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THE EFFECT OF MUSIC AND SOUND EFFECTS ON
THE LISTENING COMPREHENSION OF
FOURTH GRADE STUDENTS

DISSERTATION

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF EDUCATION

By

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The purpose of this study was to determine if the addition of music and sound effects to recorded stories increased the comprehension and retention of information for fourth grade students.

One hundred seven fourth-grade students from two elementary schools in north central Texas were involved in the study. The California Test of Basic Skills was utilized to divide the subjects into high, medium, and low reading levels.

Two versions of four narrated stories were recorded for use with the study--one with music and sound effects, the other with narration only. A listening comprehension test was administered after the subjects listened to each of the four stories, followed by a retention test two weeks later.

The data were analyzed by a two-factor analysis of variance, with repeated measures for both comprehension and retention tests, for the total population. Each reading-level group was analyzed separately by an analysis of variance. Of eight hypotheses tested, six showed a significant difference.

The conclusions drawn from this study indicate that the addition of music and sound effects

1. Increases the listening comprehension and retention of fourth grade students;
2. Is more effective for retention for students with a high reading level; and
3. Is more effective for initial listening comprehension for students with low reading level, but the effect is not significant for retention.

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CHAPTER I

INTRODUCTION

Listening is one of the first activities in the life of every individual. Research has indicated that newborn infants can make "fine discriminations in sounds. Sounds have meaning for babies, even before they have learned language" (16).

Children learn to speak primarily through listening to others. However, primary-grade children have difficulty in listening effectively to dialogues encountered in storytelling situations or in following instructions (3, 4, 14, 17). Many of the reasons why children have difficulty in listening have not been identified.

The importance of listening as a distinct learning process has been stressed by psychologists and educators for some time. Duker states that listening "has always been and continues to be the most widely used human means of receiving information" (7). An individual's listening activities are basic in order to learn to "speak, read, and write" (6).

Studies by Rankin and Wilt indicate children spend over fifty percent of their school day listening (9, 19) and

students who score high on listening comprehension tests normally do better in school (15). Studies have also shown that students can be taught to listen more effectively (11).

Even though listening has received much recognition and the importance of listening has been stressed by many educators, very little research has been done on what factors contribute to one's ability and willingness to listen. Although numerous articles about listening have been written, few are based on systematic research on listening as an information gathering psychological process.

Also important is the lack of research on the numerous instructional presentation modes, all of which have an effect on the listening process.

In view of the increasing instructional use of a wide range of teaching materials and presentation media--such as video cassettes, audiovisual teaching kits, audio cassettes, etc.--the necessity for such systematic investigation is readily apparent particularly in that some media may be more or less effective than others (20, p. 32).

The increase of media utilization in American schools during the past twenty-five years has been unprecedented and the potential educational significance of these materials is tremendous. However, the instructional potential of media can never be achieved without a solid foundation of research and understanding of children's listening competence (20).

Statement of the Problem

The problem of this study was to determine the effect, if any, of music and other sound effects on listening comprehension and recall ability of fourth grade students.

Purposes of the Study

The purposes of this study were

1. To determine if fourth grade students' comprehension of stories recorded with music and sound effects was greater than of straight narrative stories.

2. To determine if fourth grade student's recall of information from stories recorded with music and sound effects was greater than of straight narrative stories.

3. To determine if fourth grade students' reading ability was a factor in comprehension and recall of information from stories recorded with music and sound effects or those stories recorded without music and sound effects.

Hypotheses

The following hypotheses were tested by statistical analysis of the data collected:

1. There will be no significant difference in the comprehension of information by fourth grade students who listened to narrated stories with music and other sound effects, and by those who listened to the same stories without music and other sound effects.

2. There will be no significant difference in the comprehension of information by fourth grade students with low reading abilities who listened to narrated stories with music and other sound effects, and by those who listened to the stories without music and other sound effects.

3. There will be no significant difference in the comprehension of information by fourth grade students with average or medium reading abilities who listened to narrated stories with music and other sound effects, and by those who listened to the stories without music and other sound effects.

4. There will be no significant difference in the comprehension of information by fourth grade students with high reading abilities who listened to narrated stories with music and other sound effects, and by those who listened to the stories without music and other sound effects.

5. There will be no significant difference in the retention of information by fourth grade students who listened to narrated stories with music and other sound effects, and by those who listened to the stories without music and other sound effects.

6. There will be no significant difference in the retention of information by fourth grade students with low reading abilities who listened to narrated stories with

music and other sound effects, and by those who listened to the stories without music and other sound effects.

7. There will be no significant difference in the retention of information by fourth grade students with average reading abilities who listened to narrated stories with music and other sound effects, and by those who listened to the stories without music and other sound effects.

8. There will be no significant difference in the retention of information by fourth grade students with high reading abilities who listened to narrated stories with music and other sound effects, and by those who listened to the stories without music and other sound effects.

Significance of the Study

Research in listening has consistently shown that listening is one of the most common exercises in the education of children. In many instances children spend over half of their school day listening, yet receive little or no instruction in how to listen and remember what they have heard. Many primary children have difficulty in listening which is detrimental to their ability to learn to speak correctly and to learn to read and write without difficulty.

Numerous articles about listening exist, but few are based on systematic research that deals with information-gathering for the listener or examining those factors

which contributes most to good listening. Studies have been conducted dealing with different presentation mediums (videotape, live, recorded, film, etc.), but little research has been conducted concerning the effect of the components of a recorded message and their impact on the listener.

Information regarding the effect of music and sound effects in relation to listening ability is generally absent in the literature. Results on the use of radio in the classroom (which most resembles the format utilized in this study) make numerous statements about the effectiveness of dramatizations and radio plays with music and sound effects when used in instruction (2), but have little or no data to support such claims. For example, the Chicago schools' experience with radio education led to the conclusion that radio was an excellent influence for good diction and vocabulary building (10). Ray (13) reported radio listening to be a means of improving diction, style, and voice control. Adams (1) states that stories recorded with music and sound effects are more effective than stories narrated without music and sound effects, but has no research outcomes to support this claim.

Little research has been conducted to study the type of listening presentations that are most effective. Devine (6) points out the need for more studies in teaching

techniques and materials. Wetstone and Friedlander (20) stress the need for additional research in all forms of media presentations.

Previous studies have compared audio tape to other presentation formats--film, videotape, etc.--but do not concentrate on the effect of music and sound effects when added to a narrated story. If the addition of music and sound effects increases student comprehension and retention, the findings have great significance for both producers of educational materials and classroom teachers in their selection and production of materials. Differences in the comprehension of information by students with high and low reading levels, if they exist, would support the need for separate materials for students with different abilities.

Definition of Terms

For the purposes of this study the following definitions were used:

1. Comprehension.--To be able to understand and identify information received through listening.
2. Comprehension test.--A twenty-item test given immediately after listening to a taped story, with questions designed to determine what information was gathered from the listening exercise.
3. Recall/Retention.--The ability to remember something that has taken place or was experienced in the past.

4. Recall test.--A forty-item test containing ten questions from each of the four comprehension tests, administered two weeks after listening to the stories. The test was designed to test retention of information in the stories.

5. Sound effects.--Sound artificially produced or prerecorded to simulate sounds called for in a story or script.

Limitations

This study was limited to the fourth grade students from two elementary schools in a public school district in north Texas. Application of the findings and conclusions should be considered as indicators for group listening and not necessarily true for every student or students in conditions differing from those in this study. The study is limited further in that students were aware that no rewards or punishments (grades) were to result from test scores.

Basic Assumptions

It was assumed that the stories used were not known to the students.

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CHAPTER II

RESEARCH IN LISTENING COMPREHENSION

Historically, one of the pioneer studies in listening was conducted by Rankin (43) in 1926; he estimated that forty-five per cent of the time spent in communication activities was devoted to listening. Interest in listening as one of the language arts, however, began in the late 1930's and 1940's. One of the earliest publications devoted to listening, written by Sterner (50), was entitled "Skill in Listening," published in 1942 for the National Council of Teachers of English.

Wilt (59) found that elementary school pupils were expected to listen during 57.5 per cent of classroom activity time, but were not given systematic listening instruction. The highest percentage of time spent listening was when the students were to listen to the teacher. Children are expected to spend more time listening than in any other activity, yet teachers considered listening less important than reading and speaking. As a result of the study, Wilt felt teachers "do not teach listening." As children move through the grades, they become more efficient in reading and writing, but the amount of time spent listening increases and becomes more important, although listening is often never taught.

Taylor points out in his survey of the literature on listening that in the primary and intermediate grades, listening skills are advanced over reading ability. Listening has always occupied a large portion of our communication time, and with present TV-watching patterns, especially in children, the time spent in listening has been increasing. When given a choice, children of this age would normally rather listen than read, as reading is usually slower for most children. Listening usually yields better comprehension and retention than does reading (51).

The rate at which words are recognized when reading and when listening, as well as the reading word-per-minute rate of children, normally become approximately equal during the sixth grade (51). Usually not until the end of the sixth grade is reading efficiency greater than listening efficiency and preferred over listening for some situations. When the content is easy, listening is still preferred; when the content is more difficult, reading is preferred. The rate of presentation can be controlled by the reader and materials can be reviewed as often as necessary when reading, but not when listening. Students who never develop good reading skills continue to rely on listening to gain much of their information, even though their listening skills are often below average (20, 51).

In studies conducted by the Central New York Study Council the following conclusions were drawn:

1. Children in the elementary grades get information through listening;
2. Children through the sixth grade level get directions better from listening than from reading;
3. Listening results do not necessarily parallel reading achievement (slow learners are not necessarily poor listeners);
4. Although sixth graders are both better readers and better listeners than fourth graders, there seems to be greater improvement in listening than in reading at the sixth grade level;
5. There is a limit to the number of things a child can listen to and recall (children seem to remember first directions better than the last);
6. There appears to be no significant difference in the listening abilities of the sexes from kindergarten through sixth grade (14).

Similar generalizations were reached by Day and Beach (17) in an analysis of thirty-four studies on listening. Some of their generalizations are

1. Meaningful, familiar material is more efficiently presented aurally; meaningless, unfamiliar material is more efficiently presented visually.

2. The relative efficiency of a visual presentation increases with age. At the age of six, visual presentation is less effective than aural presentation. At the age of sixteen, a visual presentation may be more effective than an aural presentation.

3. Usually, difficult material is more effectively received with a visual presentation; easy material is better understood with an auditory presentation.

4. When comprehension is tested by an immediate recall of the material, a visual presentation is favored.

If a test of comprehension is made after a considerable delay, an auditory presentation is favored.

5. The comprehension of material can be tested either by the ease with which material is learned or by the amount that is retained after a period of time. As a rule, measures of learning tend to favor a visual presentation, while measures of retention are higher after an auditory presentation.

Additional analyses of listening research by Devine (18) support the assumptions that (a) instruction can improve listening ability; (b) several factors influencing listening are maturity, rate of presentation, and the inherent interest of materials utilized; and (c) listening is related to reading although to what extent is not yet understood.

Listening-Correlation Studies

Definite relationships exist between listening and the other areas of the language arts. One of the best ways to improve a child's language skills is by improving the child's listening skills (15). If a child cannot listen and hear the correct word usage or pronunciation, improvement in language will be difficult.

Listening and reading have long been assumed to be highly correlated, and a statistical relationship between test scores has been demonstrated. Hollingsworth (32) and Townsend (53) stressed the relationship between reading

and listening, while Devine (18) stated that the same mental processes occurred in reading and listening. Hollingsworth (33) stressed the need for teaching programs to utilize the relationship between the two.

