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In this pamphlet, the role of listening in children's learning experiences is described. Discussed are factors which influence hearing (sound reception and modification), listening (the process of becoming aware of sound sequences), and auding (the translation of speech sounds into meaning). A practical teaching program is suggested to improve children's listening ability through development of specific skills, such as paying attention, following directions, and listening to language sounds. It is suggested that improved listening will promote improvement in the other communication skills. (MS)

WHAT RESEARCH SAYS TO THE TEACHER

29

Listening

Stanford E. Taylor

Department of Classroom Teachers
American Educational Research Association
of the National Education Association

SCHOOLING is what happens to children and youth under the guidance of classroom teachers. Instruction is likely to be most effective when the teacher keeps his planning and instruction close to the useful and constructive findings of educational research. Through research, the modern teacher (a) seeks to maintain a sensitivity to the advancing edge of human knowledge, (b) helps to keep up on the facts that may improve his work, and (c) finds in current research stimulation toward discovering new truths from his own work and studies.

Confronted by a heavy schedule of teaching and by an overwhelming array of technical research reports, the typical teacher often must forego the benefits of research. While there is no substitute for serious study, the primary purpose of the present series of pamphlets is to indicate how research findings may help with the everyday problems of the classroom teacher. For this reason, the pamphlets are relatively brief and are written in nontechnical style.

The Department of Classroom Teachers and the AERA are indebted to the individual authors who received no honorariums and often took time that they could not readily spare. All of them have done so in the belief that research can make a difference in advancing the usefulness and quality of education.

First Edition, April 1964

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Listening

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EXPLANATION

The author of this pamphlet, Stanford E. Taylor, is president of the Educational Developmental Laboratories, Inc., of Huntington, New York. He has drawn upon educational research materials that offer possibilities of being helpful to classroom teachers. This pamphlet is not a complete summary of research on the subject of listening. In some instances, expert opinion and systematic observations are given where technical research does not exist. The interpretations and recommendations are those of the author. He modified the original manuscript in a few instances to adapt to the suggestions of the following reviewers: Richard R. Foster, former assistant superintendent, Washington, D.C., Schools; J. Raymond Gerberich, executive officer, AERA; Frank W. Hubbard, NEA assistant executive secretary; and Margaret Stevenson, executive secretary, NEA Department of Classroom Teachers. Technical editing in terms of NEA editorial style was completed by the NEA Division of Publications.

LISTENING

LISTENING, an act accepted by children and adults as second nature, is rapidly becoming one of our newest and most intriguing educational frontiers. This is new territory, for 90 percent of the listening research has been conducted since 1952. Although the information available is still minimal, partial answers have been found for certain basic questions: What are the various roles of listening in learning and in living? What occurs during the listening-learning process? What are the skills that compose listening ability? What does listening have in common with reading? And how and to what extent can a listening personality and capability be developed?

THE IMPORTANT ROLE OF LISTENING

As early as 1926, research had established that 70 percent of the average adult's working day was spent in verbal communication, with 45 percent of that time spent in listening acts. Reading, on the other hand, occupied only 16 percent of the verbal communication time. In 1949, explorations of listening in the elementary classroom led to the discovery that 57.5 percent of class time was spent in listening. Recently, researchers have estimated that close to 90 percent of the class time in high schools and colleges is spent in listening to discussions and lectures.

Certainly listening has always occupied a good portion of our communication time, and since the advent of TV the proportion of time spent in listening has been increasing.

TO WHAT EXTENT DO THEY LISTEN?

Despite the amount of time spent in listening each day, it cannot be concluded that this time is spent efficiently. Most teachers of the primary grades are aware of the children who cannot discriminate well among the sounds of our language and who, therefore, cannot take full advantage of instruction in

phonetic analysis. Likewise, the intermediate-grade teacher is all too familiar with children who cannot or do not follow directions without numerous repetitions and who cannot listen analytically or critically. While most of these students attempt to pay attention to the teacher, they are ill equipped to manipulate the information they receive in order to retain and use it, or to appreciate the speaker and the manner of delivery. In one experiment in which selections were read to fourth-grade children and comprehension checks followed, only 21 percent to 33 percent of the content was retained. Almost daily, one faces situations in which people half hear, ask for repetition of what was said, or are unable to follow verbal directions competently and accurately. Research has shown that the average person will retain only 50 percent of what he hears, no matter how hard he concentrates, and that two months later he can be expected to recall only half of that amount.

This condition is not surprising when one considers the negligible amount of instruction provided in listening, the lack of a sequential developmental listening program in most schools, and the inherent complexity of the listening act.

FROM A SOUND TO MEANING

Listening starts with the speaker who utters sounds at a certain level of loudness, from a certain distance, with a particular manner of enunciation. Although the listener is unaware of the process, he does not receive a word instantly but rather accumulates sound, receiving a word over a brief but measurable interval of time. Hearing a word during listening is different from seeing a word in reading, during which all parts of a word impinge on the retina in the same instant. In contrast, the listener accumulates sounds bit by bit, identifies short sound sequences as words, and then translates larger word sequences into meaning.

During the third of a second it takes to hear a syllable, or during the several seconds it takes to listen to an idea, many factors affect the translation of sound into meaning. Gaining a clearer understanding of these factors is an important first step for any teacher who wants to improve listening abilities.

While the total act of receiving auditory communication is generally referred to as "listening," it may be clearer to think of this act in three distinguishable stages: hearing, listening, and auding. This three-stage process is depicted diagrammatically in Figure 1.

