher's existence. Most primary teachers group their classes for reading instruction and are faced with the challenge of directly teaching a small group of
children in the developmental reading program, plus keeping the larger segment of the classroom quietly occupied. All too often this occupation consists of "busy work" and meaningless activities leading to boredom and discipline problems. But this meaningless activity can be replaced with meaningful listening experiences through the use of the listening post. Tape teaching helps relieve the teacher of the awesome burden of providing seatwork and supervision for one-third of the class. The amount of teacher-pupil interaction can be doubled and the various developmental activities of reading readiness and initial reading can be extended far beyond the present limitations.¹

Many schools have reported their experiments with tape teaching. In the Boston area, teachers worked in an experimental school aimed at development of language skills and concepts of the disadvantaged urban child. A tape recorder was used extensively. The children were taught to operate the recorder themselves. One of the activities was a recorded story of "The Lion Hunt". The children repeated lines of the story verbally and did gestures with the recording.

Another activity involved using the activity with a commercially published children's newspaper. The teacher's taped voice gave directions, "Please turn to page___ of your

¹Carl A. Personake, "The Listening Post in Beginning Reading", The Reading Teacher, Nov. 1968, p. 130.
newspaper. We're going to read about ________ starting at the top of your page-- --".

Sometimes the children made tapes. A good reader made tapes of a book for a first grade classmate who could barely read.²

Richard E. Wylie reports a six month study that was made using tape teaching with third level children. Group I received individual and small group instruction through tape teaching. Group II received some instruction independently or in teacher-led groups. In all areas the children who had used audio tapes were equal to or better than the silent or teacher-led group.³

In the 1950's investigations were first made of the effects of instruction in listening itself. Findings have been inconclusive about the effects of listening instruction on reading skills. But it has been found that instruction in which second grade children listened to tapes produced greater gains in reading comprehension than did reading of the stories alone.⁴


In another study there were no significant gains in reading for the total group who used a listening center, but there were significantly greater gains made by pupils in the lower third of reading achievement than those in the upper third. It is this lower third that teachers are always looking for new teaching methods and techniques, hoping that something will give these children a boost.

The conclusions of a study made by Grayce Annable Ransom in the area of aural-visual independent activities in a first grade reading program showed that boys seemingly need intensive training in auditory discrimination, that independent skill-reinforcement activities yielded greatest benefits for above-mean I.Q. groups, and that below-mean I.Q. groups (particularly boys) seemed to profit more from teacher-prepared materials than from investigator-prepared materials.

First grades in Easton, Massachusetts use tape recorder and headset listening stations in its daily program. At the beginning of the year the teacher's voice reads preprimer stories. Each child has a book and is encouraged to notice picture details, page numbers, etc. The purpose at

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this level is to teach the child to respond to oral directions, to improve his auditory discrimination, and to increase his interest in the printed word. As the child progresses the program stresses more sophisticated reading skills such as word identification, word meaning, and comprehension skills. Tapes are often coordinated with workbooks and teacher-made materials. In this program each teacher prepares her own tapes believing that a familiar voice increases a child's security and that a child's own teacher knows his needs better than anyone else.  

Earphones add a new dimension to listening. Teachers have observed that recorded programs played to the entire class were not effective, but when used with earphones the recorded programs were successful. Tape lessons provide greater concentration because earphones eliminate almost all extraneous sounds.

Tape teaching has never been intended to serve as a substitute for a teacher, but rather it develops as a way to support and supplement the classroom teacher. Perhaps a teacher is asking too much of himself to try personally to


9Wylie, op. cit., p. 173.
provide all the stimuli for learning. Educational media can help with this task. The teacher's job can be to organize the circumstances, provide the best opportunity for learning, and ensure that learning takes place. He can ease his own burden if he uses media to its best advantage and builds replicable instructional materials. He can then spend less time talking and more time in planning and evaluation. He can be less of a drill sergeant and more of an education executive.¹⁰

RESEARCH DESIGN AND STRATEGIES

Research Design

One classroom of first grade children served as the experimental group using tape recorded lessons and accompanying work sheets at independent working time. The listening center was placed on a long table at the back of the classroom. Eight headsets plug into the recorder. There is adequate workspace at the table to allow the children to work with pencils while listening to the recordings. The teacher appointed a child to punch the red stop button at the end of the recording. Some of the work sheets called for follow-up work to be done by the children at their own seats at the end of the recording. Directions for the follow-up work were given on the tape.

