



# LEXILE FRAMEWORK<sup>®</sup>

FOR LISTENING

## Building Tools for Success

By: Heather Koons, Ph.D., Director of Research Services, and Alistair Van Moere, Ph.D., Chief Product Officer

Published: January 29, 2020 | Revised: February 12, 2020

*Listening is what most of us do for the majority of each day.* We listen to family members, co-workers, classmates, teachers, the radio, television, podcasts and other forms of media on our computers and phones. Yet even though listening figures so prominently in our daily lives, and research has shown it to be critical to our academic and career success, a surprisingly small amount of time is devoted to teaching us how to listen well. In addition, few tools are currently available to support listening skill development. High-quality authentic audio material with lessons provided by Listenwise ([listenwise.com](https://listenwise.com)) and audio book libraries such as those provided by Tales2Go ([tales2go.com](https://tales2go.com)) are two examples of available products.

To help address the need for a systematic way to measure student listening ability and evaluate the difficulty of audio materials, MetaMetrics, the developer of the **Lexile Framework® for Reading**, has developed the **Lexile Framework® for Listening**. This new framework provides a way for educators to assess student listening ability, monitor growth and provide appropriate audio materials to assist students in improving their listening skills. This white paper presents a brief description of key research findings on the importance of listening, a description of the Lexile Framework for Listening development, background on listening development and the relationship of listening to reading comprehension, and trends in listening assessment.

### About MetaMetrics

MetaMetrics, founded in 1984, is an educational measurement and technology organization whose mission is to connect assessment with instruction. The company's distinctive frameworks for reading, listening and mathematics bring meaning to measurement and are used by millions to differentiate instruction, individualize practice, improve learning and measure growth across all levels of education.

### About the Authors



#### HEATHER H. KOONS, PH.D., DIRECTOR, RESEARCH SERVICES

Heather taught English in East Asia and high school English in the U.S. before working in test development at the North Carolina Department of Public Instruction. Heather has led research on text complexity, English learners and vocabulary development.



#### ALISTAIR VAN MOERE, PH.D., CHIEF PRODUCT OFFICER

With extensive experience in test development, delivery and validation, Alistair is an internationally recognized expert and author in EFL/ELL assessment. He is frequently invited to speak at conferences on AI scoring of speech and writing, assessment technologies and large-scale educational testing.

## Listening is an Essential Component of Career and Academic Success

The importance of listening in interpersonal communication is undeniable. It is often cited as the most critical element of successful personal and business relationships. Business recruiters list listening skills as second only to oral communication skills as the most important skill they look for in new hires (Graduate Management Admission Council, 2017).

**Figure 1. Listening ranks as the second most important skill for business school recruiters.**

**Skills Companies Seek in Graduate Business School Hires, Based on a Standardized Analysis of Skill Proficiency**



Listening dominates our time spent communicating. Studies of corporate executives, college students and K-12 students all show that the majority of daily communication is spent in listening activities (e.g., Bohlken, 1999; Imhof, 2008; Steil, 1996). More time is spent listening than reading, speaking or writing, with several studies showing that over twice as much time is spent listening than is spent communicating in any other mode.

Listening is also a key component of academic success. Studies have shown that effective listeners are better students and are more likely to achieve overall academic success (e.g., Dickinson, McCabe, & Sprague, 2003; Skarakis-Doyle & Dempsey,

2008). In a study of college students, listening was a stronger predictor of being an honors student than reading skills or academic aptitude (Conaway, 1982).

Yet, despite the clear evidence of the importance of listening, it lags far behind reading and writing in terms of time spent on instruction and practice. With so much riding on listening ability, it's important to ensure that tools to evaluate and improve listening skills are available in order to bring more listening pedagogy practices into our classrooms.

## The Lexile Framework for Listening

The Lexile Framework for Listening is a much-needed addition to the listening landscape. It is a tool to help educators monitor their students' listening ability and provide a way to select listening materials to foster listening comprehension growth. The Lexile Framework for Listening, a scientific approach that places both students and audio passages on the same developmental scale, is similar to the Lexile Framework for Reading in terms of features and benefits. The Lexile Framework for Listening has three components: **1) listening comprehension tests** to measure student listening ability, **2) Lexile® Audio Analyzer** to measure the listening difficulty of audio materials, and, **3) a Lexile scale** to report the student and audio measures.