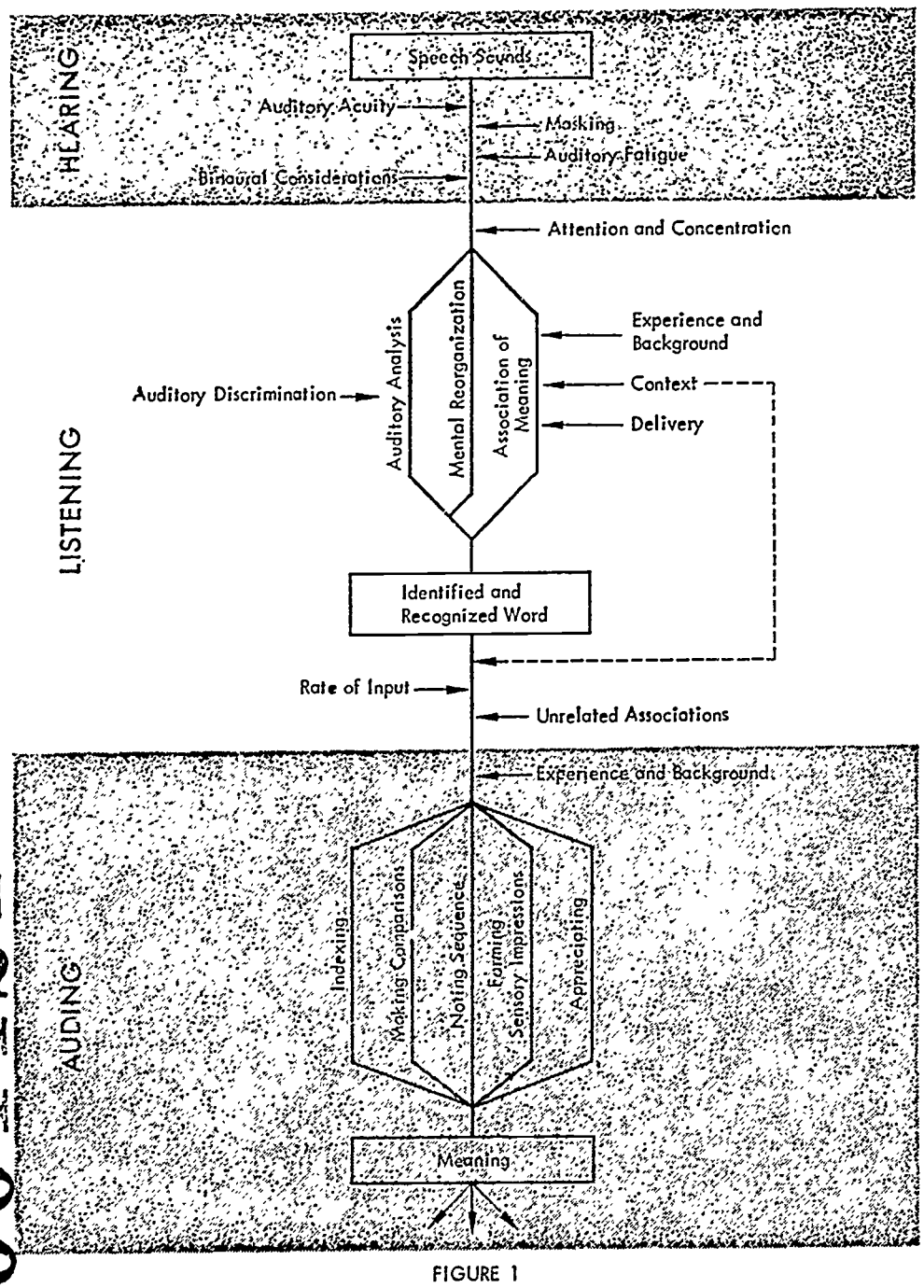

FIGURE 1

Hearing is used to designate the process by which speech sounds in the form of sound waves are received and modified by the ear. The various factors that modify the hearing of speech sounds are shown with arrows.

Listening refers to the process of becoming aware of sound sequences. In listening to speech, the person first identifies the component sounds and then recognizes sound sequences as known words through the avenues of auditory analysis, mental reorganization, and/or association of meaning. The factors depicted by arrows determine the listener's effectiveness in employing these means of word identification and recognition and influence the accuracy with which he retains these words after recognition.

Auding refers to the process by which the continuous flow of words is translated into meaning. Auding involves one or more avenues of thought—indexing, making comparisons, noting sequence, forming sensory impressions, and appreciating.

It is acknowledged that the factors that act on the process of translating speech sounds into meaning may vary in the order in which they occur and will change in their importance from one listening situation to another. Many of them, while depicted separately, will act in combination.

FACTORS WHICH INFLUENCE HEARING

A fundamental consideration in the hearing stage is the student's ability to receive speech sounds accurately in daily communication situations, which normally involve a certain amount of background noise and sometimes conflicting conversations. The factors which must be considered are auditory acuity, masking, fatigue, and binaural considerations.

Auditory Acuity

Once sound enters the ear of a listener, the first factor to affect his hearing of sound is his auditory acuity, or the physical response of the ear to sound vibrations. Auditory acuity may be thought of as the ability to respond to various frequencies (tones) at various intensities (levels of loudness).

Human speech comprises frequencies ranging from 125 to 8,000 cycles per second, but researchers involved with testing

the hearing of speech are most concerned with the range between 500 and 4,000 cycles per second. Within this range, the frequencies between 1,000 and 2,500 c.p.s. furnish the majority of word cues and as such are judged to be most critical. Frequencies above 2,500 c.p.s. contribute to the fineness with which we hear such sounds as b, d, f, g, s, t, v, sh, th, and zh.

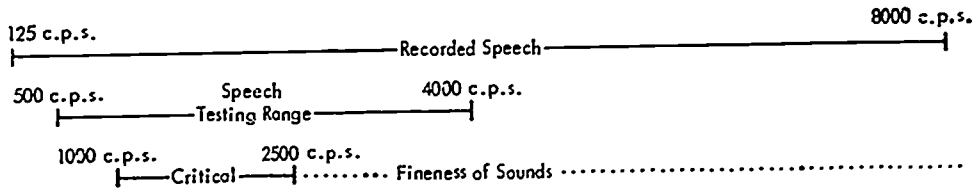

FIGURE 2

The intensity, or loudness level, found in everyday speech will range typically from 55 decibels (faint speech) to 85 decibels (loud conversation). When hearing is tested, a person's ability to hear is checked across the entire speech frequency range. A person is said to have a hearing loss when he requires more than the normal amount of volume (d.b. level) in order to hear sounds of certain frequencies. Researchers vary in the amount of loss they consider serious. Some regard a 6 d.b. loss as significant, while the majority do not consider a loss serious until it exceeds 15 or 20 d.b.'s. Most important is the detection of those losses in the frequencies above 1,000 c.p.s., since these frequencies are the most critical to the intelligibility of speech.

It is seemingly quite difficult to make absolute judgments about the seriousness of a hearing loss, since people differ in the extent to which they can compensate for such a loss. Some possess greater than usual ability to discriminate among sounds; others can make better use of aural context clues in order to gain meaning from speech. As a consequence, estimates vary regarding the number of children who are handicapped by a hearing loss, with 5 percent to 10 percent being the proportion most often quoted.

Hearing losses are usually measured with an audiometer. However, students with a hearing loss that would inhibit learning will also exhibit certain symptoms that can be noticed by the classroom teacher. For example: Notice whether the child's voice

is typically too loud or too soft. Watch for the child who doesn't pronounce words distinctly and accurately, for poor articulation is often a clue that he has never heard the sounds correctly. Children who respond hesitantly to phonetic exercises may be having trouble in hearing the sounds that compose words. Some children will lean forward when spoken to; others will turn the better ear toward the speaker, perhaps even cupping the ear in order to increase the intensity of the speaker's voice. Notice, too, those children who seem to have difficulty in carrying a tune and especially those who seem to prefer a higher than usual volume when listening to tapes or records.

Masking

The next factor to influence hearing is masking, a condition in which the message being listened to is made less audible by the superimposition of other sounds, for sounds of the same frequency can alter one another. In the classroom, background noise and, most certainly, nearby conversation can have the effect of masking the voice being listened to. Everyone has had the experience of being in social situations in which the sound of many people talking at once masked or drowned out the voice being listened to. In one study, "white" noise (sound composed of all frequencies) was superimposed at various levels of loudness over sentences read aloud. Retention was measured, and it was found that as noise level increased, recall of content decreased.

