

By Jodi Pilgrim

Hitting the Right “Note”: Using Music to Promote Fluency Skills for Dyslexic Students

Abstract

Just as theory is important in music education, it is important in reading education. Theory backs the practice. In reading research, fluency is an important skill required of readers (Rasinski, 2012; National Institute of Child Health and Human Development, 2000; Texas Education Agency, 2014). Fluency—defined as the ability to read accurately, quickly, expressively, with good phrasing, and with good comprehension (Rasinski, 2012)—is the bridge between decoding words and comprehending text (Reading Rockets, 2012). Dyslexic readers often lack adequate fluency skills, as they may stumble over words or make frequent reading errors (Texas Scottish Rite Hospital for Children, 2014). The intent of this article is to describe how teachers can help struggling readers improve fluency skills by providing them with opportunities to integrate reading and music, a tool which has the potential to motivate student learning (Register, 2001).

Keywords: dyslexia, fluency, fluency strategies, music, repetition

“If someone is fluent in speaking another language or in playing an instrument, there’s a smooth, graceful and easy quality to it. The same is true with reading skills” (Reading Rockets, 2012).

As *English in Texas* celebrates Texas Council of Teachers of English Language Arts’ 50th Year Anniversary, 2015 also marks 50 years since Luke Waites created a center at the Texas Scottish Rite Hospital for Children (TSRHC) to identify and treat children with learning disorders. The Center for Dyslexia and Learning Disorders, established in 1965 in Dallas, Texas, now holds international recognition in the field of learning disorders. The center specializes in the evaluation and diagnosis of children with academic learning disorders and provides treatment for

Jodi Pilgrim is an associate professor in the College of Education at the University of Mary Hardin—Baylor. She teaches undergraduate and graduate courses in literacy education. Her research interests include web literacy, technology integration, teacher preparation, and dyslexia. She can be reached at jpilgrim@umhb.edu.



individuals with dyslexia (TSRHC, n.d.). Even with 50 years of evaluation, diagnosis, and support for children with learning disorders, knowledge about effective literacy instruction for students with dyslexia has been slow to make a difference. Current research suggests that teachers may lack knowledge needed to teach struggling readers, particularly children with dyslexia (Washburn, Joshi, & Binks-Cantrell, 2011). Many teachers continue to hold the common misconception that dyslexia is a visual-processing deficit rather than a language-processing deficit (Dyslexia Help, 2015). In honor of this themed issue, *Recording the Past and Composing the Future*, the purpose of this article is to describe the characteristics of dyslexia and to highlight music-related interventions that may improve reading fluency for dyslexic students.

Dyslexia Defined

Dyslexia is the most common cause of reading, writing, and spelling difficulties (TSRHC, 2014). The Texas Education Agency (TEA) defines dyslexia as a “disorder of constitutional origin manifested by a difficulty in learning to read, write, or spell, despite conventional instruction, adequate intelligence, and sociocultural opportunity” (TEA, 2014, p. 8). According to the International

According to the International Dyslexia Association (IDA), dyslexia is a neurological condition caused by a difference in the brain’s wiring. Dyslexia, a language-based learning disability, affects literacy skills in varying degrees which may result in academic struggles.

Dyslexia Association (IDA), dyslexia is a neurological condition caused by a difference in the brain’s wiring. Dyslexia, a language-based learning disability, affects literacy skills in varying degrees which may result in academic struggles. Specific issues related to dyslexia are outlined in the definition IDA adopted in 2002:

Dyslexia is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge. (para. 1)

This thorough definition reflects the domino effect that can impact many dyslexic students. A deficit in the phonological component of language causes problems with decoding, which impacts fluency and spelling, which in turn effects comprehension. Each of these literacy skills, described in Table 1, plays an important role in the reading process.

As can be seen in Table 1, dyslexic students often struggle with basic literacy skills. In the revised Dyslexia Handbook, TEA (2014) identified several of these literacy skills, including reading