Dawson (15) states that "Listening and reading are related," but not necessarily in a direct relationship. Different investigations have shown that children learn more effectively in the early grades through listening, but after the fifth grade "most pupils get better results if they read" (18). However, children with reading difficulties often learn better through listening, though the eighth grade.

Other relationships between reading and listening Dawson lists are

1. A listener tends to grasp the main points in a discourse; a reader will get more of the details.
2. Reading is more helpful in immediate recall, especially in the case of an older child. Listening tends to induce delayed recall (15, p. 9).

"Intrinsically, reading and listening are much alike" (16), as both represent the "intake" aspect of the language arts program. Even though reading and listening are basically similar, there are important differences. Witty and Sizemore defined the unique characteristics of listening and reading:

The argument concerning whether listening is superior to reading as a way of learning is in some respects a futile one. It has become clear that reading will never be replaced by listening since reading enables us to achieve certain goals that cannot be realized

through listening. Reading materials provide records which can be studied, reviewed, and reexamined. . . .

Listening too has some unique characteristics. Through listening the student may experience satisfaction in hearing beautiful phrases and artistic expression; he may enhance his appreciation of poetry, drama, and various forms of literature; evaluating the language he hears and thereby extend and improve his own usage; he may become better able to recall information and ideas which are reinforced by listening as part of a multi-sensory approach; he may learn to react critically and thereby become increasingly selective as he learns (60).

Obvious differences exist between listening and reading. Listening makes greater demands on the critical thinking of the listener than reading usually does. In reading, the reader can proceed at his own rate, repeat as often as necessary, stop to reflect, and begin again when ready. Ideas that appear in print are likely to be expressed in a well organized structure. The listener has no control over the rate at which material is presented. Normally, the material is not repeated, and no time is allowed to reflect on what is being listened to (15).

Other studies have not totally supported the assumption that reading and listening are directly related, even though correlation coefficients between the two are high (20). Devine (18) suggests that studies of tests used to establish such correlations indicate that the tests may be measuring something else other than, or in addition to, listening ability. A relationship between reading and listening seems to exist, even if the true nature of the relationship is not yet totally clear.

Taylor (51), however, links listening and reading, as both are "receptive communication acts," unlike speaking and writing, which are "expressive acts." Listening and reading differ primarily in the manner in which an individual receives and recognizes words; they are similar because the individual brings to both the same experiential background, and employs many of the same thinking skills in each.

Thompson (52) indicates that there is a justification for teaching listening skills, as there is some relationship between listening comprehension and both intelligence and reading ability, even though "they are not synonymous." Studies between listening comprehension and reading comprehension show a high correlation in the early school years. Gains in reading achievement have resulted in pupils who received listening training. However, by junior high school, listening comprehension begins to decrease in efficiency because of complexity of material, or possibly deterioration in listening ability.

The relationship between listening and speaking is stressed in Lawson's study; he indicates that the development of the listener "probably plays an important role in the ultimate development of his skill as a speaker in being able to order verbal behavior" (37). Dawson (15) feels that listening and speaking are closely related, as many speech difficulties result from children's not hearing language

spoken correctly. Sentence structure and vocabulary are learned by listening to others.

Studies by Brown and Ross (10, 45) show a high correlation score between listening and intelligence. Duker (20) states, "For years we have operated on the theory that the best predictor of reading potential was a device designed to measure intelligence . . . but some studies indicate that listening ability is an even more significant factor in predicting reading potential." Devine (18) has pointed out contrary evidence indicating that many listening tests are as much a measure of intelligence as listening ability. No matter what the final conclusions regarding listening, reading, and intelligence correlation result, a strong relationship does exist, and the importance of listening cannot be overstressed.

Hearing and Listening

A distinction between hearing and listening should be made. Hearing is a prerequisite of listening but not an equivalent, just as seeing is essential to reading. Listening and reading both involve comprehension, interpretation, and evaluation; hearing and seeing do not. A generally accepted factor in reading readiness is auditory discrimination, a skill in hearing, not in listening (23).

In discussing the nature of listening, Berry (4) states,

Listening is more than hearing. It involves following attentively the thread of conversation, the development of an idea, the points of an argument. Like reading, it requires comprehension in terms of the past experience of the listener and often involves critical examination of what is heard. Whenever attention wanders, a portion of what is being presented is lost (4, p. 77).

In 1970 Eisenberg (23) reported that infants are able to distinguish one pitch from another. If a musical note is played while an infant is sucking, the baby will stop; if the note is repeated several times, the baby will soon continue sucking and not stop when the note is sounded. If a new note is sounded, the baby stops sucking again. Change in heart rate can be used instead of sucking to demonstrate discrimination between sounds. Eisenberg also found that low-pitched sounds soothe crying babies and stimulate motor activity, while high frequencies tend to promote distress.

Further studies by Turkewitz, Birch, and Cooper (54) found that infants react to different combinations of tones, while Kersley (36) concluded from his studies that slowly rising sounds elicited orienting movements and fast rising sounds elicited defensive movements. (Rise time is the length of time taken for a sound to reach its highest level of loudness.) The significance of the above studies on infants is that discriminations and reactions to sounds begin very early, and that certain sounds elicit definite responses in infants.

Other studies on auditory sensitivity and auditory discrimination in the young infant have produced surprising results in regard to the infant's auditory capabilities. Work by Eisenberg, Griffin, Coursin, and Hunter (24), and by Butterfield (11) has shown that newborns are able to differentiate between different auditory signals and to respond selectively to them.

While reaction to some sounds may be almost automatic, as demonstrated by experiments with infants, other reactions to certain sounds may be the result of cultural or experiential background, as indicated by Dawson, Zollinger, and Elwell (16), Taylor (51), and Turnbull (55). Turnbull, in writing about the use of sound in the production of radio plays, makes the following observations regarding the psychological use of sound:

1. A steady sustained sound will give the listener a feeling of directness, continuous movement, formality, stability, and, if the sound is a quiet sound, a feeling of repose and tranquility.
2. An undulating sound, varying in either pitch or rhythm, expresses insistence, purposeful movement, or perseverance.
3. An intermittent sound expresses informality, indecision, disorder, and lack of purpose or leadership.
4. A sudden increase in volume expresses a feeling of climax, intensity, concentration, impatience, and aggressiveness. These are sounds of definite action.
5. A gradual increase in volume expresses a feeling of relentlessness, suspense, progress, patience, pursuit, gathering strength, resolution.

6. Sounds that suddenly fade yield a feeling of cowardice, fear, lack of purpose, loss of strength, or defeat.

7. Sounds that gradually fade elicit a feeling of dejection, temporary defeat, possible regrouping of forces, and suspense.

8. If a sound is increased in volume and suddenly stopped or is held to a specific volume level, it gives a feeling of opposition, conflict, and frustration. A sudden cut-off in sounds is good for suspense effects.

9. High-pitched sounds usually give a lighter feeling, a gayer mood, and sometimes a feeling of tension.

10. Low-pitched sounds lean more to the morose and somber mood.

People form mental images when confronted by known sounds and have a tendency to respond emotionally when stimulated by unknown or imaginative sounds. In developing material for listening, the psychological appeal to the listener should be considered. In recorded programs such as radio drama, the stage exists only in the listener's mind (55).

Sound plays an important part in many listening activities. Thompson (52) lists as a justification for teaching listening that "emotional response and changes of attitudes are greater as a result of listening than of reading," and "the spoken word reinforced with music and other sound effects helps render us all the more willing subjects" (22).

Taylor (51), in writing about the forming of sensory impressions, states:

The listener reacts with his senses--taste, touch, smell, sight, and hearing. Of these five sensory responses the one most frequently called upon is sight, or the ability to visualize. Listeners who are highly skilled in forming sensory impressions as they listen find it possible to taste tastes, smell smells, and in other ways translate words into sensory images (51, p. 15).

Taylor goes on to say that a listener uses appreciation in responding to the "aesthetic nature" of messages such as sermons, speeches, poetry, and other content which is intended to "activate the feelings or emotions of the listener" (51).

Research regarding the use of music and sound effects in relation to listening is generally absent in the literature. Sources reporting on the use of radio in the classroom and pre-recorded audio programs yield some information about the effectiveness of dramatizations and radio plays with music and sound effects when used in instruction (1), but they have little or no data to support some claims.

Research in Audio Instruction

Two recent listening comprehension studies have implications for the present study. Price (42) conducted a study entitled "The Influence of Three Listening-Environment Factors on Listening Comprehension of Fourth-Grade Students," which included the use of an audio-only taped program. The listening exercise was a radio drama style production that included music to separate and bridge the action of the story. The study investigated the effects of (1) having

a purpose for listening, (2) having background information concerning the subject, and (3) having distractions during the listening exercise. The results indicated that there was little relation between purpose for listening, or background information, and listening comprehension. There was, however, an adverse effect on listening comprehension when distractions were programmed into the listening exercise.

Another study, this one conducted by Wetstone and Friedlander (57), "The Effect of Live, TV, and Audio Story Narration on Primary Grade Children's Listening Comprehension," also has some implications for the present study. Two hundred forty-seven K-3 grade children's listening comprehension of a storytelling program was evaluated across three modes of presentation: "live," videotape, and audio cassette. The program included a multiple-choice test of objective comprehension answered in individual workbooks. The story, narration, and questions were identical in each mode of presentation. The three presentations were identical in that the TV and audio modes were made from a live telling of the story, so the content was the same. In all four grades, the TV group scored higher than either the live or audio groups, but only significantly higher than the audio group. However, the live and audio groups were almost equal, with no significant difference in their scores, although the audio scores were lower for grades 1, 2, and 3

but higher for the kindergarten group. In the discussion of their findings the authors concluded:

. . . these findings do emphasize the importance of the effects of presentation variables on children's classroom listening. The data reported here suggest that children do listen. But how well they listen is at least in part substantially influenced by variables not yet fully understood. Practical application of these data should lead to more judicious use of auditory and audio-visual teaching devices in order to mobilize children's listening in the classroom more effectively (57, p. 35).

Research relating to listening and the use of music and sound effects comes from studies and research in educational broadcasting. Wrightstone (61) states that basic research studies have shown that "simple factual material may be acquired by elementary-school pupils as effectively by school broadcasts as by textbook teaching," in some subject areas. Carpenter (13) lends additional support by stating that for acquiring information and skills, "radio instruction in science under the supervision of relatively untrained science teachers is as effective as direct classroom instruction." Ewbank (25) reports that music instruction by radio facilitates progress in music, and that current-events lessons supplemented by school broadcasts were more effective than when taught without the aid of radio.

Lumley (39) classifies the techniques used in educational broadcasting into six categories: (1) straight radio lesson, where the broadcasting teacher is substituted for the regular classroom teacher; (2) radio talks; (3)

recitations or reading; (4) dialogues, interviews, debates, and conversations used to present contrasting points of view; (5) dramatizations; and (6) musical programs with comments and explanations. Follow-up studies by Lumley (40) and Tyler (56) found that children prefer drama to other types of educational programs.

Cantril and Allport (12) later supported Lumley's research and in addition found that children preferred a speech rate of between 100 and 150 words per minute. Their research also found that educational programs, especially talk programs, should be from 10 to 20 minutes in length, use examples or specific references, and use short sentences to increase memory value. They also found that the majority of listeners prefer male announcers to female announcers.

Lohmeyer and Ojemann (38) used three types of presentation (drama, talk, and discussion) with three types of broadcast material (history, science, and literature), and reported that in the acquisition of information the drama and the talk were superior to the discussion, but found no difference between the three methods of presentation in relation to the influence upon attitudes. Willis (58) found dramatization most effective and talk least effective.

The conclusion of the Chicago schools' experience with radio education was that radio was an excellent influence for good diction and vocabulary building (35). Ray (44)

reported radio listening to be a means of improving diction, style, and voice control.