It is reasonable to conclude that children with some hearing loss and those with low levels of auditory discrimination are adversely affected by masking in noisy classrooms or group discussion situations.

Auditory Fatigue

Auditory fatigue may be thought of as a temporary hearing loss. Continuous or repeated exposure to sounds of certain frequencies can have the effect of reducing the listener's ability to hear those frequencies in subsequent exposures. A monotonous tone or a droning voice will have the effect of inducing auditory fatigue, for sounds within the speech range are the most likely to produce fatigue.

Further, studies with adults have shown that more enduring hearing losses will result when a person is exposed to noise for prolonged periods. It seems reasonable to assume that the daily noise level experienced by children living in urban communities may have a deleterious effect on their hearing ability.

Binaural Considerations

Similar to the stereopsis (depth perception) produced by binocular vision is the localizing effect of binaural hearing. Localizing refers to the listener's ability to place a sound source or judge its distance and direction. Such judgments are based on the intensity of the sound arriving at each ear and on the difference in the time it takes for the sound to reach each ear.

Binaural hearing also enables the listener to keep separate two or more sound sources. When in the presence of two or more conversations, the average listener should find it possible to direct his attention to one speaker or conversation, suppressing the others, and to shift his attention from one to another. Being able to separate the sound sources helps the listener to keep his messages "straight." Recent studies have shown that less capable listeners encounter greater difficulty in keeping their messages straight.

Another effect of binaural hearing is increased volume, for two ears do transmit more sound than does a single ear. This has both a positive and a negative effect. If the listener is exposed to a single sound source, the intelligibility of that aural message will be greater, for more intensity usually results in more intelligibility. But, in situations in which masking noises or conversation are present, or in which fatigue is probable, intensified sound results in more masking, more fatigue, and therefore less intelligibility.

While educators are aware that students will suppress the image from one eye when the stresses of maintaining binocular coordination become too great or when the images from the two eyes conflict too often, comparatively little is known about aural suppression. Is it possible that some students turn their heads to gain a more monaural impression and thus reduce a binaural conflict?

FACTORS WHICH INFLUENCE LISTENING

Beyond the factors which influence hearing are those that affect one's awareness of speech sounds or speech patterns and determine the way in which one identifies and recognizes sounds as words.

Attention and Concentration

Among the first factors to be considered are attention and concentration. Attention may be thought of as the directing of awareness; concentration, as a sustaining of attention. Some researchers have gone so far as to suggest that listening is little more than bringing attention and concentration to bear on an auditory stimulus. But what enables a person to attend and concentrate? Among the important considerations are the general mental and physical well being of the listener, his acquired attitudes toward listening and learning, and his learned ability to focus his attention.

To sustain attention, other conditions are necessary. The content must be such that it can be "taken in stride," for if the message is too difficult in relation to the listener's ability to assimilate or manipulate ideas, his attention may wane, or he may take refuge in selective listening to escape from what has been referred to as "information input overload." On the other hand, the content must be challenging, for if the message is too simple, the listener will soon find relief by taking mental excursions.

Studies have shown that the speaker can be an important factor—whether he is interesting or uninteresting, liked or disliked, animated or expressionless; whether he holds his audience by clever devices and by varying his style, tone, and content; or whether he is predictable to the point of monotony.

The room or listening environment will likewise play a part in maintaining attention. Should the temperature be uncomfortable, the acoustics be poor, or visual and auditory distractions be present, attention will surely suffer.

At the same time the listener is attending, he is identifying and recognizing sounds. To do this, he will use auditory analysis, mental reorganization, meaning, or a combination of these.

Auditory Analysis

When using auditory analysis, the listener is very conscious of the characteristics of the sound. He relies heavily on *auditory* discrimination when the aural message is less meaningful or meaningless. He compares the sounds he hears with those he is familiar with, generally noting likenesses and differences. Though unaware of doing so, he is responding to changes in frequency (pitch or tone), intensity (volume), periodicity (rhythm), and the manner in which these changes take place.

One is very conscious of using auditory analysis when listening to the words of a foreign language for the first time. Children also use this approach consciously when involved with phonetic analysis, when they listen to a difficult word they must spell, or when they attempt to mimic the voice of a friend or perhaps their teacher.

It is important to realize that even meaningful content must be monitored with auditory analysis, for sometimes the content will suggest words and ideas that are not stated. Thus, at the same time the listener is alert to the ideas being expressed, he must, for the sake of accuracy, respond to the words actually used.

Often the listener must readjust his thinking as he anticipates a word and then actually hears a different word. At other times, he must hark back to a word half heard and correct his impression of it, since the context that follows makes the meaning of the word clear.

Mental Reorganization

A second means of identification and recognition is that of mental reorganization, a process that is typically used with less meaningful material. In using mental reorganization the listener employs a system that will aid retention. For example, he may syllabify a word or name, pronouncing it to himself. When presented with a long series of numbers or letters, the listener will attempt to think of them in groups of two, three, or four elements. When given a telephone number by the information operator, he is likely to chant the number as he hangs up and then dials it. In other words, a listener employs mental reorganization whenever he groups, recodes, or mentally rehearses a sound sequence.

Association of Meaning

Words are also identified and recognized because of their meanings and uses. They are more easily apprehended when they are part of predictable and meaningful speech. The extent to which meaning is associated is dependent first on the listener's *experience and background* and secondly on his ability to use aural *context* clues. He must be able to anticipate wording as he listens and to confirm or correct in retrospect as he continues to listen. He must be able to "listen between the words" and capitalize on the speaker's manner of delivery, noting his tone and the mood created, responding to his phrasing and emphasis on certain words, and realizing the way in which the speaker organizes his ideas.

Rate of Input

Once the listener has identified a sound or recognized a sound sequence as a familiar word, the next factor to be considered is rate of input, for listening is a continuous act and must be thought of in terms of sound units received per unit of time—syllables per second, or words per minute. Rate studies have been conducted in which the pause time between words was varied, in which the speaker varied his rate of delivery, and in which recorded speech was compressed mechanically. Some researchers have concluded that there is little effect on comprehension between such rates as 125 and 225 words per minute, while others have found significant variations within the narrow range of 125 to 175 words per minute. The incompatibility of these findings may be attributed to such factors as differences in the academic level of the subjects, variations in the type of content, and the methods of speech compression used. Several speculations, however, appear reasonable. Considering that the average listener is exposed daily to speaking rates ranging from 135 to 175 words per minute, it appears that the listening mechanism readily adjusts to variation in rate of input, especially when the content is at or below the academic level of the listener. It is also quite probable that for short periods of time, considerably higher rates of presentation can be tolerated without a significant loss of

retention, as long as the content is within the usual comprehension range of the listener. In general, most of the studies showed that the listener preferred a speaking rate between 150 and 175 words per minute. If, however, the content was judged difficult by the listener, a slower rate of delivery was preferred.