Table 1
Literacy Characteristics, Problems, and Skills

Characteristic	Problem	Skills
Phonemic Awareness	The dyslexic student has trouble manipulating the individual sounds in spoken words. In addition, the student has trouble remembering the correct order of sounds.	<ul style="list-style-type: none"> • Rhyming (bat, sat) • Blending (Putting sounds together: “m” + “a” + “t” = mat) • Segmentation (Pulling sounds apart: mat = “m” + “a” + “t”) • Manipulation (Moving sounds around: Move “s” from the beginning of slip to the end = lips)
Decoding	The dyslexic student has trouble sounding out words.	<ul style="list-style-type: none"> • Learning how letters represent the sounds of speech • Remembering sounds in the correct order
Spelling	The dyslexic student misspells common words and has difficulty using spelling rules.	<ul style="list-style-type: none"> • Spelling accurately and phonetically
Fluency	The dyslexic student reads slowly. In addition, the reader may stumble over words or make reading errors.	<ul style="list-style-type: none"> • Accuracy (little or no errors) • Automaticity (speed/reading rate) • Prosody (reading with expression)
Comprehension	A secondary consequence of dyslexia is that comprehension may suffer as a child avoids reading and does not progress as quickly as classmates.	<ul style="list-style-type: none"> • Vocabulary knowledge • Use background knowledge • Purposeful reading • Active reading (metacognition)

words in isolation, accurately decoding unfamiliar words, difficulty with oral reading (slow, inaccurate, or labored), and difficulty with spelling, as *primary reading/spelling characteristics* of dyslexia. Secondary consequences of dyslexia may include difficulty with reading comprehension (TEA, 2014). Reading comprehension is the purpose for reading and includes a reader's ability to understand the text. Because dyslexic students often struggle with decoding and fluency, their mental effort may be focused on decoding rather than the meaning or comprehension of a text. Therefore, fluency and comprehension are connected and are critical to students' success in reading.

Although individuals do not outgrow dyslexia, reading skills may be improved with appropriate early intervention and prevention programs (Birsh, 2011). It is necessary for all teachers to address the primary characteristics of dyslexia before consequences impacting reading comprehension occur. Many people with dyslexia benefit from the help of a teacher specially trained in using a multisensory, structured language approach (IDA, n.d.), a systematic and explicit method that involves the use of several senses (hearing, seeing, touching) simultaneously. In addition, students with dyslexia often require structured practice and immediate, corrective feedback for the development of automatic word recognition skills (IDA, n.d.). Because a primary characteristic of dyslexia is slow, inaccurate, or labored oral reading, dyslexic students also benefit from evidence-based strategies that promote fluent reading (TEA, 2014). This article highlights ways to improve reading fluency in struggling readers, specifically dyslexic readers.

Fluency

The report of the National Reading Panel (National Institute of Child Health and Human Development, 2000) included reading fluency instruction as one of the five components of an effective reading program, in addition to phonemic awareness, phonics, vocabulary, and comprehension. Fluency is the bridge between decoding words and comprehending text (Reading Rockets, 2012) and is defined as the ability to read accurately, quickly, expressively, with good phrasing, and with good comprehension (Rasinski, 2012). The first part of this definition, *accuracy*, involves decoding words correctly. Readers lacking fluency often guess at unknown words instead of applying decoding strategies. The next part of the definition, *quickly*, refers to reading rate, or automaticity. Automaticity is important because it reflects the reader's ability to decode with "little mental energy" (Vacca, Vacca, Gove, Burkey, Lenhart, & McKeon, 2012, p. 274), which means the reader can focus on the comprehension of the text. Finally, the last part of the definition, *expressively with good phrasing*, means the reader is able to use intonation, pitch, stress, and other oral cues based on punctuation or dialogue (Vacca et al., 2012). When an individual reads with expression, comprehension is typically present.

A study of the oral reading fluency of fourth graders by the National Assessment of Educational Progress (NAEP) reported

Music links the functions of the right and left hemispheres of the brain so that they work together to make learning quick and efficient (Davies, 2000). When used in conjunction with evidence-based strategies for improving fluency, music has the potential to motivate student learning (Register, 2001) and may be a helpful way to practice fluency.

accuracy and reading rate to be significant indicators of overall reading ability (Daane, Campbell, Grigg, Goodman, & Oranje, 2005). Fourth graders who read a test passage with less than 90 percent accuracy had an average score on the main NAEP reading assessment that fell below the Basic level. In addition, oral reading rate (speed), measured as words per minute for the entire passage, positively related to comprehension as measured by average score on the main NAEP assessment. Overall, the data from this study indicated that accuracy, rate, and fluency are related and impact reading comprehension (Daane, Campbell, Grigg, Goodman, & Oranje, 2005). Fluency practice is beneficial for all readers. However, because oral reading fluency is a factor that affects the dyslexic reader, strategies to improve oral reading fluency are critical to implement both in and out of the classroom.