The nature of the tapes and worksheets is in the area of reading readiness. They deal with auditory perception of sounds, phonic in nature. After the first ten weeks of school the tapes dealt with a variety of reading skills suited to the child's stage of development in reading.

The control group was comprised of a second class of first grade children. Both the experimental and control group of children used "ready for reading", an ita reading readiness workbook. During independent working time the children in the control group engaged in whatever activities their teacher normally plans for them.

Variables

The major variable in this experiment was the use of the tape recorder and headsets with one classroom of children. (See Appendix II for source of materials and equipment.)
Teaching Strategies

Listening tapes were made for the initial consonantal sounds of n, t, b, s, r, d, l, c, f, g, h, j, l, m, p, v, w, and for the final consonantal sounds of n, t, s, r, d, l, g, and p. The tapes were made to be self-correcting.

One tape was made for rhyming sounds and two tapes were made for the short a sound as it from a linguistic rhyming basis (an and at patterns).

Tapes were made of nine stories from four pre-primer level books. These particular tapes were not used with all the children in the group, but with two children who were having particular difficulty with reading. The Impress Method was used with these tapes. (The Reading Teacher, Nov. 1970)

Tapes were made for the long vowels a, e, i, o on the basis of spelling patterns for the sound, as "a consonant e", "ai", and "ay" for the sound of a. Tapes made dealing with vowels were used during the second semester.

All of the tapes with worksheets dealt with the decoding process of reading. An attempt was made to incorporate the use of good literature in some of the tapes, particularly the use of short poems. The criteria for determining whether or not to make a tape to accompany a worksheet was to answer the question, "Will the child likely learn more from this worksheet if there is audio-input?" (See Appendix D for examples of tape script and worksheets.)
BEHAVIORAL OBJECTIVES

1. Section 2 of first grade students at Jefferson Elementary School, after receiving instruction in reading with specially prepared materials, will be able to demonstrate a significantly greater gain in auditory similarities (rhyming words) than students in a control group as measured by pre- and post-testing with the Harper & Row Pre-Reading Test of Scholastic Ability.

2. Section 2 of first grade students at Jefferson Elementary School, after receiving instruction in reading with specially prepared materials, will be able to demonstrate a significantly greater gain in auditory similarities (initial sounds) than students in a control group as measured by pre- and post-testing with the Harper & Row Pre-Reading Test of Scholastic Ability.

3. Section 2 of first grade students at Jefferson Elementary School, after receiving instruction in reading with specially prepared materials, will be able to demonstrate a significantly greater gain for word knowledge skills than students in a control group as measured by the Metropolitan Achievement Test.

4. Section 2 of first grade students at Jefferson Elementary School, after receiving instruction in reading with specially prepared materials, will be able to demonstrate a significantly greater gain for word discrimination skills than students in a control group as measured by the Metropolitan Achievement Test.

5. Section 2 of first grade students at Jefferson Elementary School, after receiving instruction in reading with specially prepared materials, will be able to demonstrate a significantly greater gain for composite reading skills than students in a control group as measured by the Metropolitan Achievement Test.
ANALYSIS

The notation of test scores for the experimental group will be found in Table I and the notation of test scores for the control group will be found in Table II.

Children in both experimental and control groups were given the Harper-Row Reading Readiness Test on September 3, 1971. Pre-2 refers to section 2 of the test (auditory similarities—rhyming words) given before any reading instruction took place. Post-2 refers to section 2 of the test given on November 16, 1971, after approximately ten weeks of reading instruction. The median score on pre-test 2 was 19 for both groups. The median score on post-test 2 was 19 for the experimental group and 20 for the control group.