Even more effective than radio for listening in the classroom are records and transcriptions (tapes) . . . The popularity of the story-telling hour is enhanced by the use of tales recorded with sound effects, such as "Little Black Sambo," "Ferdinand," and others, or "The Child's Garden of Verse" set to music (1, p. 263).

Garvett (29) believes that a proper mixture of music and comment can make information more emotionally effective. Turnbull (55) feels that music and sound effects can intensify atmosphere and mood, and identify the action as it progresses in a radio drama. Properly executed sound is an important and integral part of radio drama. The writer of radio drama must concentrate on "how the play listens." The medium is strictly aural, and depends upon music, dialogue, narration, and sound effects for success. Beery (5) in 1946 emphasized how much of the world of sound, to a child, is non-verbal in character. "As teachers we might well study how the radio uses music and sound effects to heighten the content of the spoken word" (5, p. 76).

In a more contemporary line, Giansante (30), in defending studies concerning sound, found that most media studies, at all grade levels, have a very strong bias toward the visual--film, photography, video--while the aural is often ignored. Although all the media should be explored, the "study of our acoustic sound environment could potentially be the most important."

Giansante goes on to say that:

If McLuhan is right, our senses are being reprogrammed by the electronic environment in which we live. The total supremacy of the eye is giving way to the ear--to an oral/aural world similar to the tribal or "acoustic" environment of preliterate peoples. Simply by being surrounded by this environment from birth, our children are most likely to have an acoustic bias.

Except for some very basic physiological data, we know little about how our brain processes information--how it gets in, how it is store, how we recall it to get it out again. We do know that sound is very much connected to the emotional and intuitive parts of man. Sounds often bypass the rational, conscious processes of our brains and engage us directly, immediately, and strongly. The right sounds in the right contexts can trigger feelings, emotions, and past experiences in a way that no visual cue can (30, p. 126).

Although numerous studies have been conducted on listening, little research has been conducted on the types of listening presentations that are most effective. Devine (18) points out the need for more studies in teaching techniques and materials. Wetstone and Friedlander (57) stress the need for additional research in all forms of media presentations. "Today's children are bombarded with sounds from the moment they arise until the moment they retire," (48) but little is understood about why they listen and remember what they hear.

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CHAPTER III

METHODS AND PROCEDURES OF THE STUDY

Description of the Population

The subjects involved in this study were 107 fourth grade students enrolled in two elementary schools in a public school district in north central Texas. The students represented all fourth grade students enrolled in both elementary schools. The school district encompasses a small city and the surrounding rural area. The two schools used in the study were selected because they each had self-contained classrooms.

Fourth grade students were selected for the study for the following reasons:

1. Studies reported by Dawson (4), Duker (5), and Taylor (16) indicate that student reading ability and listening ability are approximately equal for assimilating information at some time during the fifth or sixth grade. Presumably fourth grade students still rely more on listening to gain most of their information, although their reading skills are well developed.

2. Studies by Farrow (6) and others indicate that even though fourth grade students normally rely on listening to gain most information, they have poorer listening skills than fifth or sixth grade students.

Procedures for Conducting the Study

To eliminate the possibility that differences in the composition of treatment groups might bias the study, an experimental design was developed for use with this study which allowed the entire sample to function as the experimental and the control group. The five classes of fourth grade students available for the study were arbitrarily assigned to Group A or Group B, with an attempt to have approximately equal numbers in each group. Each of the five classes listened to four taped stories ranging from five to ten minutes in length. Each group received two of the stories presented in the control format and two stories in the experimental format. The net result assured that the experimental and control groups were, in fact, equal. Group A and Group B were never compared against one another; only the treatment scores were compared. The design is more thoroughly explained in the following.

Two audio presentation formats were examined in this study:

1. The four stories selected were narrated and recorded on monaural cassettes for playback.
2. The taped stories were revised to include music and sound effects. The narration remained unchanged.

A five-member panel of elementary education specialists (two elementary education professors, one children's

literature professor, and two elementary school teachers) selected four stories, originally written for radio broadcast, to be used in the study. The panel evaluated the stories on the following criteria: (a) stories judged appropriate for the intended audience; (b) stories which the students were not likely to have heard; (c) stories of high interest; and (d) stories of a whimsical nature, to preclude the children's being able to guess the answers without having listened effectively to the stories. Unanimous agreement was reached by the panel on the four stories selected.

Each story was rewritten in narrative form from the dramatic radio version, and recorded on tape by a single male voice. From a direct taped copy of each story, a second version was produced by an audio specialist, to include music and sound effects, as called for in the original radio script. Because of the addition of the music and sound effects to the stories, the length of each revised version was increased by about two minutes. All tapes for the study were produced by the Center for Instructional Services at North Texas State University and were of professional quality. The final product was a dual version of each of the four stories on cassette tape: one version of each story with music and sound effects, and one version with narration only. The four stories used for the study were "A Jar

of Rosemary," "The Pumpkin Giant," "The Tinker and the Ghost," and "The Peasant Queen."

The study was conducted during the month of May, 1978, at the same time each day. The students were informed at the beginning of the first day that they would be listening to four stories, one each day for four days, and would be asked to answer a twenty-item multiple-choice test over each of the stories. They were also informed that their scores would not count on their class grade, as this was simply a study to see how well they listened.

Both Group A and Group B listened to all four stories. Group A listened to the straight narration for the stories "A Jar of Rosemary" and "The Pumpkin Giant", while they listened to the music-and-sound-effects version of the stories "The Tinker and the Ghost" and "The Peasant Queen." Group B listened to the music-and-sound-effects version of stories "The Pumpkin Giant" and "A Jar of Rosemary" and the straight-narration version of "The Tinker and the Ghost" and "The Peasant Queen."

The stories were presented to the groups on four consecutive days. A Superscope cassette tape recorder, model C-102, was used to play the tapes, with a Rheem Calfone nine-inch speaker attached. The tape was played from a table or desk located at the front of each room, with all students seated facing the recorder and not more than twenty feet

away. Students with hearing difficulties had been previously seated near the front of each classroom.

After listening to a story, the students took a twenty-item four-option multiple-choice comprehension test over that story. Two weeks after listening to the fourth story, all students were given a recall test to measure retention. The recall test was composed of ten multiple-choice questions selected from each of the four comprehension tests. Thus the recall test was a forty-item test. No discussion of the stories was conducted between the time of the first tests and the final recall test. Only the scores of those students who were present on all four days and took the recall test were included in the final analyses.

For each listening session, normal classroom procedures were followed. No disruptions occurred during the playing of the tapes, and the normal classroom testing procedures utilized by each teacher were followed. In all five classrooms, the procedures were essentially identical.

The week preceding the administration of the listening comprehension tests, all subjects in the study took the California Test of Basic Skills (CTBS). The Reading Vocabulary and Reading Comprehension scores were combined in the analyzed data to give a total "Reading" score expressed in "Grade Equivalent," "Anticipated Grade Equivalent," and "National Percentile." The "National Percentile" score was utilized to divide the total subject

population into three groups, representing the upper, middle, and lower thirds of the test population.

Development of the Test Instruments

In order to determine the degree to which students could remember information from each of the stories, a comprehension test was developed. As no standardized testing instruments were available, a test had to be developed and its validity established. The following procedures were used to prepare the comprehension tests and the recall test.

The five-member panel of elementary education specialists who selected the stories for the study was utilized to prepare the test items. The content of each story was carefully studied to determine the material or information that might be gained from listening to the story; and the form in which the test should be administered was determined.

A multiple-choice test was decided upon as the best format, for a variety of reasons. Furst lists the following as advantages of the multiple-choice type test:

1. They establish a forced-choice situation which requires that the individual demonstrate the specific ability called for by each item.
2. They do not depend upon skill in expression and handwriting.
3. They permit a wide sampling in a relatively short period of time.
4. They permit highly objective scoring.
5. They permit rapid and easy scoring.
6. They lend themselves more readily to statistical analysis (7, pp. 201-202).

Other advantages often cited are (3, 7, 10):

1. Multiple-choice tests are often used and easily understood by students.

2. Multiple-choice items are less open to guessing than some other forms of tests.

3. Multiple-choice items can easily be constructed to measure understanding, discrimination, and judgment.

The following suggestions for constructing multiple-choice test items given by Cook (3, pp. 146-147) were followed in the development of the tests:

1. The multiple-choice items should all be of similar construction in the same section of the test.

2. To reduce guessing, four or five choices should be included for each item.

3. Avoid forming any pattern of responses for all items. Use each possible response in a random manner.

4. Make each of the responses the correct response a nearly equal number of times.

5. Avoid making the alternate answers so plausible that even superior students will be misled.

In order to test for listening comprehension, an attempt was made to identify the basic measurable factors involved. Brown concluded that the following skills are involved in listening comprehension and should be considered in developing testing procedures:

1. Identification and recall of details presented orally,

2. Ability to follow the sequence of details in the form of oral directions,
3. Retention of details long enough to answer questions about them,
4. Ability to listen reflectively for the purpose of identifying the central idea of the statement given orally,
5. Ability to draw inferences from the supporting facts presented in the statement,
6. Use of contextual clues to word meanings,
7. Recognition of transitional elements in sentences (2, pp. 139-146).

As many of the measurable skills as were feasible were utilized in designing the tests.

The validity of the tests, or any test, is dependent on the degree to which they measure what they are designed to measure. Certain precautions can be taken to help insure validity.

Methods of achieving content validity are discussed by Gerberich, Green, and Jorgensen (8), and by Tyler (17). Content validity of any testing instrument is necessary if achievement is to be measured. One must determine if the test items really sample the subject matter, and whether the items are at the proper level of difficulty for the students.

Tyler (17) lists five steps that can be used in developing a good achievement test:

1. Set up a committee of specialists in the area or subject being tested.
2. From the information contained in the material to be covered by the test, develop meaningful test items written in clear and concise language.

3. After completion of the test items, field test the questions for any difficulties and problems is recommended.

4. From the results of the field test revise the test to eliminate any problems identified.

5. After the test has been developed find a means of determining its reliability.

In an attempt to insure content validity, Tyler's recommendations were followed as closely as possible. Tyler continues her discussion of validity by saying that

Content validity rests on the whole set of procedures used in planning and constructing the test. . . if sound decisions about what is to go into the test have been made all along the line, content validity is insured (17, pp. 67-68).

Each member of the panel was given copies of the final scripts used in making the recordings, and was asked to write questions for each story. The suggested questions from all the members were compiled and circulated to all panel members. Some questions were revised or modified; finally, twenty items were agreed upon by the panel for each story.

Both the tapes with music and sound effects and the tests were field-tested in a fourth grade classroom. Comments from both the teacher and the students were listed and discussed. Discussions with the students indicated that the music and sound effects included in the stories were appropriate and understood by the students. As a result, no changes were made in the tapes. In discussing and analyzing

the test items, it was found that three items were not clearly written; so appropriate revisions were made. When the field-test scores were compared with expected achievement of the students according to their other language arts accomplishments in class, the results indicated the students had scored within their range of expected achievement. As a result, the panel approved the tests and tapes as appropriate for the purposes of the study.

Collection of the Data

Each subject yielded test scores from each of the four comprehension tests and the four-part recall test. The tape treatments each student received were recorded and utilized to separate scores into "music and sound effects" and "narration only" columns. The net result was a total of two scores for each subject for each of the two treatments. There were thirty-six subjects in the high reading category, thirty-seven subjects in the medium category, and thirty-four subjects in the low category.