Fluency Strategies and Music

Instructional strategies to improve oral reading fluency include repeated readings, audio-assisted reading, choral reading, and reader's theater (Vacca et al., 2012; Eunice Kennedy Shriver National Institute of Child Health and Human Development, 2001). These strategies provide opportunities for students to practice becoming fluent by reading and rereading appropriate texts in fun and engaging ways. The problem is that many children who struggle to read also resist reading activities (TSRHC, 2014). For the reluctant reader, music may play a role in promoting fluency. Music is an ideal tool for teaching the many facets of language: listening, speaking, reading, and writing (Register, 2001). According to Davies (2000), there are many similarities between literacy acquisition and musical development, and teaching that combines language arts instruction with music can be most effective. Music links the functions of the right and left hemispheres of the brain so that they work together to make learning quick and efficient (Davies, 2000). When used in conjunction with evidence-based strategies for improving fluency, music has the potential to motivate student learning (Register, 2001) and may be a helpful way to practice fluency.

Repetition and Choral Reading

Rarely would a musician perform music without practicing it on multiple occasions. However, we often neglect the value of reading text repeatedly. How do you get a reluctant reader to read literature multiple times if they don't even want to read it once? The NIH (2001) recommended students practice rereading relatively short text selections—probably 50 to 200 words, depending on the age of the students. The researchers recommended many types of texts, including poems, “because poems for children are often short and they contain rhythm, rhyme, and meaning, making practice easy, fun, and rewarding” (Eunice Kennedy Shriver National Institute of Child Health and Human Development, 2001, p. 24).

Using songs with accompanying text may benefit children as well. Children who love music can read and sing along, gaining exposure to the text (lyrics) in a fun and engaging way. “Fluency develops as a result of many opportunities to practice reading with a high degree of success” (NIH, 2001, p. 23). Shari Edwards (2012) implements this practice through the utilization of lyric notebooks, where students store lyrics to favorite songs and practice reading the lyrics 10 to 15 minutes per week. She relates, “My students are becoming much more fluent readers as they read and sing along with the lyrics for a variety of songs that I've carefully chosen for this activity” (para. 2). Edwards recommends teachers copy lyrics pages typed in large, easy-to-read print for each student. After reading the lyrics together in class, the students can read along with the music. Other instructional tips include highlighting words or parts of the song that support other learning occurring in class. In addition, it is important to vary songs in order to prevent students from memorizing the words to the songs too quickly. The point of the activity is to have students read the words in their lyrics notebook, not recite the song.

The Scholastic website features video recordings of Edwards' students reading lyrics (<http://www.scholastic.com/teachers/top-teaching/2012/12/using-music-improve-reading-fluency>). In addition to repeated readings, Edwards uses choral reading. Choral reading is reading aloud as a whole class or group of students in unison, which promotes reading fluency, self-confidence, vocabulary knowledge, and motivation (Vacca et al., 2012). Choral reading has traditionally promoted prosody, or reading with expression. As seen in the videos, choral reading/singing of the lyrics utilized components necessary for prosody such as phrasing, pauses, and expression through song.

Along these same lines, extracurricular activities like choir may benefit students who struggle to read. Sight reading the words may still prove challenging for the dyslexic reader, but choir rehearsals involve repeatedly reading the words to songs in music. In addition, students sing in unison, which provides reading practice in a nonthreatening atmosphere.

Audio-Assisted Reading

Typically, audio-assisted reading involves students reading along in their books as they hear a fluent reader read the book on an audiorecording. The recording enables the learner to hear the prosodic features of language modeled, with the idea that students will then practice reading the same material, using expression. According to Reading Rockets (2015), audio-assisted reading helps build fluent phrasing and expression, sight word recognition, tone and pace, and comprehension. Audio-assisted reading has come a long way with advancements in technology. No longer does a student have to sit with earphones, turning pages when signaled by a bell or tone. Audio-assisted reading now includes technology-enhanced productions, where words are displayed on a screen for a reader to follow. Audio-assisted reading in the musical world equates to karaoke time! Karaoke machines use recorded music and microphones to enable individuals to sing along. Ideally, lyrics are displayed on a video screen so that participants can read and sing along. With the advancements in tablet technology and accompanying apps, karaoke-style sing-alongs are available for free. For example, the Sing! Karaoke App by Smule is a free app available through iTunes (<https://itunes.apple.com/us/app/sing!-karaoke-by-smule/id509993510?mt=8>). Although the reader is hearing a tune instead of prosodic features heard in oral reading, the learner gains exposure to words and text that may not have been read without the motivation of music. “Print put to music also allows children to build on past experiences, which in turn invites them to participate in reading and singing at the same time” (Woodall & Ziembski, 2012, para. 7).