Pre-4 refers to section 4 of the test (auditory similarities—initial sounds) given before any reading instruction took place. Post 4 refers to section 4 of the test given after approximately ten weeks of reading instruction. The median score on pre-test 4 was 13 for both groups. The post-test 4 median score was 19 for the experimental group and 18 for the control group.

The Otis-Lennon Mental Ability test was given on February 22, 1972, and the experimental group showed a median score of 110, while the control group showed a median score of 112.

The Metropolitan Achievement Test was given on April 28, 1972. The reading achievement scores are listed in three categories: word knowledge, word analysis, and reading. The median score on the word knowledge section of the test was 3.0 for both
groups. The median score on the word analysis section of the test was 2.1 for the experimental group and 2.3 for the control group. The median score for the reading section of the test was 2.4 for the experimental group and 2.8 for the control group.

It is evident by the comparison of test scores that the objectives, as they were stated in the hypotheses were not met. The experimental group using the audio-tapes did not show a significant gain in any of the areas tested. Also, the experimental group did not show a greater performance level than the control group.

Further analysis of the two groups were made by comparing those students in each group which fell below the median in achievement on the pre-test for readiness. It was found that the control group was significantly different from the experimental group which makes the objectives invalid. Other observations were made. First, the objectives were possibly overly-ambitious considering that the use of audio-tapes represented a rather small part of the total reading program. Secondly, the individual differences of children are not accounted for completely in individual test scores, much less in the class median scores being compared. It is the individual child with his own unique cultural background and personal abilities and disabilities who learns to read.
TABLE I
EXPERIMENTAL GROUP

<table>
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<tr>
<th>Pupil</th>
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<th>Metropolitan Achievement</th>
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* Absent from school 51 1/2 days
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CONCLUSIONS AND RECOMMENDATIONS

It is difficult to ascertain at just what point a child gains complete mastery in the learning process. Some children seem to need much more repetition than other children to learn a given item. Perhaps their learning capacity and mode of learning are different, or perhaps their experiential background has voids in it that must be filled before in-depth learning takes hold. Through the years in working with first year children I have felt that many children would profit by a considerably greater amount of repetition in given areas than I was able to find the time for. This added repetition of teaching was what I had in mind through the use of audio-tapes.

Though the objectives of my hypotheses were not proved, I do, nonetheless, feel that the use of audio-tapes has merit. Indeed, I plan to continue adding to my library of audio-tapes.

On the plus side, the children enjoyed going to the listening center. No child ever said, "Aw, do we have to do that again." They usually went to the listening center in groups of six or eight, and even at the end of the year seemed eager to take their turn.

Another plus factor was the improvement in listening skills. If a child failed to mark his worksheet appropriately or forgot what to do on the back of his worksheet after returning to his seat, I did not personally tell him what to do. Rather, he listened again to the portion of the tape that gave him the directions. Very few re-listening sessions were required.
A visiting parent in our classroom made the remark that she thought the listening center was quite an asset to general classroom organization. I thought this to be an unusually perceptive remark coming from a parent, until I learned that she was a former teacher. And truly the use of the listening center has proved to be an asset to classroom organization. It keeps one third of the group quietly and gainfully occupied while the teacher is personally working with another third of the class. There are fewer interruptions in the direct teaching process.

The two little boys with whom I used the Impress Method ended the year reading scarcely beyond the pre-primer level, but they did read expressively, rather than word by word. I felt that hearing so many tapes read appropriately expressively and reading along with the tapes was largely responsible for their expressive reading, albeit on the pre-primer level.

I recommend some supervision of the listening group, such as staying with them during the first minute of the tape. Young children can become playful working in close proximity, and I found it helpful to look in the listening group's direction from time to time so that they did not feel completely unsupervised. Also the use of barriers, such as tall books or tall cardboard placed between children provided them with some working privacy.

Teaching through audio-tapes and head sets uses one of the child's major sensory modalities. It should, I feel, take its place as a teaching device along with such accepted equipment as the television set, the record player, the overhead projector, and the film strip projector.
SELECTED BIBLIOGRAPHY


Personke, Carl R. "The Listening Post in Beginning Reading," *The Reading Teacher*, (Nov. 1968), 130-144.