Treatment of the Data

The data for this study were obtained from the four twenty-item multiple-choice tests for comprehension, the forty-item multiple-choice test for recall and the CTBS National Reading Percentile. All scores were obtained during the month of May, 1978. The multiple-choice tests were scored and recorded along with the reading percentile

score and treatment for each story. The data from the comprehension tests and the recall test were analyzed separately by the same procedures. The data from the comprehension test scores were analyzed by a two-factor analysis of variance with repeated measures. When an overall significant difference was found between groups, a multiple comparison test was conducted to determine which pairs of treatment levels were significantly different. Within each reading level group, an analysis of variance test was conducted to determine if a significant difference in treatments was found. The same procedures were used in the analysis of the data from the recall test. The level of significance for this study was the .05 level.

The statistical data were analyzed by the Computer Center at North Texas State University, and are presented in tabular form. From the findings, conclusions are drawn, educational implications stated, and recommendations made.

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CHAPTER IV

PRESENTATION OF THE FINDINGS

The problem of this study was to determine the effect, if any, of music and other sound effects on listening comprehension of fourth grade students. Five classrooms of fourth grade students listened to four narrated stories presented on tape in two different formats. One format was a straight narration; the other used the same narration with music and sound effects added to enhance the presentation. It was felt that the addition of music and sound effects to the taped stories would increase the comprehension of the students and also aid them in recalling information about the stories over a longer period of time. After listening to each of the four stories, all students took a twenty-item multiple-choice test. Two weeks after listening to all four stories, a forty-item multiple-choice test was taken (ten items were selected from each story) to test the students' recall of information from the stories.

The cell data for the comprehension test scores are recorded in Table I. The population is divided into high, medium, and low reading ability, and scores are included for the total population. In addition to the number of subjects (N) in each cell, the mean (M) and standard deviation (SD) for

each treatment combination, and the combined total treatment scores are included.

TABLE I
NUMBER OF SUBJECTS, MEANS, AND STANDARD DEVIATIONS FOR
THE COMBINED SCORES OF COMPREHENSION TESTS AND
THE COMBINED MEANS OF THE MAIN VARIABLES

Reading Group		Music and Sound Effects	Narration Only	Group Means
High	N	36	36	34.9028
	M	35.1389	34.6667	
	SD	2.9096	3.3722	
Medium	N	37	37	30.7568
	M	31.6486	29.8649	
	SD	4.4921	5.2766	
Low	N	34	34	22.9559
	M	24.1471	21.7647	
	SD	7.6441	8.0756	
Total	N	107	107	
	M	30.4393	28.9065	
	SD	6.9678	7.8398	

A comparison of the mean scores for both treatments within each group and for the total population yields a higher mean score for the music and sound effects treatment than the narration-only treatment. It should also be noted that the mean scores for both treatments was higher for the high reading group and lowest for the low reading group.

TABLE II

NUMBER OF SUBJECTS, MEANS, AND STANDARD DEVIATIONS FOR
THE COMBINED SCORES OF THE RECALL TEST AND THE
COMBINED MEANS OF THE MAIN VARIABLES

Reading Level		Music and Sound Effects	Narration Only	Group Means
High	N	36	36	17.5417
	M	18.0278	17.0556	
	SD	1.6985	2.8380	
Medium	N	37	37	15.0000
	M	15.6486	14.3514	
	SD	3.0507	3.2678	
Low	N	34	34	10.4853
	M	10.9706	10.0000	
	SD	4.7064	4.4107	
Total	N	107	107	
	M	14.9626	13.8785	
	SD	4.4147	4.5468	

The cell data for the recall tests are given in Table II. Again, the population is divided into high, medium, and low reading ability groups, and scores are given for the total population. In addition to the number of subjects (N) in each cell, the mean (M) and standard deviation (SD) for each treatment combination, and the combined total treatment scores are included.

As with the comprehension test scores, a comparison of the mean scores for both treatments within each group and

for the total population yields a higher mean score for the music and sound effects treatment than for the narration-only treatment. The total mean for the high reading group was highest, a lowest for the low reading group.

In order to determine if the observed differences between the treatments and between the groups were significantly different, the experimental data presented in Table I and Table II were analyzed by two-factor analysis of variance with repeated measures. The results are shown in Table III and Table IV.

The results of the two-factor analysis of variance with repeated measures for listening comprehension are presented in Table III. The analysis of effects between the reading groups with two degrees of freedom yielded a sum square of 5242.9455, a mean square of 2621.47275, and F Ratio of 49.35601, and a P value of 0.0000 which means the difference is significant at the .01 level. The analysis of the treatments with 1 degree of freedom yielded a sum of squares and mean square total of 127.73243, an F Ratio of 13.56032, and a P value of 0.00037 which is significant at the .01 level also. The analysis for treatment interaction with 2 degrees of freedom yielded a sum of squares score of 34.00209, a mean square of 17.00104, and a F Ratio of 1.80486, and a P value of 0.16950 which is not significant at the .05 level.

TABLE III

TWO-FACTOR ANALYSIS OF VARIANCE WITH REPEATED MEASURES OF THE EFFECTS THAT MUSIC AND SOUND EFFECTS AND NO MUSIC AND SOUND EFFECTS HAVE ON LISTENING COMPREHENSION

Source	DF	Sum of Squares	Mean Squares	F Ratio	P
Between Reading Groups	2	5242.94550	2621.47275	49.35601*	0.00000
Treatment Effects	1	127.73243	127.73243	13.56032*	0.00037
Treatment Interaction	2	34.00209	17.00104	1.80486	0.16950
Within Cell Error	104	979.63595	9.41958		
Total	109	6384.31597	9.41958		

* Statistically significant at P 0.05

The results of the two-factor analysis of variance with repeated measures test for recall are given in Table IV. The analysis of effects between the reading groups with two degrees of freedom yielded a sum of squares of 1819.95141, a mean square of 909.97570, an F Ratio of 46.80713 and a P value of 0.0000, which is significant at the .01 level. The analysis of the treatments with one degree of freedom yielded a sum of squares score of 62.32917, a mean square

TABLE IV

TWO-FACTOR ANALYSIS OF VARIANCE WITH REPEATED MEASURES OF
THE EFFECTS THAT MUSIC AND SOUND EFFECTS AND NO MUSIC
AND SOUND EFFECTS HAVE ON RECALL

Source	DF	Sum of Squares	Mean Squares	F Ratio	P
Between Reading Groups	2	1819.95141	909.97570	46.80713*	0.00000
Treatment Effects	1	62.32917	62.32917	14.25180*	0.00027
Treatment Interaction	2	1.26113	0.63056	0.14418	0.86590
Within Cell Error	104	454.83627	4.37343		
Total	109	2338.37798			

* Statistically significant at P 0.01

score of 62.32917, an F Ratio of 14.25180, and a P value of 0.00027, which is significant at the .01 level. The test for interaction with two degrees of freedom yielded a sum of squares score of 1.26113, a mean squares score of 0.63056, and F Ratio of 0.14418, and a P value of 0.86590, which means that interaction is not significant at the .05 level.

To determine how each reading level reacted to the separate treatments, a single-factor analysis of variance with

TABLE V

ANALYSIS OF VARIANCE OF THE EFFECTS OF MUSIC AND SOUND EFFECTS
AND NO MUSIC AND SOUND EFFECTS HAVE ON THE LISTENING
COMPREHENSION OF HIGH, MEDIUM, AND LOW
READING GROUPS

Source	DF	Sum of Squares	Mean Squares	<u>F</u> Ratio	P
High Reading Group	1	4.01389	4.01389	1.08495	0.30470
Medium Reading Group	1	58.86486	58.86486	5.11701*	0.02983
Low Reading Group	1	96.48529	96.48529	7.30254*	0.01079

* Statistically significant at P 0.05

repeated measures was carried out for each reading level for the listening comprehension tests and the recall test. The results are given in Table V and Table VI.

The data presented in Table V is for the independent analysis for the three reading levels of listening comprehension. The high reading group's sum of squares and mean square are 4.01389, the F Ratio is 1.08495, and the P value is 0.30470 which is not significant at the .05 level. The medium reading group has a sum of squares and mean square score of 58.86486, an F Ratio of 5.11701, and a P value of

0.02983, which is significant at the .05 level. The low reading group has a sum of squares and mean square score of 96.48529, an F Ratio of 7.30254, and a P value of 0.01079, which is significant at the .05 level.

The data presented in Table VI resulted from the independent analysis of the three reading levels on the recall test. The high reading group's sum of squares and mean square total are 17.01389, an F Ratio of 5.54012, and a P value of 0.02433,

TABLE VI

ANALYSIS OF VARIANCE OF THE EFFECTS OF MUSIC AND SOUND EFFECTS AND NO MUSIC AND SOUND EFFECTS HAVE ON THE RECALL OF HIGH, MEDIUM, AND LOW READING GROUPS

Source	DF	Sum of Squares	Mean Squares	F Ratio	P
High Reading Group	1	17.01389	17.01389	5.54012*	0.02411
Medium Reading Group	1	31.13514	31.13514	6.09613*	0.01843
Low Reading Group	1	16.01471	16.01471	3.23262	0.08134

* Statistically significant at P 0.05

TABLE VII
SCHEFFE'S F VALUES FOR COMPARISONS AMONG READING GROUPS
FOR LISTENING COMPREHENSION AND RECALL TESTS

Group Comparison	F Value	
	Listening Comprehension	Recall
High-Medium	5.9053 *	6.0632 *
Medium-Low	20.3004 *	18.5765 *
High-Low	46.9881 *	44.7846 *

* Statistically significant at P 0.05

which is significant at the .05 level. The medium level received a sum of squares and mean square score of 31.13514, an F Ratio of 6.09613, and a P value of 0.01843, which is also significant at the .05 level. The low reading group received a sum of squares and mean squares score of 16.01471, an F Ratio of 3.23262, and a P value of 0.08134, which is not significant at the .05 level.

The Scheffe F values for comparisons among reading groups for listening comprehension and recall tests are given in Table VII. The comparison of group means for the high and medium reading groups gives a Scheffe's F test value of 5.9053 for the listening comprehension test and a 6.0632 value for the recall test; both were significant at the .05 level. The comparison of medium and low reading

groups gives an F value of 20.3004 for listening comprehension and 18.5765 for recall, both of which are significant at the .05 level. The comparison of the high and low reading groups gives an F value of 46.9881 for listening comprehension and 44.7846 for recall; both again are significant at the .05 level.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Summary

The problem of this study was to determine the effect, if any, of music and other sound effects on listening comprehension and recall of information by fourth grade students. The subjects were 107 fourth grade students enrolled in two elementary schools in a school district in north central Texas. The students were divided into two groups, A and B. Both groups listened to four taped stories presented in two formats. One format was a straight narration of a five-to six-minute story; the other version had music and sound effects added to the narration. Group A listened to two stories with narration only and two stories with music and sound effects. Group B listened to the same stories, but the format was reversed.

After listening to each story, the students were administered a twenty-item multiple-choice test. The test items dealt with information from each of the stories.

Two weeks after listening to the last story, all subjects took a forty-item multiple-choice recall test with ten items taken from each of the four comprehension tests

taken earlier. The test was divided into four parts to give a test score for each of the four stories.

In addition to the test scores from the listening comprehension tests and the recall test, all students had participated in the California Test of Basic Skills (CTBS) and were placed in a "high," "medium," or "low" reading group according to their scores in reading comprehension. Each student, thus, had a reading comprehension score, two "narration-only" listening comprehension test scores, two "music and sound effects" listening comprehension test scores, two "narration-only" recall test scores, and two "music and sound effects" recall test scores.

To reduce the possibility of a Hawthorne Effect influencing the findings, all listening exercises were treated equally. All students knew they were involved in a study but did not know when they received the experimental or the control format.