Unrelated Associations

It is important to realize that words used in speech may call forth, in addition to the intended meaning, a host of unrelated associations which may distract from or alter communication. The listener may react emotionally, either positively or negatively, to a particular word or phrase to the extent that he completely misinterprets a message because of the presence of that word or phrase. Certain words may have become infused with subjective meanings perhaps reminding the listener of a personal experience, a joke, a pet name, or a particular friend.

FACTORS WHICH INFLUENCE AUDING

As each word is recognized it is added to, and becomes part of, the larger spoken message. As the listener assimilates the continuous flow of words, he must aud, i.e., respond with understanding or feeling. In auding, he brings into play all of his *experience and background* and the thinking skills that allow him to index, make comparisons, note sequence, react by forming sensory impressions, or appreciate what is heard.

He is able to aud by using the surplus thinking time that is usually available during listening. Even in the primary grades, a teacher will sense the ability of many children to "think ahead" of a speaker. In the case of more mature listeners, the difference between listening rate and thinking rate may be as great as three or four hundred words per minute. This is suggested by the fact that the average speaking rate is 150 words per minute, while reading rates will sometimes range above 500 words per minute.

Thinking skills used during the auding act are quite similar to those employed during reading, writing, and speaking. It is for this reason that reading and listening measurements involving these common attributes correlate highly and that training in these skills through listening activities produces a gain in both reading and listening.

Indexing

In indexing, the listener assigns relative values to bits of information. He looks for main ideas and supporting details, separates the relevant from the irrelevant, and in other ways creates a sort of mental outline by ranking the information according to importance. For example, in listening to a discussion of safety at school, a student might note those hazards that are most serious and then file away under each type of accident the different ways in which it would occur, its frequency of occurrence, and means of prevention. Some students who are exceptionally skilled in mental indexing report the ability to visualize an outline as they listen.

Making Comparisons

In making comparisons the listener notes similarities and differences. This allows him to learn about something new and to relate it to something already known or to see additional relationships by categorizing information. A common application of this approach would occur in listening to a speaker talk about a foreign country, for the speaker usually relates the climate, population, natural resources, and social customs of the unknown country to an area familiar to the audience. When this comparison is not made by the speaker, some students will make such comparisons on their own.

Noting Sequence

In noting sequence, the listener will arrange the material according to time, space, position, degree, or some other relationtionship. It is easier to remember a description of a journey if one arranges the places in the order in which they were visited, visualizes the distances traveled, and remembers the order of the events that occurred during each stage of the trip. All of these approaches aid the listener in creating a larger structure or framework into which bits of information can be placed, thus aiding retention and making possible maximum utilization of the information.

Forming Sensory Impressions

In forming sensory impressions, 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.

Appreciating

In responding to the esthetic nature of a message and its delivery, the listener uses appreciation. Appreciation plays a part in listening to sermons, speeches, poetry, and other aural content which is intended to activate the feelings or emotions of the listener.

During appreciative auding, the listener responds to the quality or timbre of the speaker's voice, his choice of words, the fluency with which he expresses himself, and the clarity of his thinking. In listening to poetry or drama, the pacing and rhythm of the delivery are likewise fundamental considerations.

* * *

Once the listener has assimilated the information, both stated and unstated, and reacted to the ideas presented, he may then become involved with divergent or convergent thinking or reasoning. He will proceed to make additional associations and interpretations, make judgments, find applications, and in other ways put to use the ideas he had derived from listening.

LISTENING, READING, INTELLIGENCE, AND SCHOLASTIC ABILITY

Listening and reading are both receptive communication acts, as opposed to speaking and writing, which are expressive acts. Listening and reading differ primarily in the manner an individual receives and recognizes words; they are alike because the individual brings to both the same experience background and employs many of the same thinking skills in each. How do these

similarities and differences affect the student's use of listening and reading?

In the primary and intermediate grades, listening abilities are more advanced than reading skills for students who are average in intelligence and scholastic ability. Children in this age range prefer to listen rather than read, when offered a choice. Listening is preferred because it is a more "usual" act, one in which the student has had many years of experience. Reading, on the other hand, is a slower and less efficient process both in terms of word recognition and rate of thinking. As a result, listening usually makes possible better comprehension and retention than does reading.

As shown in the chart below (Figure 3), listening and reading reach equivalence in both word recognition rate and in word-per-minute rate during the early part of sixth grade. Not until the latter part of sixth grade or seventh grade, however, does reading appear to gain sufficient efficiency to cause it to be preferred over the usual act of listening in many learning situations.

	Grade Level													Very Efficient
	1	2	3	4	5	6	7	8	9	10	11	12	Col.	
Average Recognition Time per Word (in seconds) LISTENING	← .33 sec. Based on average adult speaking rate—175–185 w.p.m. →													
READING	.75	.52	.43	.38	.35	.32	.30	.29	.28	.26	.25	.24	.22	.12
Average Rate (in words per minute) LISTENING	← 175–185 →													
READING	80	115	138	158	173	185	195	204	214	224	237	250	280	500

Based on table of norms contained in General Reference #22.

Figure 3

During sixth or seventh grade, listening is preferred when the content is "easy," while reading is preferred when the content is judged difficult. The explanation for this probably lies in the fact that listening is paced by a speaker, who usually presents ideas in a steady, relatively uninterrupted manner; in reading, the student paces himself, can double-check and reread, and can pause and reflect when necessary. Thus reading allows the stu-

dent more opportunity to grapple with the ideas presented in difficult content.

Below the sixth or seventh grade, individual students will tend to prefer reading as soon as their reading proficiency reaches or exceeds the level of their listening proficiency. If their reading development is slow, they will continue to rely most heavily on listening beyond the seventh grade.

Above grade 7, there is a distinct preference for reading over listening in most learning situations, and better retention results from reading. With each passing year reading proficiency increases, and the complexity of the material to be learned likewise increases. These factors encourage an ever greater preference for reading.

In general, less competent students, those judged to be less intelligent and scholastically below average, show a marked preference for listening over reading in most learning situations and do retain more from listening. The slower student depends on the special attributes of listening for much of his understanding. In listening, he is assisted in interpreting content by the phrasing and expression of the speaker, while in reading he must construct his own linguistic units in order to realize meaning. In listening, the speaker's appearance, gestures, facial expressions, and manner of delivery contribute color and interest and also add to the meaning of the words. By comparison, the print in a book lies noncommittal on the page.

Through the grades, less competent students will tend to rely quite heavily on listening to learn, despite the fact that they possess fewer specific listening skills and are more easily distracted than more advanced students.