**Listening Comprehension Tests.** MetaMetrics developed a bank of listening comprehension passages and items for use in research and the development of assessments for edtech companies through a comprehensive process. Passages and items appropriate for students in Grades 1-12 were developed to be appropriate for students in a variety of contexts, including English learners (ELs) in the United States and English as a Foreign Language (EFL) learners. Four passage types were selected to represent the kinds of listening experiences students encounter in their school and daily life:

- **Teacher Talks**, which mirror the language that students may encounter in traditional teacher-led lessons.
- **Radio Reports**, which provide factual information or explanation about a particular subject or topic.
- **Narratives**, which are both fiction and nonfiction stories, as well as expository passages read in the style of audiobooks.
- **Dialogues**, which are conversations among two or more speakers.

Listening comprehension is assessed using three primary item types: main idea, inference and specific detail.

Multiple listening comprehension test forms were field tested in a series of studies spanning spring, summer and fall of 2019. The studies, conducted in partnership with Listenwise, Achieve3000, DaDa/Teachaway, and Tales2Go, included more than 17,000 domestic and international students. Participants in the U.S. were from more than 25 states and included approximately 9% EL students. All passages and items that met psychometric quality standards were retained for use in the **Lexile® Item Bank**.

**Lexile Audio Analyzer.** Just like the Lexile Framework for Reading has a text analyzer to evaluate the complexity of a written text, the Lexile Framework for Listening provides a way to evaluate the listening difficulty of an audio file. Development of the Lexile Audio Analyzer began with an extensive review of the features of language presented in audio format that affect comprehension. Forty-one features and more than 100 variations of the features were identified and grouped into four categories.

- **Lexical (Vocabulary)** features provide information about words and word sequences and how likely they are to present a challenge for the listener. It includes variables such as word abstractness/concreteness, age of acquisition, and contextual support.
- **Structural (Grammar)** features measure how the spoken words are organized into sentences. These include variables addressing parts of speech combinations, sentence length and syntactic complexity as defined by the number of embedded clauses and prepositional phrases.
- **Phonological (Word Sound)** features provide information about the listener's mental representation of sounds. These variables address the similarity of word sounds in a passage by examining the predictability of each word when compared to neighboring words.
- **Acoustic/Phonetic (Delivery)** features measure elements of the speaker's delivery of the speech rather than the content of the language. Acoustic variables include measures of amount and length of pausing, intonation, speech clarity, and background noise.

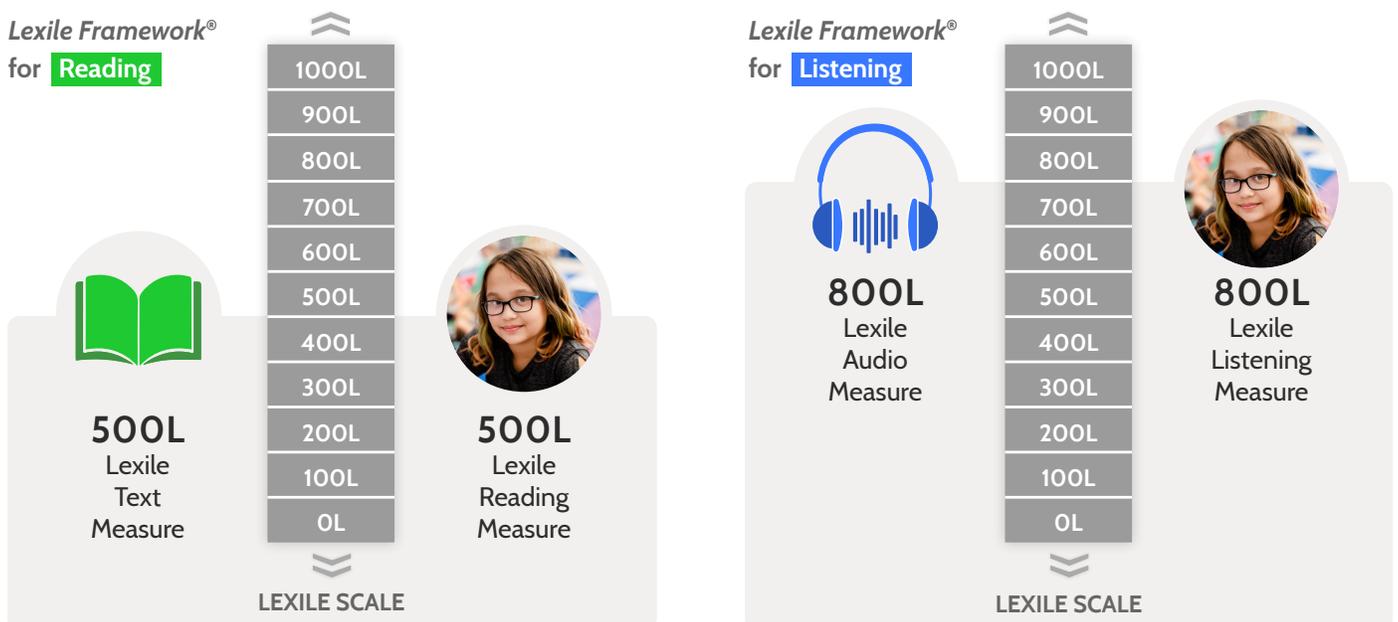
Using the empirical data collected in the field studies previously described, regression analyses were conducted to determine which audio passage features made the listening comprehension passages more or less difficult for students to comprehend. For example, were passages spoken with more intonation and containing fewer