The data from the comprehension and recall tests were each analyzed by a two-factor analysis of variance with repeated measures to determine over-all effects. Within each reading group, an analysis of variance test was conducted to determine if a significant difference in treatments was found on each level. The level of significance for the study was the .05 level.

Findings

1. It was hypothesized that there would be no significant difference in the listening comprehension scores of fourth grade students who listened to narrated stories with music and sound effects and those who listened to the same stories without music and sound effects. The analysis of the data reveals that the scores on the listening comprehension tests were significantly higher for those students who listened to the stories with music and sound effects.

2. It was hypothesized that there would be no significant difference in the listening comprehension scores of fourth grade students with low reading abilities who listened to stories recorded with music and sound effects and stories without music and sound effects. The analysis of the data reveals that the scores on the listening comprehension tests were significantly higher for those students who listened to the stories with music and sound effects.

3. It was hypothesized that there would be no significant difference in the listening comprehension scores of fourth grade students with medium reading abilities who listened to stories recorded with music and sound effects and stories without music and sound effects. The analysis of the data reveals that the scores on the listening comprehension tests were significantly higher for those students who listened to the stories with music and sound effects.

4. It was hypothesized that there would be no significant difference in the listening comprehension scores of fourth grade students with high reading abilities who listened to stories recorded with music and sound effects and stories without music and sound effects. The analysis of the data reveals that the scores on the listening comprehension tests were higher for those students who listened to the stories with music and sound effects; but the difference was not significant at the .05 level.

5. It was hypothesized that there would be no significant difference in the retention scores of fourth grade students who listened to narrated stories with music and sound effects and those who listened to the stories without music and sound effects. The analysis of the data reveals that the scores on the recall test were significantly higher for those students who listened to the stories with music and sound effects.

6. It was hypothesized that there would be no significant difference in the retention scores of fourth grade students with low reading abilities who listened to narrated stories with music and sound effects and those who listened to the stories without music and sound effects. The analysis of the data reveals that the scores on the recall test were higher for those students who listened to

the stories with music and sound effects, but the difference was not significant at the .05 level.

7. It was hypothesized that there would be no significant difference in the retention scores of fourth grade students with medium reading abilities who listened to narrated stories with music and sound effects and those who listened to the stories without music and sound effects. The analysis of the data reveals that the scores on the recall test were significantly higher for those students who listened to the stories with music and sound effects.

8. It was hypothesized that there would be no significant difference in the retention scores of fourth grade students with high reading level abilities who listened to narrated stories with music and sound effects and those who listened to the stories without music and sound effects. The analysis of the data reveals that the scores on the recall test were significantly higher for those students who listened to the stories with music and sound effects.

Conclusions

Based on the data presented in this study and the limitations stated, the following conclusions have been drawn:

1. The addition of music and sound effects to recorded presentations increases the listening comprehension of fourth grade students.

2. Information from a recorded presentation with music and sound effects can be remembered longer by fourth grade students than the same information presented without music and sound effects.

3. Fourth grade students with high, medium, or low reading abilities comprehend and recall recorded information presented with music and sound effects to a greater degree than when the information is presented without music and sound effects.

4. Although the scores for the high reading group were not significantly higher for listening comprehension, for those listening to the music and sound effects stories, their mean scores were higher. After two weeks, those who listened to the music and sound effects did score significantly higher. The research indicates that students who are better readers are also better listeners; so a significant difference might not appear immediately after a listening exercise but emerge after a period of time, thus explaining the significantly higher recall scores for the music and sound effects group.

5. The low reading group reacted in a manner completely opposite to the high reading group, by showing a significant difference in favor of music and sound effects immediately after listening to the stories, but in failing to score significantly higher on the recall test. The low readers,

as the research also indicates, are poorer listeners; and even though the music and sound effects may have made an immediate difference in comprehension, this difference was not great enough to be significant after a two week delay in recall of information.

Implications

The findings of this study indicate that the inclusion of music and sound effects in taped programs for fourth grade students increases their ability to recall information presented. Both long- and short-term memory of the material are increased. Although the data are not conclusive for all levels, there is a strong indication that the addition of music and sound effects to recorded material helps students at all levels of their language arts development.

Why the addition of music and sound effects should cause such an increase in comprehension and retention is not totally understood, but this and other research indicate several possibilities. The music and sound effects could aid in drawing attention to specific information being presented. The music and sound effects may mask out other possible distractions that may be occurring in the listening environment, and allow the student to pay closer attention. The music and sound effects may help create a mental image of what is being presented. It may be that music and sound

effects play an important part in helping to visualize the message by adding "color" to the recorded message.

When students in this study were asked which programs they would like to listen to a second time, they overwhelmingly requested the stories they had heard with music and sound effects. What some educators and radio specialists have been saying for decades seems to be supported by research: music and sound effects added to audio programs do make a difference.

It seems fair to assume that today's children have grown accustomed to audio material being presented in a professional, well produced format, and tend to listen more effectively to programs produced in a more sophisticated manner. Because children are bombarded by sights and sounds from numerous sources, they may have become very selective in directing their attention. Sound sources that do not challenge or excite them tend to be disregarded, while sound sources that are exciting to their ears are listened to with more concentration.

The implications of this study should serve as a warning for teachers and other educators--that care should be taken in selecting and preparing audio materials for use with children. When children have tape recorders at home with which to play, there is little interest in the technology itself to maintain interest in listening to a

boring tape, especially when it is competing with eight tracks and stereo cassettes with all types of stimulating sounds. Besides being interested in the content of a recorded program, the quality of the production itself must be investigated by those selecting materials for children. If the teacher is not selective, the students will be.

The educator does not have to face the full brunt of the selection task alone. Producers of educational materials must share responsibility for the materials they produce. As funds for educational materials become more difficult to secure, the quality of those materials purchased must provide the best quality for the money. As accountability for what educators teach and children learn continues to be stressed, the producers of educational materials must be held more accountable also.

Recommendations

While the findings of this study support the claim that music and sound effects increase the ability of fourth grade students to listen and comprehend information presented on recordings more effectively, several questions remain to be answered. This study dealt mainly with the recall of specific facts from the stories; higher-level mental skills such as inference and critical thinking were not tested. Future research should include

1. Studies to investigate the effect of music and sound effects on the inference and critical thinking abilities of students;

2. Studies to investigate the possibility that changes in the type of music and sound effects can change perception of what is happening in the story or recorded message;

3. Studies to investigate the effect on attitude and possible attitudinal changes resulting in the selection of the music and sound effects;

4. Studies to investigate the possible masking effect of over-use of music and sound effects;

5. Studies to investigate the minimum and maximum levels of quality in producing audio materials with music and sound effects necessary for a significant increase in listening comprehension.

APPENDICES

APPENDIX A

THE TINKER AND THE GHOST

Nar: The Tinker and the Ghost.

Biz: Ghostly music up and under.

Nar: On the wide plain not far from the city of Toledo, there stood a great gray castle. For many years no one lived there, because the castle was haunted.

Biz: Music up and under.

Nar: Every night of the year a thin, sad voice moaned and wailed through the empty rooms. And on All Hallow's Eve a ghostly light appeared in the chimney and flared against the dark sky.

Biz: Ghostly laugh.

Nar: Many who had tried to exorcise the ghost were found dead the next morning.

Biz: Music and laugh up then out.

Nar: Now one day in October, there came to the village a brave and jolly tinker whose name was Esteban. While he sat in the market place mending the pans of the wives, he heard about the haunted castle. The women in the courtyard didn't think he would dare go near the castle.

Biz: Short music bridge.

Nar: I, Esteban, fear nothing, neither ghost nor human. I

will gladly sleep in the castle tonight and keep this dismal spirit company. I certainly will be glad to get the thousand gold coins as a reward.

Biz: Sound of coins being dropped or rustled.

Nar: I'll just go to the castle to night and try to get rid of this thing that haunts it. But you must bring me

Biz: Drum beat

Nar: a load of firewood,

Biz: Two drum beats

Nar: a slice of bacon,

Biz: Three drum beats

Nar: a flask of wine,

Biz: Four drum beats

Nar: a dozen fresh eggs,

Biz: Five drum beats

Nar: and a frying pan.

Biz: Music chord.

Nar: We will, we will, replied the wives.

Biz: Mysterious music up and under.

Nar: It was a dark night. Esteban unsaddled his donkey

Biz: Donkey braying

Nar: and set him to graze on the short grass. Then he carried his food and his firewood into the great hall of the castle. After he had a fire, he settled himself comfortable on the hearth.

Biz: Fire crackling and howling of wind.

Nar: Esteban thought that the fire was certainly the thing to keep off both the cold and the fear. "I'll just fry some bacon," he said. "Oh, how good it smells."

Biz: Sizzling of bacon.

Nar: Suddenly from the chimney he heard, "Oh, me! Oh, me!" "Not a very cheerful greeting, my friend, but bearable to a man who is used to the braying of his donkey."

Biz: Music or donkey

Nar: "Oh, me! Oh, me!" said the ghost again.

Biz: Breaking of egg into pan.

Nar: Look out below! I'm falling! shouted the ghost. All right, replied Esteban. Only don't fall into the frying pan!

Biz: Thump, sound of wind under.

Nar: Oh! my gosh! A man's leg, said Esteban. And clothed in a pair of brown corduroy trousers. Oh! this egg is good, and this wine is delicious. I wish, though, the wind wouldn't howl so much around this castle.

Biz: Wind up then under.

Nar: Look out below! I'm falling! yelled the ghost again.

Biz: Thump.

Nar: Esteban saw a second leg, just like the first and then said "I think I'll have another egg." "Look out below. I'm falling!" yelled the ghost a third time. "Fall

away. Only don't spill my egg," replied Esteban.

Biz: Thump.

Nar: Surprised, Esteban exclaimed, "My goodness! A man's body clothed in a blue shirt and a brown corduroy coat."

Biz: Thump, thump.

Nar: Oh, dear me! exclaimed Esteban. "There are two arms. Now there is only the head left to fall down. I am rather curious to see that." "Look out below! I'm falling--falling," shouted the ghost.

Biz: Thump.

Nar: "Well, if it isn't the head!" said Esteban. "It has thick black hair, a long black beard, and dark eyes that look worried." As Esteban watched the parts of the body joined together. "Good evening!" said Esteban, "Are you man or ghost? Will you have an egg and a bit of bacon?"

"No" replied the ghost, "I want no food. But I will tell you this right here and now--you are the only man out of all those who have come to the castle to stay here until I could get my body together again. The others died of sheer fright before I was half finished." "That is because they did not have sense enough to bring food and fire with them," said Esteban.

Biz: Wind up and out.

Nar: The ghost asked Esteban to help a bit more, so his

soul could get into Heaven. The ghost told Esteban that out in the courtyard, under a cypress tree, there were buried three bags--one of copper coins, one of silver coins, and one of gold coins. When the ghost had been alive and had buried the bags no sooner had he finished than a band of thieves overtook him, murdered him, and cut his body into pieces. But they did not find the coins.

Biz: Music (two or three suspensful notes).

Nar: The ghost said to Esteban, "You come with me and dig up the coins. I want you to give the copper coins to the church, the silver coins to the poor, and keep the gold coins for yourself." This made Esteban very happy, and the ghost said that after the money was given away the ghost's sins will have been expiated and he could go to Heaven.

Biz: Soft music.

Nar: Esteban agreed to the ghosts terms and followed him out into the courtyard.

Biz: Footsteps.

Nar: "Now dig!" demanded the ghost. "Dig yourself!" replied Esteban.

Biz: Sound of digging.

Nar: "Well, here are the three bags," said the ghost. "Now will you promise to do just what I ask you to do?"