More competent students, those judged to be more intelligent and scholastically advanced, are measurably more capable readers and listeners than less advanced students. Although both avenues of communication are available, better students prefer and accomplish more through reading. Their preference for reading is especially pronounced when the content to be learned is complex, for reading offers the effective reader an opportunity to pace himself according to the demands of the content, to reflect, and to reread certain sections when necessary. On the other hand, better students may still prefer to listen to simpler

material because of the intrinsic appeal of a live presentation, and listening in such situations does afford them a level of comprehension that is equal to that produced by reading.

To summarize: In situations in which the student can easily cope with the content by listening, he will nearly always prefer to do so. But when the content taxes his listening skills, he will prefer reading, unless his reading competence is less than his listening competence.

CAN LISTENING BE TAUGHT?

Just as there is a growing awareness of the importance of listening, there has also been an increase in the number of studies indicating that listening skills can be taught and that listening ability does improve substantially when specific instruction is provided. In addition, some of the available studies show that listening instruction also produces improvement in reading and language usage.

There is a surprising dearth of listening improvement studies in the primary grades and in high school, but a number of researchers have reported on the benefits of listening training in the intermediate grades, junior high school, and college.

In one study, fourth-, sixth-, and eighth-grade students were given specific ear training during which they recorded their oral expressions and then analyzed and criticized these recordings. This training produced a significant improvement in language usage.

In a study involving fifth-grade students, specific training was given in listening for main ideas, details, and inferences. Not only were gains in these skills significant, but other skills, such as getting word meaning and following directions, also showed improvement. (See Research Reference #19.)

In another study of fifth-graders, the listening instruction consisted of exercises in following directions. In a three-month period, the experimental group showed pronounced gain in listening as well as significant gains on a standardized reading test—0.8 of a year—while the control group showed no unusual gain. (See Research Reference #12.)

In a third study involving fifth-graders, a comparison was made of three groups: one experimental group received direct instruction and practice exercises in listening for main ideas, important details, opinions, relevant and irrelevant details, and transitional phrases; a second experimental group received indirect instruction by listening to selections and discussing their content; the third group, a control group, received only the usual language arts program. Both experimental groups made significant gains on a standardized listening test. The direct-instruction group made the most significant gains, and the control group showed no significant gains. (See Research Reference #5.)

In a program involving eighth-grade students, a series of taped lessons designed to improve both listening and reading skills was used. Students in the experimental group showed a significant gain in listening, reading, and English skills as measured by standardized tests. Especially outstanding gains were made in following directions in both listening and reading. (See Research Reference #11.)

A number of listening programs on the college level have been reported. One study described a four-session course in which listening approaches were stressed. Two others involved six and seven 10-minute periods in which instruction was given in how to listen. Another study involved a systematic program of 12 weeks of special listening instruction. In every one of the college listening programs, the gains were significant beyond the 1 percent level of confidence.

In summary, in every study reported in which listening instruction had been given, pronounced gains were made in listening and often in allied communication skills as well.

A PROGRAM TO IMPROVE LISTENING

Because learning is so dependent on listening, because most students are not accomplished listeners, a developmental listening improvement program is needed in most schools. In instituting such a program, a number of factors must be considered.

IMPROVING CONDITIONS THAT AFFECT HEARING

Although the percentage of students that is likely to be handicapped by hearing losses is relatively small, it is desirable to have the hearing of all students checked with an audiometer. If a student's average hearing loss is less than 20 decibels, changing his seat in a class may be sufficient. Students with a loss greater than 20 decibels in the speech frequencies may require special training in auditory discrimination. While this training cannot improve hearing as such, it can help the student to make better use of the auditory cues he does hear. If a hearing loss is 35 decibels or more, a special hearing aid will probably prove necessary.

Certain steps can also be taken to improve hearing conditions within the classroom. Naturally, noise should be kept at the lowest level possible. Classrooms in noisy locations may need acoustical treatment.

Many schools are making increased use of individual learning or study stations (carrels) which, in addition to reducing noise, have the additional benefits of reducing visual distraction and providing better illumination.

CREATING THE PROPER LISTENING CLIMATE

Many improvements can be made in listening by careful consideration of the quality of the listening climate. It is important to realize that in many classrooms, the teacher provides the majority of the listening climate. With this in mind, the teacher should carefully appraise the amount of time students are expected to listen during each school day. In taking stock, most teachers are amazed to find that students are expected to listen during the greater portion of the school day. Certainly the amount of time usually spent in listening greatly exceeds the length of time that students can be expected to sustain a high level of interest and attention.

Many times this condition results from the teacher's feeling that teaching is telling. A re-evaluation of teaching methods may lead to greater variety of listening situations, including independent activities, pupil-team learning, and greater use of audio-

visual approaches, with a corresponding reduction of teacher presentation. As a consequence, more variety will be introduced, and there will be greater interest and attention when the teacher does speak.

In addition, teacher presentations should be evaluated. Do they tend to be quite similar from subject to subject, period to period, or week to week? Is the teacher's voice well modulated and pleasant to listen to? Does it communicate enthusiasm and interest?

Lastly, by her own example, the teacher also must listen carefully and thus show the student that listening is important.

IMPROVING LISTENING ATTITUDES

Most students have already formed certain attitudes toward listening as a result of experiences in school and at home. To many, listening is simply "getting told," and this has not always been a pleasant experience. As a consequence, they often seek refuge in not listening, or listening in a passive manner, knowing that almost everything that is truly important will be repeated.

With younger children, changing the listening climate and providing activities that place a premium on listening carefully and attentively will produce the desired changes in attitude. With older students, however, the teacher may find it advisable to employ a number of specific approaches in order to change attitudes toward listening.

The first of these would be to help students realize the importance of listening. Formal or informal listening tests can awaken in students an awareness that their listening may need improvement. Keeping a record of the time they spend in listening each day will indicate to students how much of their learning and daily experiences come to them through listening. In addition, the teacher might have older students think about, and perhaps classify, the types of listening they do or the purposes for which they listen.

Once students have realized that there is room for improvement in their listening skills, they may find it helpful to find out some of the reasons for poor listening.

A discussion of listening problems in a junior high school group might involve the categorizing of listening problems under the headings EXTERNAL and INTERNAL and the further division of problems according to types. A clear understanding of listening problems is an excellent starting point for a program in improving listening skills. Many times, awareness of a bad habit results in its elimination almost immediately.

TEACHING LISTENING AS A TOOL FOR LEARNING

Much improvement can be effected by continued stress on the use of good listening in all daily learning situations. Students should be made aware of using listening as a tool of learning. Likewise, the teacher should carry out a directed listening activity whenever presenting subject-area content orally. Whenever directions are given orally, the "once only" rule should be observed, so that a value is placed on the speaker's and the listener's time. When students are asked to listen appreciatively, guidance should be provided in how to listen and for what to listen. In essence, teacher and students alike should be conscious of using listening skillfully in all learning situations.

PROVIDING PLANNED INSTRUCTION IN CERTAIN LISTENING SKILLS

Although a certain amount of growth in listening will result from attention to listening in daily instruction and an improved listening climate, greater growth will be achieved when a planned program of listening training is also provided.