embedded clauses and less abstract language easier to comprehend than those spoken with less intonation and containing more complex syntax and abstract language? From the initial set of variables, 13 were identified as being the best predictors of audio passage difficulty. The Lexile Audio Analyzer utilizes these 13 variables when analyzing audio materials to determine their difficulty.

**Lexile Scale to Report the Student and Audio Measures.** Early in the development of the Lexile Framework for Listening, the decision was made to report student Lexile listening measures and Lexile audio measures using the same scale as the Lexile Framework for Reading. By using the same scale to report listening and reading measures, educators will have a way to compare the relative ability levels of students in both areas and intervene when areas of struggle are identified.

In order to report listening comprehension scores on the same scale as reading scores, analysis of both reading and listening scores for the same students was required. In Spring 2019, reading comprehension scores were provided by teachers for students who participated in the listening comprehension field tests. In Fall 2019, Achieve3000 collaborated with MetaMetrics to collect both reading comprehension and listening comprehension data for the same students. The final sample of students with both reading comprehension and listening comprehension scores from both data collections included approximately 7,000 students in Grades 1-12. The correlation between the reading and listening scores was  $r = 0.78$ . With this matched data set, several steps were taken to align the listening scores to the reading scores. First, the listening items were calibrated to the reading scale using the reading items as the frame of reference. Next, the student listening comprehension scores were calculated. Finally, the student listening comprehension measures were mapped to the student Lexile reading measures, which put them on the same scale. This process of putting the listening measures on the Lexile scale enables users to compare reading and listening measures. For example, if a student has a Lexile reading measure of 500L and a Lexile listening measure of 800L, we can say that her listening comprehension skills are stronger than her reading comprehension skills.

*Figure 2. The Lexile scale measures both student reading and listening ability.*



A student's Lexile reading measure is her reading ability level.

A student's Lexile listening measure is her listening ability level.

## Using the Lexile Framework for Listening

There are a number of ways educators can use the Lexile Framework for Listening with its Lexile listening measures and Lexile audio measures to customize instruction and enrich language learning opportunities for students.