"Yes, I promise," said Esteban. So the ghost asked Esteban to remove all of the ghost's clothing. When all of the clothes were off the ghost vanished. "Where have you gone?" exclaimed Esteban. "My goodness, where are you? Well, anyway, I have the coins. I'll just fry another egg and then go to sleep.

Biz: Musical curtain.

Nar: The next morning when the village people came to carry Esteban's body away, they found him making an omelette out of the last of the fresh eggs. "Gracious!" exclaimed the villagers, "Are you alive?" "I am indeed," said Esteban. "The food and firewood lasted through the night very nicely. Now I will go to the owner of the castle and collect my thousand gold coins. The ghost has gone for good. Now I must be going, for I have to collect my money from the lord of the castle. Then I'll return to Toledo and give the copper coins to the church and distribute the silver ones among the poor. Good-by." And Esteban left the town a very wealthy man.

Biz: Music up, establish, and out.

JAR OF ROSEMARY

Biz: Theme music, establish then under.

Nar: There was once a little Prince whose mother, the Queen, was very sick. When autumn came she grew better, and the little Prince was allowed to go into the room and stand beside her bed. Very softly he said, "Mother, what would you like for a Christmas present?" "What should I like for a Christmas present?" answered the Queen. "A smile and a kiss and a hug around the neck; these are the dearest gifts I know." The little Prince looked disappointed and said to his mother, "Smiles and kisses and hugs you can have every day. Think, Mother, think! If you could choose the thing you wanted most in all the world, what would you take?" The Queen thought for a moment and answered, "If I might take my choice of anything in all the world, I believe a little jar of rosemary like that which bloomed in my mother's window when I was a little girl, would please me better than anything else."

Biz: Music up then under footsteps.

Nar: "Oh! Prince, is there something you wish?" asked the the servant to the prince. The Prince answered that he wanted the servant to go to his father's

greenhouse to see if there was any rosemary plant. But the servant told the Prince there were carnations of pink and red, and roses with golden hearts, and lovely lilies, but there was no rosemary in the greenhouses of the king. So the Prince said, "Go into the country for some rosemary. No matter where it grows, my mother must have it for a Christmas present."

Biz: Music bridge.

Nar: So messengers went into the country to seek the plant, but each came back to say there was no rosemary. Two days before Christmas, news was brought that rosemary had been found growing in a jar, right in the very city where the Prince lived. However, there was one big problem in getting the rosemary. The old woman to whom the rosemary belonged did not want to sell it, even though she was offered a handful of gold and silver. The servant thought that if the Prince would go and ask her, she might change her mind. So off rode the Prince in the royal coach.

Biz: Horses' hoofs, musical bridge, horses' hoofs stop, followed by footsteps, knocking, door opens and closes.

Nar: The Old Woman was surprised to see the Prince and said, "Oh! Prince, I'm glad to see you. Will you come in? My grandson is just your age, but he is sick and cannot play as you do. He would like to see you."

Biz: Footsteps and door opening.

Nar: The Old Woman took the Prince into her grandson's room and the Prince said, "Hello! Wouldn't you like to see my favorite plaything? It's a ball, sort of like magic, and made of gold. See how it bounces!" "Oh! It's beautiful," said the sick boy. "May I just hold it?" The Old Woman told the Prince that her grandson had always wanted a golden ball. The Prince then asked the Old Woman if she would sell the jar of rosemary for his mother's Christmas? But the Old Woman said that she was sorry, but she had brought it from the home where she lived as a child and she hoped to keep it until she died. When the Old Woman said no the Prince said that he had to go.

Biz: Footsteps, door opening and closing.

Nar: The sick boy then told his Grandmother that if he had such a ball to hold in his hand, he would be happy all day. But the Old Woman said that the boy might as well wish for the moon in the sky.

Biz: Musical curtain.

Nar: In the evening she thought of what her grandson had said; and taking the jar of rosemary, the old woman hurried to the king's palace. When she arrived she told the Prince, "Gold and silver would not buy the rosemary; but if you will give me your golden ball for

my little grandson, you may have the rosemary." "My ball!" exclaimed the prince. "But my ball is the most wonderful ball that was ever made, and it is my favorite plaything. I would not give it away for anything."

Biz: Musical notes of emphasis.

Nar: And so the old woman had to go home with her jar of rosemary under her shawl. The next day was the day before Christmas. The little Prince went to put his present of a jewel on the Queen's table with her Christmas presents. As he placed the jewel on the table he said to his nurse, "Mother wanted a jar of rosemary." The nurse answered, "Your mother will never think of it again when she sees these beautiful gifts. You may be sure of that." But the Prince wasn't satisfied. "If you had a rosemary plant you'd be willing to sell it for a purse of gold, wouldn't you?" "Yes, indeed," said the nurse, "And so would anyone in their right senses." "I wish it were spring!" said the Prince. "It's easy to get rosemary then, isn't it?" The nurse laughed and said, "Your little Highness is like the king's parrot that knows but one word with your rosemary, rosemary, rosemary. Her majesty, the Queen, only asked for it in order to please you." But the little Prince was not sure. When

the nurse had gone to her supper, and he was left alone, he took the ball with him and hastened toward the old woman's house.

Biz: Knocking. Door opening.

Nar: "Your Highness," said the old woman.

Biz: Door closing.

Nar: "Here is the ball!" said the Prince. "Please give me the rosemary for my mother."

Biz: Musical curtain.

Nar: And so it happened that when the Queen sat down before her great table of gifts, the first thing she spied was a jar of sweet rosemary. "Oh, I should rather have this than all the other gifts in the world," said the Queen. "Thank you so very much, my son. You have made me so happy."

Biz: Theme music up then out.

THE PEASANT QUEEN

Biz: Theme Music.

Nar: Once upon a time in a kingdom far away lived the good King Norman. One day he had many of his subjects gathered about in the great hall in the King's palace. People were everywhere (Crowd noise under.) talking to one another and the King was on his throne chatting happily with the court Jester when his faithful servant Andre came up to the throne and said, "Your Majesty, may I have a word with you?" "Yes, Andre, what is it?" asked the King. "It's about the peasant, your majesty." said Andre. "The Chief Warden tells me the peasant you had put in prison will not eat or drink. He just keeps repeating, 'Oh, if I had but listened to my daughter! If I had but listened to my daughter!'" The King was curious as to what the peasant meant, so he commanded Andre to bring the peasant back to the King for another talk.

Biz: Music in and under. Crowd noise then under.

Nar: The peasant had been given some land by the King on which to farm. While plowing his fields, the peasant had found a golden cup that had been lost many years

earlier by the King's grandfather. Along with the golden cup, a golden saucer had been lost also.

Biz: Crowd noise out.

Nar: The crowd became quiet as the peasant was brought before the King. I demand an explanation of your continued crying, 'Oh, if I had only listened to my daughter,' demanded the King . . . "Did you not come to me destitute, pleading for a bit of land so you and you daughter might raise enough food to live?" "Yes, your majesty," said the peasant humbly. "Did you not bring me a cup of pure gold which you uncovered while digging on that land?" bleared the King. "That is true," mumbled the peasant. "Speak up," roared the King, "what is your reason--what then did your daughter say, that you so carry on, night and day?" "She told me--not to bring you the cup that we found." "What!" yelled the King. "Why did she say that?"

The peasant went on to explain that the daughter was afraid that the King would want the golden saucer that went with the golden cup, but the saucer had not been found. "What a very wise daughter you must have," remarked the King. "Bring her to me."

Biz: Musical curtain.

Nar: While the peasant's daughter was being summoned, the King told Andre he would ask the daughter, Rosa, a

riddle. If she was so wise she should be able to answer the riddle. If she answered the riddle, the King would marry her and make her Queen.

Biz: Crowd stirs as girl is ushered in.

Nar: Rosa is afraid to be brought before the King and is talking nervously to her friend Martha. "Oh, Martha, I'm so afraid. Stay as close to me as you can." "I will," answered Martha, "Try not to be afraid, everything will be all right."

Biz: Fanfare.

Nar: "The peasant girl, Rosa, your majesty." announced the page. "Ah, yes--you are Rosa, (Pause) and this is your father?" said the King. "That is true, your highness." said Rosa meekly. "Your father tells me that you are very wise--" declared the King as Rosa looked confused. "You know of the golden cup and saucer?" questioned the King. "I know of the cup your majesty, but the saucer was not found." replied Rosa. "So I understand," said the King. "And you advised your father not to bring the cup to me, without the saucer?" Rosa nodded yes. "Tell me, why did you so advise your father?" Rosa went on to explain that she was afraid the King would get mad if the cup was returned without the saucer, as was in fact the case.

Biz: Musical bridge.

Nar: After thinking the situation over, the King decided what he would do. He told Rosa he would give her a riddle to which she was to respond. If she was clever enough to succeed in solving the riddle, she would become the queen and marry the King. "Your Majesty!" exclaimed Rosa, as a murmur went up from the crowd.

Biz: Murmur from crowd.

Nar: The riddle is this, said the King. "Come to me neither clothed nor naked, neither riding nor driving, not by the road and not out of the road --and if you can do this, I will marry you."

Biz: Music transition. Fade in street noises--crowd--hoofbeats.

Nar: "Martha, do you think my plan will work?" asked Rosa breathlessly. "I don't know, Rosa--but I pray for you." said Martha. "Always stay close to me, Martha. Even if I am made Queen, I shall need you." whispered Rosa.

Biz: Street noises increase, crowding out the conversation --then fade.

Nar: As Rosa and Martha approached the King's courtyard, the King said, "Well, Rosa, my peasant-maid--have you answered my riddle?" "Yes, your majesty," whispered Rosa. And indeed she had, for she came to the King

dressed only in a large fishing net which was neither clothed nor naked. So as not to come either riding or driving, she hired a donkey, made herself fast to the creature's tail, and was dragged along by the beast, which could not be said to be either riding or driving. And to fulfill the request to come to the king not by the road and not out of the road, she had the donkey walk in deep ruts in the road so she was dragged in the road, and only her toes were able to touch the ground. "Ah, yes! Rosa, you have rightly understood the riddle!" said the King.

Biz: Crowd murmurs.

Nar: "Your father shall this day be released from prison," ordered the King, "and you shall become my royal wife--to be crowned Queen Rosalina!"

Biz: Stately music.

Nar: And Rosalina became Queen and lived with the King for many years and was often called upon by the King to help answer questions that were very difficult. Martha, also, moved to the castle with Rosa and became the first lady to the Queen, and they all lived happily ever after.

Biz: Theme music up and out.

THE PUMPKIN GIANT

Biz: Theme Music.

Nar: A very long time ago, before our grandmother's time, or before your great-great-grandmother was a little girl, there were no pumpkins. People had never eaten a pumpkin pie; and that was the time when the Great Pumpkin Giant lived. This giant was an uncommonly bad giant. The King of the country where the giant lived was very worried and said one day to his Prime Minister, "Something has to be done about this Pumpkin Giant. My people are all becoming so frightened they have what is known as the Giant's Shakes. (Brash notes of music.) And you should see this terrible giant. His eyes are big and round, and glow like coals of fire. His mouth, which stretches half around his head, is full of rows of pointed teeth, and he always holds it wide open." "Where does he live?" asked the Prime Minister. "He lives in a castle on top of a mountain," said the King, "and there is a large moat all the way around the castle full of--bones."

Biz: Suspensful music bridge.

Nar: The moat of the giant's castle was full of bones because the giant ate little boys and girls. And more

than anything else in the world the giant loved to eat fat little boys and girls. If something wasn't done soon about the giant there may be very few fat little girls and boys left in the kingdom. And to make matters worse, it was known that the Giant had begun taking a tonic to increase his appetite. "The reason I am so frightened," said the King, "is because of my only daughter, the Princess Diana, for she is fat." The Princess Diana was considered the fattest princess in the whole world. The Princess had never walked a step in the twelve years of her life, but just had to roll, and was never allowed to leave the palace without a bodyguard of fifty knights. The King had to think of something to do to get rid of the Pumpkin Giant.