Such a program would start with an appraisal of the students' existing listening skills, using formal or informal measurements. At the present time, there are only two standardized tests of listening comprehension: the *Brown-Carlsen Listening Comprehension Test*, for grades 9-13; and the *Sequential Tests of Educational Progress: Listening*, for grades 4-6, 7-9, 10-12, and 13-14.

Informal testing might take the form of an informal listening and auding inventory, through which the teacher would attempt to evaluate such factors as the student's auditory discrimination,

his ability to use context in predicting words and ideas, and his ability to use the various auding skills with content suitable for his level and to the extent that he can learn satisfactorily in the types of situations he encounters in daily classroom work. Many of the instructional activities described in the following section can be adapted for use as informal checks of listening or auding competence.

A systematic and regularly scheduled training program is necessary to introduce the needed skills and abilities and to provide the amount of practice that is necessary to assure mastery of these skills and abilities. The activities presented in the following pages will serve as a guide for teachers who are embarked on a program of listening instruction. The activities are presented in the general order in which the skills would be acquired by the student. An attempt has been made to provide a number of representative activities appropriate for various listening ability levels.

Some of the activities lend themselves to independent use. Others may be adapted to team or small-group use, and still others to entire-class presentations. Some of the activities can be prerecorded for completely auto-instructional use in which responses are corrected by the recorded narrator. Other techniques must, because of their nature, be conducted in situations where group interaction is possible. Variety in the approaches is an important ingredient and should be taken into account when these listening activities are used.

Listening activities will be more stimulating and a more flexible listener will result when a variety of oral situations are presented. Newscasts, commercials, drama, conversations, oral reports—all can serve as the bases for listening activities.

Varying the voices used and introducing different regional pronunciations will not only create greater variety but will also create greater flexibility in listening. Rate of delivery should also be varied so that students will add still another dimension to their flexibility in listening.

Directing and Maintaining Attention

1. Have the students close their eyes and listen for a number of seconds. Ask them to list every different sound they heard during that time.

2. Read aloud rapidly the names of different objects, including three or four different categories. Ask one team to remember only the toys, another team only the tools.

3. Read a short selection, asking students to count the number of times they hear a particular word, such as *the* or *a*.

Following Directions

1. Play Simple Simon.

2. Play games involving the cutting and folding of paper, drawing, or writing according to oral directions.

3. Using prepared worksheets, have students follow directions such as "Put an X on . . . ," "Circle . . . ," "Cross out . . . ," "Underline . . . ," etc.

4. Have students listen to and repeat directions that might be given to a traveler attempting to reach a particular place.

Listening to the Sounds of Our Language

1. Have one team supply a word. The second team is to supply a rhyming word in a matter of seconds.

2. Read words in groups of three, four, or five. Have students identify the words that do or do not rhyme.

3. Have students make up and read two-line jingles to the class. Have other students note the rhyming words at the end of each line.

4. As you read a list of words, students are to listen for or count all words with certain initial consonants, long or short vowel sounds, blends, etc.

Using Auditory Analysis

1. Read a series of nonsense syllables and ask students to repeat. This may also be done with foreign language phrases.

2. Record short sequences of drum beats, bell sounds, or piano tones at various pitch or volume levels. As each group of sounds is played, ask students to note which sound in the sequence is loudest or softest, highest or lowest, longest or shortest.

3. Play sound effects recordings. Ask students to identify the sounds.

4. Tap a rhythm pattern with a pencil. Have students repeat it.

Using Mental Reorganization

1. Read aloud a series of numbers or letters with one-, two-, or three-second pauses after each. Following each sequence of three, four, five, or six, ask students to write the numbers or letters they can remember.

2. Read polysyllabic words. Ask students to note the number of syllables in each word and to repeat the syllables. This can be done with English words, nonsense words, or words of a foreign language.

3. Read telephone or ZIP code numbers aloud and ask students to write them.

Using Context in Listening

1. Read a sentence containing an unfamiliar word or one in which a familiar word is used in an unfamiliar manner. Students are then to discuss the clues provided by the context and the meaning that they indicate.

2. Read aloud sentences in which certain words are omitted. Ask students to listen to the sentences and then provide words that seem suitable.

3. Build sentences by having each student in a circle add one or two words. One goal might be to create a run-on sentence that tells a complete story. Another version would be to limit the number of conjunctions in each sentence and to charge one point against each student who ends a sentence.

4. Read the beginnings of sentences such as the following and allow students to supply the ends of the sentences to show that they understand the function of word signals.

My sister and I had planned to go to the movies that night, but _____.

Distinguishing Relevant and Irrelevant Information

1. Read a paragraph aloud in which one sentence does not belong. Ask students to identify the sentence that does not fit with the topic.

2. Read sentences which contain one word which is poorly chosen, perhaps an inappropriate adjective, noun, or verb. Ask students to spot the word which does not belong and to substitute a better word.

3. After stating a purpose for an account or description, read the selection, sentence by sentence, and ask the students to accept or reject each sentence on the basis of its relevance to the purpose.

Listening With a Purpose

1. Before reading a paragraph or selection, give the students one or more specific purposes. One might be to determine the mood of the piece or the character of a person described. The purposes should include recall of facts, making interpretations, and evaluating information.

2. Using a preview approach, read portions of an article, perhaps the first paragraph and the first sentence of each succeeding paragraph. Then ask students to use this information in setting their own purposes for the complete reading which will follow. They then listen to the selection, following which they answer the questions that they posed in advance as well as others that the teacher might supply.

Finding Main Ideas and Important Details

1. Have students listen to a short selection and suggest a title.

2. Read a short story to the group, and ask the students to tell what happened in a one-sentence summary.

3. Read three statements, one containing a main idea and the other two containing subordinate ideas. Have the students select the one that contains the other two. For example:

> All life on earth depends on the sun.
> The sun provides us with heat during the day.
> Ocean plants get their energy from the sun.

4. Read a series of paragraphs and have students choose the best main idea for each from a number of choices on a previously prepared worksheet. Have them discuss why each of the other choices is not suitable, labeling them too general, too specific, irrelevant, or inaccurate.

Indexing an Aural Message

1. As students listen to a list of items, perhaps types of food, they can classify the items and write them in appropriate spaces on a previously prepared outline form.

2. Students listen to a description of an object, a place, or a person, knowing that they will be completing an outline based on this description. The description should be read again, one sentence at a time. After each sentence, the students would enter information in appropriate places in a partially structured outline form.

3. Give the students prepared worksheets containing an outline form, with at least one topic and one subtopic filled in. The students are to follow the outline form as they listen to a simple selection and to store away mentally the information to be filled in after listening.

Making Comparisons in an Aural Message

1. Have students listen as you read the names of a number of objects. For example: muffin, cake, spoon, cookie. They are to select those that are alike in function or category or perhaps the one that is different.