- **Monitor student listening comprehension.** The Lexile scale is a developmental scale, which means that scores can be compared across grade levels and years as students grow. Students' listening comprehension can be assessed in the early grades and monitored to ensure that growth continues.
- **Identify possible causes of reading comprehension challenges.** Students who have normally developing decoding skills and weak listening comprehension skills may struggle to read. With the insight provided by knowing a student's listening comprehension level, educators can select applicable intervention methods to assist in improving both listening and reading skills.
- **Select appropriate audio materials for instruction.** When audio material has a Lexile listening measure to identify its level of listening challenge, educators and parents have important information to help in selecting the most appropriate audio materials for students. For example, if a student has struggled to understand the material at 800L, educators should select audio material at a lower level to help ensure that the student can comprehend or provide instructional scaffolding to help students access the audio material. Similarly, educators can steadily increase the audio challenge of materials to ensure students are exposed to language that enriches and extends their language abilities.
- **Compare student listening abilities to normative data.** Norms, which describe the performance of large groups of students, provide information as to the typical range of Lexile listening measures by grade.
- **Compare student listening and reading abilities.** Because the Lexile Framework for Listening development process included placing student measures on the Lexile scale using student reading measures, it is possible to compare student reading and listening abilities to identify any difficulties.
- **Increase the instructional use of audio materials in the classroom.** Measured audio materials can be matched with student listening measures to increase growth in listening comprehension and, indirectly, reading comprehension.

Lexile Framework for Listening addresses the need for more tools to assist educators as they provide more listening instruction for students.

## Early Listening Experiences are Critical

Not only is listening essential for academic and career success, it is also the first of the four communication modes to develop. Long before children begin to speak, read, or write, they are listening. Before birth, babies can hear sounds within the womb as well as sounds from outside the mother's body (Robinshaw, 2007). Our early listening environments are formative in our educational experiences; a landmark study by Hart and Risley (1995), supported by numerous later studies, found that the strongest predictor of early reading skills (even stronger than socioeconomic status) is the amount and complexity of the spoken language to which we're exposed in our early

years. The students with more language exposure had better comprehension of oral language, which strongly predicted later academic success.

When students begin formal schooling, the focus of literacy instruction quickly shifts to reading and writing, but the importance of a rich language environment that students can learn from through listening, persists. Building students' vocabulary knowledge and listening comprehension ability is essential to their academic success (e.g., Robbins & Ehri, 1994; Wolfram, Pearce, & Zang, 2017). Students can learn new vocabulary and language structures by listening to challenging material, so both listening and reading should be actively utilized as sources of academic content. Fortunately, in our media-rich environment, there is great potential for audiobooks, podcasts, documentaries, and numerous other non-print sources of academic content to supplement traditional print instructional materials.

### The Strong Relationship Between Listening Comprehension and Reading Comprehension

The critical role of listening comprehension in reading comprehension success has been established through decades of research. The most widely accepted model of reading comprehension is the simple view of reading, first introduced in 1986 (Gough and Tunmer, 1986). According to this model, reading comprehension is the product of two processes: word recognition and listening comprehension. Word recognition is defined as the ability to understand words presented as text; listening comprehension is defined as the ability to make sense of words presented orally.

Figure 3. The simple view of reading.

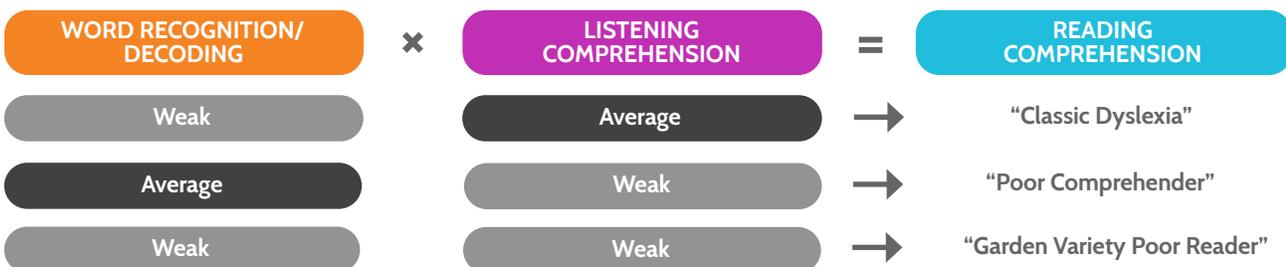


Gough & Tunmer (1986)

Since its introduction more than three decades ago, the simple view has withstood rigorous investigation of the basic parts of the model in reading research across multiple languages. Although findings show that decoding and listening comprehension themselves are far from simple, the research has strongly affirmed the basic structure of the simple view model of reading comprehension (e.g., Foorman, 2015, Kim 2015).