Biz: Trumpet fanfare.

Nar: Hear yeee, hear yeee. By order of the King this proclamation is made. Anyone, be he noble or commoner, who will cut off the head of the Pumpkin Giant will be made a knight of the royal court.

Biz: Music bridge.

Nar: Now there was one man who lived not far from the terrible Giant's castle. His name was Phillip and his wife's name was Katrina. He was very poor and had a boy, Erik, twelve years old, who was almost as fat

as the Princess. Phillip, the father, made his living raising potatoes. One day Phillip and his son Erik were digging potatoes when Phillip said, "Erik, my son, I think we've dug perhaps a bushel of these splendid potatoes. How large they are! Oh! My goodness, the earth is trembling. It's the Pumpkin Giant coming. Get behind me Erik!"

Biz: Rumblings footsteps.

Nar: Phillip told his son not to be afraid, he would throw one of the huge potatoes at the giant as soon as he came nearer. "Oh! He's coming faster and faster. Now I'll throw the potato."

Biz: Thud.

Nar: "I've hit him in the mouth," said the father.

Biz: Choking and gasping of giant.

Nar: "Yeaaa, hurrah!" said the father, "I think I've killed the Pumpkin Giant." Sure enough, the giant was dead and wouldn't be bothering anyone anymore. "I'll just chop off his head," said Phillip.

Biz: Chop.

Nar: "Oh, Father, may I have the Giant's head to play with?" asked Erik. "The other boys and girls will all envy me."

Biz: Musical curtain.

Nar: The king was notified of the death of the Pumpkin Giant,

but though his gratitude for the noble deed was great, he omitted to give the promised reward and knight Phillip. Erik was proud of his Giant's head, but he played so much with it that it got broken and the seeds were scattered all over the field. Next spring all over Phillip's potato field grew running vines, and in the fall Giant's heads were everywhere.

(Suspensful notes.) They were all over the field, hundreds of them. People were afraid that since there was one Pumpkin Giant before, now there would be a whole army of them. If it was dreadful then, what would it be in the future? (More musical notes.)

Now Erik had a habit of putting everything into his mouth and tasting it. One day he decided to taste a Giant's head and so took a big bite. "If it's poison and I get sick I know Mother will give me an antidote, as she has done so many times before." said Erik.

"Oh! This is good, so nice and sweet. I think I'd better go in and tell mother what I've eaten, and take an antidote."

Biz: Footsteps. Door opens and closes.

Nar: "Mother, I've eaten two thirds of a Giant's head and I guess you had better give me an antidote." said Erik. "Oh, my precious son, how could you?" exclaimed his mother Katrina. "There is no antidote in my book of

cures for a Giant's head. What shall we do? I just know you'll die."

Biz: Musical bridge. Mother and son weeping.

Nar: But Erik didn't die, he didn't even get sick from eating all that Giant's head. "It's strange but I've never felt so well in all my life." said Erik laughing (Laughter) "I'm not going to die, Mother. I feel wonderful. Please stop crying! And now I'm going to get some more of that Giant's head. I'm hungry." "Oh please don't, don't." cried his mother. "It might be poisonous."

Biz: Footsteps fading out. Musical curtain.

Nar: Well Erik ate more Giant's head and even brought some to his mother and father to taste, for it tasted better than potatoes. After Katrina and Phillip had tasted the Giant's head Katrina said, "It is good, but I think it would be better cooked. We must gather all the Giant's heads and store them in the cellar, and I will bake pies every day."

Biz: Musical bridge.

Nar: One morning the King had been out hunting and happened to ride by the Phillip's cottage with a group of his knights. Katrina was baking pies as usual and as both window and door were open, the delicious odor of the pies filled the air. All of a sudden the King stopped

his horse and said, "What is it that smells so utterly lovely? Page, you run into the cottage and find out."

Biz: Footsteps.

Nar: "Your Majesty," said the page, "the housewife is baking Giant's head pies. That's what smells so delicious."

"What!" roared the King. "Bring one out to me!"

Biz: Footsteps.

Nar: The page returned with a pie and handed it to the King. The King slowly took a bite, then another. He had never tasted anything so altogether superfine, so utterly magnificent, in all his life. "Call out the housewife immediately." ordered the King.

Biz: Footsteps of the Family.

Nar: "Did you wish to see me, Your Highness?" asked Katrina in a trembling voice. "Yes," said the King, I sent for you to ask about those delicious pies. I will reward you as becomes a monarch." "My husband can tell you about the Giant's heads better than I," replied Katrina. Slowly, Phillip began to tell the whole story from the very beginning and about the King's promise.

Biz: Musical bridge.

Nar: "I did forget to knight you, oh, noble and brave man!" said the King. "And to make a lady of your admirable wife! So I will knight you now, with my bejeweled sword."

Biz: Musical curtain.

Nar: The whole family went to live at the royal palace.

The roses in the royal garden were uprooted, and the Giant's heads (or pumpkins, as they came to be called) were sown in their place; all the royal parks were also turned into pumpkin fields. Phillip was in constant attendance to the King and was in charge of raising the royal Giant's heads, Katrina superintended the baking of the pumpkin pies, and Erik finally married the Princess Diana and they lived happily ever after.

Biz: Musical close.

APPENDIX B

THE TINKER AND THE GHOST

Circle the letter of the best answer. Circle only one answer.

1. On what holiday did the story take place?
 - a. St. Valentine's Day
 - b. Christmas Eve
 - c. Halloween Eve
 - d. Thanksgiving

2. Esteban was going to exorcise a ghost. What does exorcise mean?
 - a. wash out castles
 - b. cast out evil spirits
 - c. talk to a ghost
 - d. sleep in a haunted castle

3. Which of the following was not needed by Esteban? Mark the one he did not need.
 - a. bread
 - b. eggs
 - c. wine
 - d. firewood

4. Why had the ghost's body never gotten together before?
 - a. He didn't know magic words.
 - b. The chimney was too small.
 - c. He was afraid of the people.
 - d. No one stayed long enough to watch.

5. From the story you can tell that Esteban
 - a. had a good luck charm against ghosts.
 - b. knew the ghost could scare him.
 - c. was a man of courage and common sense.
 - d. could not see ghosts.

6. Why did Esteban agree to stay in the castle?
 - a. To prove his bravery.
 - b. To get a reward.
 - c. He was cold and hungry.
 - d. He wanted to see a ghost.

7. What did Esteban receive from the ghost?
- a thousand gold coins
 - 3 bags of coins
 - one hundred dollars
 - a good luck charm against ghosts
8. Why had the other men died trying to spend the night?
- They were scared to death.
 - They fell down the chimney.
 - They starved to death.
 - They fell in the moat and drowned.
9. Why was the ghost haunting the castle?
- He was stuck in the chimney.
 - He lived there as a boy.
 - He was chained in the courtyard.
 - His soul couldn't get to Heaven.
10. To whom was Esteban to give the copper coins?
- the poor
 - the church
 - the town
 - himself
11. To whom was Esteban to give the gold coins?
- the poor
 - the church
 - the town
 - himself
12. To whom was Esteban to give the silver coins?
- the poor
 - the church
 - the town
 - himself
13. How did Esteban get to the castle?
- on a broom
 - on a donkey
 - on a horse
 - in a wagon

14. Esteban was a tinker. This means his job was to repair:
- a. cooking utensils
 - b. castle walls
 - c. wine bottles
 - d. church bells
15. Why would no one stay in the castle?
- a. It was cold.
 - b. It was drafty.
 - c. It was haunted.
 - d. It was dark.
16. How did the ghost die?
- a. He fell down the chimney.
 - b. He was killed by thieves.
 - c. He was burned in the fire.
 - d. He was drowned in the moat.
17. Why wasn't Esteban afraid of the ghost's voice?
- a. It wasn't very loud.
 - b. It was singing.
 - c. He was used to the noise of the wind.
 - d. He was used to the noise his donkey made.
18. What color was the ghost's hair?
- a. Black
 - b. Brown
 - c. Red
 - d. Blond
19. How did the ghost's eyes look?
- a. mean
 - b. worried
 - c. scared
 - d. puzzled
20. What did Esteban do to the ghost before the ghost vanished?
- a. Pushed the ghost down the chimney.
 - b. Took off the ghost's clothes.
 - c. Buried the ghost in the courtyard.
 - d. Hung the ghost in a tree.

JAR OF ROSEMARY

Circle the letter of the best answer for each question.

1. What member of the prince's family had been sick?
 - a. Mother
 - b. Father
 - c. Brother
 - d. Sister

2. What is rosemary?
 - a. a jewel
 - b. a glass
 - c. an animal
 - d. a plant

3. Why did the Queen want rosemary?
 - a. It would make her young.
 - b. It reminded her of when she was a little girl.
 - c. She wanted to wear it.
 - d. She wanted to eat it.

4. For what holiday was the rosemary?
 - a. Easter
 - b. Halloween
 - c. Christmas
 - d. Thanksgiving

5. The rosemary was found growing
 - a. in a garden.
 - b. in a jar.
 - c. in the woods.
 - d. in the greenhouse.

6. What was the old woman offered for the rosemary?
 - a. \$100
 - b. a new coach
 - c. a handful of silver and gold
 - d. a castle

7. The old woman's grandson was
 - a. playing with his pet.
 - b. sick in bed.
 - c. running down the road.
 - d. chopping wood.
8. What did the prince show the old woman's grandson?
 - a. a golden ball.
 - b. a new sword.
 - c. a silver hat
 - d. a puppy
9. Where did the old woman get the rosemary?
 - a. in back of the castle
 - b. at the market
 - c. from the king's greenhouse
 - d. from the home where she lived as a child
10. What did the old woman want in trade for the rosemary?
 - a. a jewel
 - b. \$1000
 - c. a golden ball
 - d. a new dress
11. What was the prince's favorite plaything?
 - a. a dog
 - b. a golden ball
 - c. a bicycle
 - d. a small silver horse
12. How did the prince get to the old woman's house?
 - a. in a coach drawn by horses
 - b. in a covered wagon
 - c. on horseback
 - d. on foot
13. The nurse told the prince his mother
 - a. wanted a new crown.
 - b. probably didn't want the rosemary at all.
 - c. liked to go riding.
 - d. was feeling ill.

14. When the queen sat down before her table of gifts, she first saw:
- a. a glass slipper
 - b. a new dress
 - c. a jewel
 - d. a jar of rosemary
15. Where did the messenger go trying to find the rosemary?
- a. in the country
 - b. to the marketplace
 - c. in the garden
 - d. to the courtyard
16. Why was the rosemary difficult to find?
- a. there were too many weeds
 - b. it only grows in the springtime
 - c. no one grew rosemary
 - d. it only grew in the mountains
17. Where did the old woman live?
- a. in the next town
 - b. in the country
 - c. in the same town
 - d. in the mountains
18. When did the queen get well?
- a. in the winter
 - b. in the spring
 - c. in the summer
 - d. in the fall
19. Which flowers were growing in the greenhouse?
- a. ferns
 - b. carnations
 - c. daffodils
 - d. tulips
20. When was the rosemary found?
- a. 2 days before Easter
 - b. 2 days before Christmas
 - c. 2 days before Halloween
 - d. 2 days before Thanksgiving

Name _____

THE PEASANT QUEEN

Circle the letter of the best answer for each question.