2. Students may listen to short paragraphs which compare people, places, or events. From memory, they would then attempt to recall likenesses and differences.

3. Students listen to a selection that contains information that could be categorized or put into chart form. After listening to the selection the first time, they may be given a prepared worksheet containing the basic structure of the chart. The selection is then read again, sentence by sentence, allowing time for the students to fill in the chart.

4. Students listen to a story or account, after which they write a comparison based on an equivalent personal experience.

Finding Sequence in an Aural Message

1. Have students listen to a story and then relate the events in the order of their occurrence.

2. Students are to listen to a series of directions before performing any of them. One or more of them may then carry out the tasks, while the others observe and take note of any mistakes in sequence.

3. Read to the students a selection containing a clear-cut sequence of events, and ask them to predict what might happen next.

4. Read a short story in which events are scrambled, and ask students to rearrange the events.

5. Students may listen to a lecture which is based largely on a sequence of events. They are to take notes on major and minor happenings. After the lecture, students would read aloud their notes on the sequence of events and discuss whether the sequence was clear and complete.

Making Inferences and Drawing Conclusions

1. A series of paragraphs or selections may be read to students, with concluding statements to be completed by them. For example:

> The air was crisp and clear. I was so preoccupied with the beauty of the day that I didn't see the ice in my path and came down with a bump on the sidewalk.
> The season is _____.
> The speaker lives in the _____.

2. Read paragraphs and have the students write a sentence for each one to indicate what might happen next. For example:

> It was Nancy's birthday. All during school, Nancy noticed that her friends were smiling and whispering to each other. After school, Nancy couldn't find anyone to walk home with, so she went by herself. She walked into the house, planning

to spend a quiet afternoon reading. _____

_____.

3. After listening to several recorded newscasts on the same subject, students may be asked to predict outcomes of the event described. They may also be asked to hypothesize events that led up to the event being described, based on the facts supplied by the newscasters.

4. Students listen to short selections or lectures which contain a great many implications. After listening, they may make a list of information they heard and information they inferred.

Forming Sensory Images from Oral Description

1. A number of sentences, each containing an appeal to one or more of the five senses, are read aloud. Students are asked to write or check the sense appealed to. For example, "The thick smoke filled the room and caused me to run, choking, to the cabin door." The students should check sight and smell.

2. Read to the students short stories, essays, or poems that are high in sensory impact. The first reading should be for appreciation only. During a second reading, students may be asked to analyze the words or phrases chosen to produce a particular sensory appeal.

Sensing Emotions and Moods Through Words Used and Through Manner of Delivery

1. As students listen to inherently ambiguous sentences and questions read with different emotional emphasis, they can be asked to describe the mood of the speaker. Such expressions might include: What did you say? I don't agree with you. When will you be ready?

2. Students may listen to short selections in which the words themselves create most of the mood. On a printed worksheet, students may underline those words or phrases that build the mood.

3. Recorded conversations can serve well for practice in noting changes in mood. What at one moment is a happy interchange can, when one speaker happens to say the wrong thing, turn into a troubled and angry discussion and then change in an instant into apologetic mumbling. As they listen to such recordings, the students might make one-word comments about mood: happy, concerned, angry, hysterical, apologetic. By listening again to such recordings, students can note the points at which another mood is introduced.

Critical Listening

1. Students may listen to political speeches and lectures or discussions in which speakers have strong opinions or views. As they listen they should have the following questions in mind:

What is the speaker's purpose or motive?
What emotionally toned words or phrases does he use to sway his listeners?
Are his views based on fact or opinion?
Does he sell his points by the use of propaganda techniques or by logic?
Do his statements agree or conflict with my experience?
What is the importance of his speech to others and to me?

2. In addition to listening to entire selections with many questions in mind, students may listen to shorter exercises with a single purpose (perhaps to judge the intent of the speaker).

3. Recorded radio and television commercials provide stimulating practice in detecting the more common propaganda techniques: name calling, transfer, testimonial, plain folks, band wagon, card stacking, glittering generalities, and repetition. As students listen they would attempt to classify the appeal or appeals used.

Appreciative Listening

1. Appreciative listening can be developed only by repeated exposure to skillfully interpreted essays, poems, plays, and other written expressions. By listening to readings or performances by gifted professionals, students can gain an appreciation of the contribution of cadence, inflection, emphasis, and all the other skills of delivery that can make a reading more than just the transmission of words. Commercial recordings provide a wealth of material for the development of appreciative listening.

2. In listening to drama, students would be instructed to note theme, plot, characterization, and setting and at the same time to listen to the personal style of delivery of each actor. In listening to a poem, they would listen for such details and concepts as the voice qualities of the speaker, situation or setting, the meaning of every word, a mental picture of all images, definition of tone, and an understanding of the total experience the poem attempts to communicate.

NEEDED: FLEXIBLE LISTENERS

When one considers the amount of time spent in listening each day and the dependence of students at all levels on listening in order to learn, it seems odd that our interest in the process of listening is so late in developing. Perhaps because listening is so much a part of everything we do and because all but the hard of hearing can listen with tolerable success, the need to train this skill has not seemed as vital as the need to train the skills of reading, writing, and speaking.

At present, concern about listening is growing, and the number of studies related to the component skills of listening, listening instruction, and listening in relation to other factors is mounting. But the critical step is still to be taken—that of incorporating developmental listening instruction into the school curriculum.

What is needed is a systematic listening program that will develop a flexible listener, one who is both effective and efficient in a wide range of listening situations. He is effective because he has at his command the insight and the specific skills with which to approach each listening situation. He is efficient because he possesses the auditory sensitivity and the functional facility that permit him to carry out listening tasks with a minimum expenditure of time and energy.

SELECTED RESEARCH REFERENCES

1. Biggs, Bernice P. "Construction, Validation, and Evaluation of a Diagnostic Test of Listening Effectiveness." *Speech Monographs* 23: 9-13; March 1956.
2. Black, John. "Effect of Noise Induces Temporary Deafness." *Speech Monographs* 18: 74-76; March 1951.
3. Black, John W. "Aural Reception of Sentences of Different Lengths." *Quarterly Journal of Speech* 47: 51-53; February 1961.
4. Blewett, Thomas T. "An Experiment in the Measurement of Listening at the College Level." *Speech Monographs* 18: 174-75; August 1951.
5. Canfield, G. Robert. "How Useful Are Lessons on Listening?" *Elementary School Journal* 62: 146-51; December 1961.
6. Carhart, Raymond. "Auditory Training," and "Conservation of Speech." *Hearing and Deafness: A Guide for Laymen.* (Edited by Hallowell Davis.) New York: Murray Hill Books, 1947. pp. 276-317.
7. Diehl, Charles F.; White, Richard C.; and Burk, Kenneth W. "Rate and Communication." *Speech Monographs* 26: 229-32; August 1959.