Description of Readiness Test

The Pre-Reading Test of Scholastic Ability to Determine Reading Readiness has been prepared for schools that use the Harper & Row Basic Reading Program as basic textbooks in the developmental reading program. The test is intended for use in the kindergarten and first grade to help teachers identify those pupils who are most likely to succeed in beginning reading. It measures understandings and abilities which pupils need when first learning to read.

There are six tests in the battery:

1. Visual Discrimination
2. Auditory Similarities (Rhyming Words)
3. Relationships
4. Auditory Similarities (Initial Sounds)
5. Concepts
6. Story Interpretation
Description of Mental Ability Test

The Otis-Lennon Mental Ability Test has been designed to provide comprehensive assessment of the general mental ability, or scholastic aptitude, of pupils in American schools. Test items on the primary level sample the mental processes of classification, following of directions, quantitative reasoning, and comprehension of verbal concepts. No reading is required.
Description of Achievement Test

The Metropolitan Achievement Test is designed to measure reading achievement in three areas: word recognition, word discrimination, reading comprehension (progressing from the reading of sentences to the reading of short paragraphs).
Script for Worksheet I

I am going to tell you a story about a little boy named Bobby. Everytime you hear a word in the story that begins with the same sound that you hear in "boy" and "Bobby" I want you to raise your hand. Are you ready to listen?

Bobby had a baby brother named Billy. Billy was a little baby. He was lying in his baby bed. Mother was busy cooking breakfast.

She called, "Bobby, your baby brother is beginning to cry. Would you try to keep him happy while I cook your breakfast?"

"Sure," Bobby answered his mother.

He ran into his baby brother's bedroom.

"Come on, Billy, don't cry," he said, as he patted the baby on his back.

"Look at what I have. Balloons! Balloons!"

Bobby held three balloons over the baby's bed. A red balloon, a blue balloon, and a yellow balloon. Billy looked at the balloons with his big brown eyes. He watched the balloons as Bobby bounced them in the air. Soon Billy was smiling again. Soon Mother was calling, "Thank you, Bobby. Come to breakfast now."

Did you raise your hand every time you heard a word that began like "boy" and "Bobby"? Let me tell you the story again. This time you will hear a bell ring each time there
is a word in the story that begins with the same sound you hear in "boy" and "Bobby". You should raise your hand when you hear the bell ring. Are you ready?

Repeat story with bell.

Very good! Now I will tell you the story one more time. This time the bell will not ring. Can you raise your hand every time you hear a word in the story that begins like "boy" or "Bobby"? Try it again.

Repeat the story.

Now look at your worksheet. Many of the pictures begin with the sound you hear at the beginning of "boy" and "Bobby". Look at the pictures in the first row. I will say the name of each picture. Touch each picture with your finger when I say its name. Balloon....Boy....Net....Bat.

Now you whisper the words with me. Balloon....Boy....Net....Bat. One of these words does not begin with the same sound as "Bobby". With your pencil put an X on the picture of the thing that does not begin like "Bobby".

Look at the pictures in row 2. I will say the name of each picture in this row. Touch each picture with your finger when I say its name. Banana....Tent....Bus....Ball.

Now you whisper the words with me. Banana....Tent....Bus....Ball. One of these words does not begin like Bobby. With your pencil put an X on the picture of the thing that does not begin like "Bobby" and "boy".

Look at the pictures in row 3. I will say the name of each picture in this row. Touch each picture with your
finger when I say its name. Flag....Book....Brush....Bird.
Now you whisper the words with me. Flag....Book....Brush....
Bird. One of these words does not begin like "boy" and
"Bobby". With your pencil put an X on the picture of the
thing that does not begin like "boy" or "Bobby".

Look at the pictures in row 4. I will say the name
of each picture in this row. Touch each picture with your
finger as I say the words. Bell....Bed....Box....Flowers.
Now you whisper the words with me. Bell....Bed....Box....
Flowers. Which word does not begin like "boy" or "Bobby"?
With your pencil put an X on the thing that does not begin
like "boy" or "Bobby".

See the word "Name" at the bottom of the page. With
your pencil write your name on the line.