1. What is the king's name?
 - a. Lear
 - b. Henry
 - c. Louis
 - d. Norman

2. Who was Andre?
 - a. the King's son
 - b. the King's cook
 - c. the King's faithful servant
 - d. the peasant

3. Where was the peasant put in the castle?
 - a. in prison
 - b. in the barn
 - c. in the courtyard
 - d. in the moat

4. Where did the peasant find the golden cup?
 - a. in his fields
 - b. in his kitchen
 - c. at the market
 - d. in the barn

5. Who had lost the golden cup and saucer?
 - a. the King's grandfather
 - b. the prince
 - c. the King's uncle
 - d. the servant

6. Where did the peasant get the land he farmed?
 - a. from his grandfather
 - b. from his mother
 - c. from the king
 - d. from his neighbor

7. What else besides the cup had been lost?
 - a. a spoon
 - b. a fork
 - c. a knife
 - d. a saucer
8. What did the king ask Rosa?
 - a. a riddle
 - b. her name
 - c. where she lived
 - d. if she could cook
9. What would happen to Rosa if she answered the king correctly?
 - a. She would get \$1,000.
 - b. She would become queen.
 - c. She would get a new gown.
 - d. She would get a horse.
10. What was Rosa's friend's name?
 - a. Mary
 - b. Malinda
 - c. Martha
 - d. Melanie
11. What was Rosa wearing when she returned to the King?
 - a. a large sack
 - b. a new gown
 - c. an old dress
 - d. a large fishing net
12. How did Rosa return to the King?
 - a. riding a donkey
 - b. riding in a donkey cart
 - c. tied to the donkey's tail
 - d. leading a donkey
13. Where was the donkey walking?
 - a. in the ruts in the road
 - b. in the grass
 - c. on the sidewalk
 - d. in mud puddles

14. What happened to Rosa's father?
- a. he was hung
 - b. he was released from prison
 - c. he remained in prison
 - d. he escaped from prison
15. What happened to Rosa?
- a. she became a princess
 - b. she ran away
 - c. she became queen
 - d. she moved to another country
16. When did this story take place?
- a. yesterday
 - b. a long time ago
 - c. last week
 - d. last year
17. How did the peasant find the golden cup?
- a. playing
 - b. digging
 - c. plowing
 - d. fishing
18. What was the Chief Warden's job?
- a. to take care of the animals
 - b. to take care of the king
 - c. to take care of the servants
 - d. to take care of the prisoners
19. What happened to Rosa's good friend?
- a. she was put in prison
 - b. she married the peasant
 - c. she moved to the castle
 - d. she moved to another country
20. Who was Rosa?
- a. the king's daughter
 - b. the peasant's daughter
 - c. the peasant's wife
 - d. the king's mother

THE PUMPKIN GIANT

Circle the letter of the best answer to each question.

1. When did the story take place?
 - a. yesterday
 - b. 2 years ago
 - c. last week
 - d. a long time ago

2. The pumpkin giant had what for a head?
 - a. a radish
 - b. a pumpkin
 - c. a watermelon
 - d. an onion

3. Where did the pumpkin giant live?
 - a. in a castle on top of a mountain
 - b. in a cabin in the woods
 - c. in the city
 - d. under a bridge

4. What was the moat of the giant's castle filled with?
 - a. alligators
 - b. fish
 - c. bones
 - d. turtles

5. What did the giant like to eat most of all?
 - a. fat children
 - b. fat goats
 - c. fat pumpkins
 - d. fat sheep

6. What did the giant take to increase his appetite?
 - a. vitamins
 - b. a tonic
 - c. a shot
 - d. an evening walk

7. What was the name of the princess?
 - a. Marie
 - b. Katherine
 - c. Louise
 - d. Diana

8. Why was the king worried about the princess?
 - a. she was beautiful
 - b. she was fat
 - c. she liked to ride horses
 - d. she was ugly

9. What was the reward for killing the pumpkin giant?
 - a. to be made a knight
 - b. \$1,000
 - c. 100 pounds of gold
 - d. a castle

10. What did Phillip do for a living?
 - a. he was a blacksmith
 - b. he built houses
 - c. he raised potatoes
 - d. he sold shoes

11. How old was Erik?
 - a. 10
 - b. 12
 - c. 14
 - d. 16

12. What was Erik's mother's name?
 - a. Carla
 - b. Carol
 - c. Kathy
 - d. Katrina

13. How did Erik's father kill the giant?
 - a. with a spear
 - b. with a rock
 - c. with a potato
 - d. with a bow and arrow

14. Where did Phillip hit the giant?
- in the knee
 - in the mouth
 - in the head
 - on the nose
15. What did Phillip give Erik to play with?
- a bicycle
 - a bow and arrow
 - a new toy
 - a giant's head
16. What vines grew in the potato fields the next year?
- grapevines
 - cantaloupe vines
 - watermelon vines
 - giant's head vines
17. What is an antidote?
- a cure for poison
 - a piece of candy
 - a big dog
 - a type of cake
18. What did Erik's mother make from the giant's heads?
- cucumbers
 - pies
 - cakes
 - cookies
19. Why did the king stop at Erik's house?
- He smelled a delicious odor.
 - He needed a drink of water.
 - He was tired.
 - He was ill.
20. Giant's heads are now known as
- onions
 - watermelons
 - cantaloupes
 - pumpkins

CIRCLE THE LETTER OF THE BEST ANSWER FOR EACH QUESTION.

The following questions are about the story "The Tinker and the Ghost."

1. Why had the ghost's body never been able to get back together?
 - a. He didn't know magic words.
 - b. The chimney was too small.
 - c. He was afraid of the people.
 - d. No one stayed long enough to watch.
2. Why did Esteban agree to stay in the castle?
 - a. To prove his bravery.
 - b. To get a reward.
 - c. He was cold and hungry.
 - d. He wanted to see a ghost.
3. What did Esteban receive from the ghost?
 - a. a thousand gold coins
 - b. 3 bags of coins
 - c. one hundred dollars
 - d. a good luck charm against ghosts
4. Why had the other men died trying to spend the night?
 - a. They were scared to death.
 - b. They fell down the chimney.
 - c. They starved to death.
 - d. They fell in the moat and drowned.
5. Why was the ghost haunting the castle?
 - a. He was stuck in the chimney.
 - b. He lived there as a boy.
 - c. He was chained in the courtyard.
 - d. His soul couldn't get to Heaven.
6. Esteban was a tinker. This means his job was to repair:
 - a. cooking utensils.
 - b. castle walls.
 - c. wine bottles.
 - d. church bells

7. Why would no one stay in the castle?
- a. It was cold.
 - b. It was drafty.
 - c. It was haunted.
 - d. It was dark.
8. How did the ghost die?
- a. He fell down the chimney.
 - b. He was killed by thieves.
 - c. He was burned in the fire.
 - d. He was drowned in the moat.
9. Why wasn't Esteban afraid of the ghost's voice?
- a. It wasn't very loud.
 - b. It was singing.
 - c. He was used to the noise of the wind.
 - d. He was used to the noise his donkey made.
10. What did Esteban do to the ghost before the ghost vanished?
- a. Pushed the ghost down the chimney.
 - b. Buried the ghost in the courtyard.
 - c. Took off the ghost's clothes.
 - d. Hung the ghost in a tree.

The following questions are about the story "The Peasant Queen."

11. Where was the peasant put when he was brought to the castle?
- a. in prison
 - b. in the barn
 - c. in the courtyard
 - d. in the moat
12. Where did the peasant find the golden cup?
- a. in his fields
 - b. in his kitchen
 - c. at the market
 - d. in the barn

13. Where did the peasant get the land he farmed?
- a. from his grandfather
 - b. from his mother
 - c. from the king
 - d. from his neighbor
14. What else besides the cup had been lost?
- a. a spoon
 - b. a fork
 - c. a knife
 - d. a saucer
15. What did the king ask Rosa?
- a. her name
 - b. a riddle
 - c. where she lived
 - d. if she could cook
16. What was Rosa wearing when she returned to the King?
- a. a large sack
 - b. a new gown
 - c. an old dress
 - d. a large fishing net
17. How did Rosa return to the King?
- a. riding a donkey
 - b. riding in a donkey cart
 - c. tied to the donkey's tail
 - d. leading a donkey
18. Where was the donkey walking?
- a. in the ruts in the road
 - b. in the grass
 - c. on the sidewalk
 - d. in mud puddles
19. What happened to Rosa at the end of the story?
- a. she became a princess
 - b. she ran away
 - c. she became queen
 - d. she moved to another country

20. How did the peasant find the golden cup?

- a. playing in the yard
- b. plowing in his field
- c. digging fishing worms
- d. climbing trees

The following questions are from the story "Jar of Rosemary."

21. What member of the prince's family had been sick?

- a. Mother
- b. Father
- c. Brother
- d. Sister

22. Why did the Queen want rosemary?

- a. It would make her young again.
- b. She wanted to wear it.
- c. It reminded her of when she was a little girl.
- d. She wanted to eat it.

23. For what holiday was the rosemary?

- a. Easter
- b. Christmas
- c. Halloween
- d. Thanksgiving

24. The rosemary was found growing

- a. in a garden.
- b. in the woods.
- c. in the greenhouse.
- d. in a jar.

25. What was the old woman offered for the rosemary?

- a. \$100
- b. a new coach
- c. a handful of silver and gold
- d. a castle

26. The old woman's grandson was

- a. playing with his pet.
- b. sick in bed.
- c. running down the road.
- d. chopping wood.

27. Where did the old woman get the rosemary?
- a. in back of the castle
 - b. at the market
 - c. from the king's greenhouse
 - d. from the home where she lived as a child
28. What did the old woman want in trade for the rosemary?
- a. a jewel
 - b. a golden ball
 - c. \$1000
 - d. a new dress
29. How did the prince get to the old woman's house?
- a. in a coach drawn by horses
 - b. in a covered wagon
 - c. on a donkey
 - d. on foot
30. Where did the old woman live?
- a. in the next town
 - b. in the country
 - c. in the same town
 - d. in the mountains

The following questions come from the story "The Pumpkin Giant."

31. The pumpkin giant had what for a head?
- a. a radish
 - b. a pumpkin
 - c. a watermelon
 - d. an onion
32. Where did the pumpkin giant live?
- a. in a castle on top of a mountain
 - b. in a cabin in the woods
 - c. in the city
 - d. under a bridge

33. What did the giant like to eat most of all?
- a. fat sheep
 - b. fat children
 - c. fat pumpkins
 - d. fat goats
34. Why was the king worried about the princess?
- a. she was beautiful
 - b. she liked to ride horses
 - c. she was ugly
 - d. she was fat
35. What was the reward for killing the pumpkin giant?
- a. \$1000
 - b. to be made a knight
 - c. 100 pounds of gold
 - d. a castle
36. How did Erik's father kill the giant?
- a. with a spear
 - b. with a rock
 - c. with a potato
 - d. with a bow and arrow
37. Where did Phillip hit the giant?
- a. in the knee
 - b. in the mouth
 - c. in the head
 - d. on the nose
38. What did Phillip give Erik to play with?
- a. a bicycle
 - b. a bow and arrow
 - c. a new toy
 - d. a giant's head
39. What is an antidote?
- a. a cure for poison
 - b. a piece of candy
 - c. a big dog
 - d. a type of cake

40. What did Erik's mother make from the giant heads?
- a. cucumbers
 - b. pies
 - c. cakes
 - d. cookies
41. Which of the stories would you like to hear again?
- a. The Tinker and the Ghost
 - b. Jar of Rosemary
 - c. The Peasant Queen
 - d. The Pumpkin Giant
42. Which story was the most fun to listen to?
- a. The Tinker and the Ghost
 - b. Jar of Rosemary
 - c. The Peasant Queen
 - d. The Pumpkin Giant

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