Educators can use the simple view model to identify the specific challenges faced by students struggling with reading comprehension (Figure 4). Students with deficits in word recognition have difficulty making meaning from written words. These students are often described as *poor decoders*. In more severe situations, they may be diagnosed with dyslexia.

Figure 4: Reading difficulties identified by the simple view.



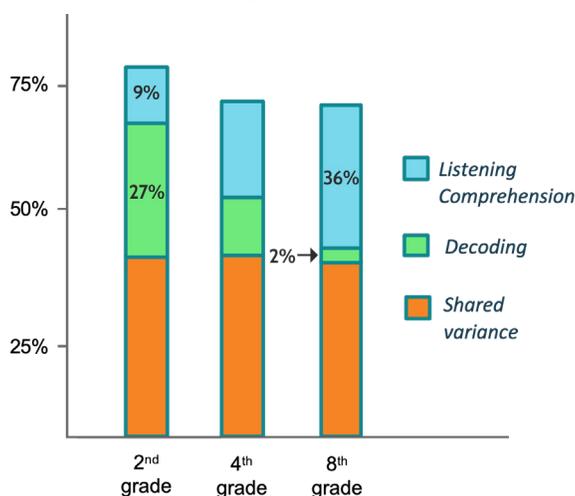
Students who have normally developing decoding skills, but still struggle with reading comprehension are often described as *poor comprehenders*. These students have deficits in their listening comprehension ability, so although they can decode words when they see them on the page, they may not understand their meaning because they don't have a mental representation of the words and don't understand the words when they are spoken. Students who have weak decoding and listening comprehension skills are generally referred to as *garden variety poor readers*. Because *poor comprehenders* and *garden variety poor readers* have weak listening comprehension skills, it's especially important that they receive rich language input through auditory and print channels as a way to build their language knowledge and background knowledge.

Some students respond well to early reading instruction and don't show reading deficits until later in the elementary grade, around fourth grade. This phenomenon is often referred to as the fourth-grade slump (Chall, 1986). Listening comprehension deficits have been shown to be a leading cause of the late-emergence of reading comprehension difficulties (Catts & Hogan, 2002), so these students fall into the category of *poor comprehenders*. Early identification of listening comprehension deficits will help direct educators toward the appropriate support for students to prevent onset of later reading comprehension deficits. By providing listening comprehension assessments to measure student listening skills, the Lexile Framework for Listening can serve as a valuable tool in identifying listening weaknesses and providing suggestions for appropriate audio material to aid in supporting student's language development.

## Better Listeners are Better Readers

Early in reading development, students' decoding skill determines the limits of their reading comprehension. Even though students may understand the spoken words, they may not be able to decode and make meaning of the words in print form. But as students begin to master decoding skills and build automaticity in word recognition, the role of listening comprehension increases. Catts, Hogan, & Adolf (2005) studied the variation in reading comprehension accounted for by decoding and listening comprehension and found that the importance of listening comprehension increased steadily. Figure 5 illustrates their results.

**Figure 5: Variance accounted for in reading comprehension across grades.**



Catts, Hogan, and Adlof (2005)

Further study shows that the strength of the relationship between listening and reading varies according to student reading ability, independent of grade. Listening comprehension is a better predictor of reading comprehension for students with solid decoding skills. These results “underline the long-lasting and important role that listening comprehension plays in the development of reading comprehension skills” (Lervag, Hulme, & Melby-Lervag, 2018, p. 1834). Students can learn the meaning of unknown words through audio exposure, so providing audio materials that contain new and varied language for students as a regular part of instruction is an effective way to improve their listening comprehension (Neuman & Dickinson, 2001;

Blachowicz & Obrochta, 2007). The language knowledge gained through listening will also improve students' reading experiences.

### *Listening and English Learners*

English learners (ELs) in the United States and English as a Foreign Language (EFL) learners studying English in non English-speaking countries don't have the benefits of early English exposure through spoken language. And many EL students get the majority of their English exposure in the school environment. Although, as in native language learning, there is an increasing awareness of the relationship among listening skills, literacy and academic success, the importance of the role of listening in language acquisition is not fully recognized, especially at the primary and secondary school levels (Beal, Gill, Rosier, Tate, & Matten, 2008). Providing rich oral language experiences with academic language is a critical avenue for building language competency for EL, EFL and native language students. In addition to serving as an avenue for vocabulary language learning, for all students, audio materials also serve the essential function of modeling the sound of spoken language, with intonation, phrasing and word pronunciation.