When you go back to your seat I want you to do two
things. First, on this side of the paper color all the pic-
tures of things that begin like "boy" or "Bobby". Color the
pictures carefully.

Second, on the back of this paper I want you to draw
a picture about the story I told you. Draw Billy in his bed.
Draw Bobby bouncing the red and blue and yellow balloons into
the air. Put a smile on baby Billy's face. Draw and color
your picture nicely. Now take your paper and go quietly
back to your seat.
The main train is in Spain.
Tests

Testsheets will be used intermittently after the teaching of some eight or ten consonantal sounds. Testsheets will be similar to worksheets. Pictured objects will be placed in numbered rows.

Row 1 will show pictures of a ball, a net, a hand, a star. Directions: circle the picture that begins like nurse.

Row 2 will show pictures of a block, a spoon, a top, a cake. Directions: circle the picture that begins like table.

Row 3 will show pictures of a sun, a hammer, a bird, scissors. Directions: circle the picture that begins like Santa.

Row 4 will show pictures of a fish, a dog, a tree, a leaf. Directions: circle the picture that begins like dish.

Row 5 will show pictures of a clock, a wagon, a rabbit, a fan. Directions: circle the picture that begins like rainbow.

Row 6 will show pictures of a pencil, a valentine, a cane, a lock. Directions: circle the picture that begins like lion.

Row 7 will show pictures of a balloon, a dog, a cat, a rabbit. Directions: circle the picture that begins like bell.
Appendix H
(Materials and Equipment)

Lavender Electronics, Inc.
1122 Center Street
Little Rock, Arkansas 72202

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>2611 Craig Cassette Tape Recorder</td>
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Supply Center

<table>
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<th>Quantity</th>
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<tr>
<td>15</td>
<td>C-60 Cassette Recording Tape</td>
</tr>
<tr>
<td>5</td>
<td>C-90 Cassette Recording Tape</td>
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School Department
Harper & Row, Publishers
Elm at Houston
Dallas, Texas 75202

<table>
<thead>
<tr>
<th>Quantity</th>
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<tr>
<td>50</td>
<td>Harper &amp; Row Basic Reading Program</td>
</tr>
<tr>
<td>1</td>
<td>51-06026 Form B, Pre-Reading Test</td>
</tr>
<tr>
<td>1</td>
<td>51-07024 Teacher's Guidebook for Forms A &amp; B</td>
</tr>
<tr>
<td>1</td>
<td>51-07065 Scoring Key 1 for Form B</td>
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<tr>
<td>1</td>
<td>51-07073 Scoring Key 2 for Form B</td>
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D. R. Watson Company, Inc.
1301 W. Capital
Little Rock, Arkansas 72201

<table>
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<th>Quantity</th>
<th>Description</th>
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<tr>
<td>1</td>
<td>#1049 Acoustifone-Centers</td>
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Mary Button: "The Effectiveness of Using Audio-Tapes for Independent Activities in the First Grade."

<table>
<thead>
<tr>
<th>Target Date</th>
<th>Events: Activities, Materials, &amp; Facilities</th>
<th>Person(s) Responsible</th>
<th>Completion Date</th>
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<tr>
<td>9/3/71</td>
<td>Pre-Test: Harper-Row Pre-Reading Test, Form A (All Sections) Experimental and Control Groups</td>
<td>Button</td>
<td>9/8/71</td>
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<tr>
<td>11/5/71</td>
<td>Post-test: Harper-Row Pre-Reading Test, Form B (Sec 2 &amp; 4 only) Experimental and Control Groups</td>
<td>Button</td>
<td>11/18/71</td>
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<tr>
<td>2/25/72</td>
<td>Administer Otis-Lennon Mental Ability Test to Experimental and Control Groups</td>
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<td>2/22/72</td>
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<td>4/72</td>
<td>Administer Metropolitan Achievement Test to Experimental and Control Groups</td>
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<td>4/28/72</td>
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<td>5/72</td>
<td>FINAL REPORT: Revise the strategies, answer the objectives, state conclusions and recommendations</td>
<td>Button</td>
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