8. Goldstein, Harry. "Reading and Listening Comprehension at Various Controlled Rates." *Contributions to Education.* No. 821. New York: Teachers College, Columbia University, 1940. p. 56.

9. Harwood, Kenneth A. "Listenability and Readability." *Speech Monographs* 22: 49-53; March 1955.

10. Heilman, Arthur W. "An Investigation in Measuring and Improving Listening Ability of College Freshmen." *Speech Monographs* 18: 302-308; November 1951.

11. Kraner, Robert E. "A Comparison of Two Methods of Listening Instruction in an Eighth Grade Language Arts Program." Doctor's thesis. Denton: University of Texas, 1963. 116 pp. (Unpublished.)

12. Lubershane, Melvin. "Can Training in Listening Improve Reading Ability?" *Chicago Schools Journal* 43: 277-81; March 1962.

13. Nelson, Harold E. "The Effect of Variation of Rate on the Recall by Radio Listeners of 'Straight' Newscasts." *Speech Monographs* 15: 173-80; 1948.

14. Pratt, Edward. "Experimental Evaluation of a Program for the Improvement of Listening." *Elementary School Journal* 56: 315-20; March 1956.

15. Pratt, Lloyd. "The Experimental Evaluation of a Program for Improvement of Listening in the Elementary School." Abstract: *Dissertation Abstracts* 13: 1118-19; No. 6, 1953.

16. Rankin, Paul. "The Measurement of the Ability To Understand Spoken Language." Abstract: *Dissertation Abstracts* 12: 847-48; No. 6, 1952.

17. Robinson, Helen M. *Why Pupils Fail in Reading.* Chicago: University of Chicago Press, 1946. 257 pp.

18. Taylor, Stanford E. "A Study in Listening." *New Developments in Programs and Procedures for College-Adult Reading.* Twelfth Yearbook. Milwaukee: National Reading Conference, 1963. pp. 189-201.

19. Trivette, Sue E. "The Effect of Training in Listening for Specific Purposes." *Journal of Educational Research* 54: 276-77; March 1961.

20. Wilt, Miriam. "A Study of Teacher Awareness of Listening as a Factor in Elementary Education." *Journal of Educational Research* 43: 626-36; April 1950.

21. Witelson, S. "Perception of Auditory Stimuli in Children with Learning Problems." Master's thesis. Toronto: McGill University, 1962. 20 pp. (Unpublished.)

GENERAL REFERENCES

1. Anderson, Lorena, and Frackenpohl, Helen. "Listen My Children and You Shall Hear." *Reading Newsletter 26*. Huntington, N.Y.: Educational Developmental Laboratories, November 1962.
2. Beighley, Kenneth Claire. "An Experimental Study of the Effect of Four Speech Variables on Listener Comprehension." Abstract: *Dissertation Abstracts* 18: 1894-96; May 1958.
3. Bond, Guy L., and Tinker, Miles A. *Reading Difficulties: Their Diagnosis and Correction*. New York: Appleton-Century-Crofts, 1957. 486 pp.
4. Broadbent, D. E. *Perception and Communication*. New York: Pergamon Press, 1958. 338 pp.
5. Brown, Charles T. "Studies in Listening Comprehension." *Speech Monographs* 26: 288-94; November 1959.
6. Caffrey, John. "Auding Ability at the Secondary Level." *Education* 75: 303-10; January 1955.
7. Carver, Merton E. "Listening versus Reading." *Psychology of Radio*. New York: Harper and Brothers, 1935. Chapter 9, pp. 159-81.
8. Caughran, Alex M. "The Effect on Language Comprehension of Three Methods of Presentation." Abstract: *Dissertation Abstracts* 13: 1113; No. 6, 1953.
9. Duker, Sam. "Goals of Teaching Listening Skills in the Elementary School." *Elementary English* 38: 170-74; March 1961.
10. Hampleman, Richard S. "Comparison of Listening and Reading Comprehension Ability of Fourth and Sixth Grade Pupils." Abstract: *Dissertation Abstracts* 15: 1757-58; No. 10, 1955.
11. Hirsh, Ira J. *The Measurement of Hearing*. New York: McGraw-Hill Book Co., 1952. 364 pp.
12. Karraker, Mary E. "An Evaluation of the Influence of Interest and 'Set' on Listening Effectiveness in the Basic Communication Class." *Speech Monographs* 19: 117-18; June 1952.
13. Keller, Paul W. "Major Findings in Listening in the Past Ten Years." *Journal of Communication* 10: 29-38; March 1960.
14. Larsen, Robert P., and Feder, D. D. "Common and Differential Factors in Reading and Hearing Comprehension." *Journal of Educational Psychology* 31: 241-52; April 1940.
15. Lazarsfeld, Paul F. *Radio and the Printed Page*. New York: Duell, Sloan, and Pearce, 1940. p. 109.

16. Nichols, Ralph G. "Factors in Listening Comprehension." *Speech Monographs* 15: 154-63; 1948.

17. Nichols, Ralph G., and Cashman, Paul H. "The Approval Factor in Listening." *Education* 80: 268-71; January 1960.

18. Robinson, H. Alan. *Reading and the Language Arts.* Chicago: University of Chicago Press, 1963. pp. 47-71.

19. Russell, David H. and Russell, Elizabeth F. *Listening Aids Through the Grades.* New York: Teachers College, Columbia University, 1959. 112 pp.

20. Russell, R. D. "A Comparison of Two Methods of Learning." *Journal of Educational Research* 18: 235-38; October 1928.

21. Taylor, Stanford E. "Sensation and Perception: The Complexity of Word Perception." *Journal of Developmental Reading* 6: 187-206; Spring 1963.

22. Taylor, Stanford E.; Frackenpohl, Helen; and Pettee, James L. *Grade Level Norms for the Components of the Fundamental Reading Skill.* EDL Research and Information Bulletin No. 3. Huntington, N.Y.: Educational Development Laboratories, 1960.

23. Toussaint, Isabella H. "A Classified Summary of Listening." *Journal of Communication* 10: 125-34; September 1960.

24. Vineyard, Edwin E., and Bailey, Robert B. "Interrelationships of Reading Ability, Listening Skill, Intelligence, and Scholastic Achievement." *Journal of Developmental Reading* 3: 174-78; 1960.

25. Witty, Paul A., and Sizemore, Robert A. "Studies in Listening I." *Elementary English* 35: 538-52; December 1958.

26. Witty, Paul A., and Sizemore, Robert A. "Studies in Listening II." *Elementary English* 36: 59-70; January 1959.

27. Witty, Paul A., and Sizemore, Robert A. "Studies in Listening III." *Elementary English* 36: 130-40; February 1959.

28. Witty, Paul A., and Sizemore, Robert A. "Studies in Listening: A Postscript." *Elementary English* 36: 297-301; May 1959.

29. Young, William E. "The Relation of Reading Comprehension to Hearing Comprehension and Retention." *Journal of Experimental Education* 5: 30-39; September 1936.

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