### *Conclusion*

Increasing the time spent on listening instruction in schools and listening practice for students, has the potential to substantially enrich the language experiences of students, which in turn can improve listening comprehension, reading comprehension and overall communication skills and academic success. The Lexile Framework for Listening is an important addition to the listening landscape, bringing listening comprehension assessment together with measurement of audio material. This pairing provides a powerful tool for educators and parents to use to better understand the listening ability of their students and to provide audio materials to best support their listening growth.

## REFERENCES

- Bohlken, B. (1999). Substantiating the fact that listening is proportionately most used language skill. *Listening Post*, 70, 5.
- Blachowicz, C. L. Z. & Obrochta, C. (2007). *Tweaking practice: Modifying read-alouds to enhance content vocabulary learning in grade 1*. National Reading Conference yearbook, pp. 111-121. Oak Creek, WI: National Reading Conference.
- Catts, H. W., Hogan, T. P., Adlof, S. M. (2005). Developmental changes in reading and reading disabilities. In H. W. Catts & A. H. Kahmi (Eds.). *The Connections between language and reading disabilities*. pp. 23-36. Taylor and Francis Group.
- Chall, (1983). *Stages of reading development*. New York: McGraw-Hill.
- Conaway, M.S. (1982). Listening: Learning tool and retention agent. In A.S. Algier & K.W. Algier (Eds.), *Improving Reading and Study Skills*. (pp. 51-63). Jossey-Bass, San Francisco, CA
- Dickenson, D., McCabe, A., & Sprague, K. (2003). Teacher rating of oral language and literacy (TROLL): Individualizing early literacy instruction with a standards based rating tool. *The Reading Teacher*, 56, 554-564.
- Foorman, B., Koon, S., Petscher, Y., Mitchell, A., Truckenmiller, A.. (2015). Examining general and specific factors in the dimensionality of oral language and reading in 4th – 10th grades. *Journal of Educational Psychology*, 107(3), 884-899.
- Gough, P., & Tunmer, W. (1986). Decoding, reading, and reading disability. *Remedial and Special Education*, 7, 6 –10.
- Graduate Management (2017) . Corporate Recruiters Survey Report (2017) The Graduate Management Admission Council, 2017)
- Hart, B. & Risley, T. (1995) Meaningful differences in the everyday experience of young American children.
- Imhof, M. (2008). What have you listened to in school today? *The International Journal of Listening*, 22, 1–12.
- Kim, Y. S. (2015). Language and cognitive predictors of text comprehension: Evidence from multivariate analysis. *Child Development*, 86, 128–144.
- Lervag, A., & Aukrust, V. G. (2010). Vocabulary knowledge is a critical determinant of the difference in reading comprehension growth between first and second language learners. *Journal of Child Psychology and Psychiatry*, 51, 612–620.
- Neuman, S. B., & Dickinson, D. K. (2001). *Handbook of Early Literacy Research*. New York: Guilford Press.
- Robbins, C. & Ehri, L. (1994) Reading storybooks to kindergartners helps them learn new vocabulary words. *Journal of Educational Psychology*, 86(1), pp. 54–64.
- Robinshaw, H. (2007). Acquisition of hearing, listening and speech skills by and during Key Stage 1. *Early Child Development & Care*, 177 (6/7), 661–678.
- Skarakis-Doyle & Dempsey. (2008). The detection and monitoring of comprehension errors by preschool children with and without language impairment. *Journal of Speech, Language, and Hearing Research*, 51, (5), 1227-1243.
- Steil, L. K. (1996). Listening training: The key to success in today's organizations. In M. Purdy & D. Borisoff (Eds.), *Listening in everyday life: A personal and professional approach* (2nd ed., pp. 213-237). Lanham, MD: University Press of America.
- Wolfram Verlaan, Daniel L. Pearce & Guang Zeng (2017) Revisiting Sticht: The changing nature of the relationship between listening comprehension and reading comprehension among upper elementary and middle school students over the last 50 years. *Literacy Research and Instruction*, 56:2, 176-197.