Other technology tools enable audio-assisted reading as well. Teachers may find many popular songs and their lyrics posted as Karaoke videos on the Internet. YouTube contains many legitimately posted lyrics that teachers may use with struggling readers. For example, the popular Disney song “Let It Go” is available with the lyrics (<https://www.youtube.com/watch?v=L0MK7qz13bU>). As words are displayed on the screen, an animated snowflakes helps the reader follow the text. This is important because some readers may not initially be able to keep up with the lyrics. Through practice, the reader can become more efficient at following the text with appropriate phrasing. This strategy may be used at home as a motivational way for parents and teachers to engage the student with reading.

Repeated Reading for a Purpose

Teachers can provide many opportunities for students to read text repeatedly for a purpose. For example, in reader's theater, students rehearse and perform a play for peers or others (Vacca et al., 2012). They read from scripts that have been derived from stories, plays, or even informational content. Students play characters who speak lines or a narrator who provides the background to the story. Reader's theater provides readers with an authentic reason to reread text and to practice reading fluency. In elementary music classrooms or in extracurricular choir, students have opportunities to perform solos or ensembles for others.

Although the fluency strategies presented in the article are not new to the classroom, incorporating music adds a fun twist to the evidence-based strategies and provides an opportunity for the struggling reader to engage with text in fun and motivating ways. Music facilitates connections between emotions, thinking and learning (Davies, 2000). In addition, brain research demonstrates ways music can change brain waves and make the brain more receptive to learning (Davies, 2000).

Similar to reader's theater, they sing lines of text along to music. For students who enjoy music, this may be an alternative way for them to practice "reading" text.

A website titled Songs for Teaching provides reading material set to music (<http://www.songsforteaching.com/badwolfpress/geometry10minminimusicalplay.htm>). The available materials include brief narrative and informative texts intended to motivate readers. For example, a script for math content included characters related to geometry: Isosceles, a Greek hero; Equilateral, Isosceles' horse; Scalene, the squire of Isosceles; Right Angle, etc. This commercial website capitalizes on the idea that music makes learning fun.

Rita DeVries advocates the use of music to enhance the drama of a traditional reader's theater. According to DeVries (n.d.; <http://www.readingrockets.org/article/fluency-matters>), children enjoy creating their own music and sound effects. She recommends teachers and students brainstorm ways music could be used to help tell the story. For example, sound effects may include drums for loud noises and music to signify emotion like sadness, danger, or suspense. Any music that seems to fit the mood of the story could be used to enhance reader's theater.

Content area textbooks can be challenging for any reader, and teachers might consider developing scripts that are based on curriculum content (Vacca et al., 2012). The benefits of a curriculum-based reader's theater include increased fluency, enhanced understanding of content, and motivation to read. Curriculum-based reader's theater may be even more powerful when students are provided opportunities to write the scripts and set them to rap or music. This cross-disciplinary strategy could be used in a math classroom, for example, where the teacher is trying

to help students memorize the order of operations, or PEMDAS (Parenthesis, Exponents, Multiplication, Division, Addition, Subtraction). After writing lyrics, students may practice "reading and rapping" repeatedly until they are ready to record the rap for an audience. The script may be written in a way that one student takes on the role of the Parenthesis, another Exponents, and so on. The act of recording the rap/song for peers may motivate the reader to practice the words and the song. As mentioned before, using pop songs in class may benefit the struggling reader. The students can read or "rap" to the lyrics. They can take parts and take turns, engaging each reader in a unique way.

Conclusion

Dyslexic readers lack adequate fluency skills. Readers still developing fluency read slowly, word by word, with choppy oral reading. Limitations in fluency may affect reading comprehension, as less fluent readers focus their attention on figuring out the words instead of understanding the text. Evidence-based strategies known to improve fluency skills focus on repeated readings, where students gain exposure to text and work to read the text with increased speed and expression with each additional reading. Repeated readings develop fluency among children and should be used in elementary and potentially secondary classrooms. Repeated readings using music may motivate students who would otherwise be unlikely to read for fun. For students who resist reading for pleasure, this article advocates that teachers and parents should try to integrate music into fluency practice. Although the fluency strategies presented in the article are not new to the classroom, incorporating music adds a fun twist to the evidence-based strategies and provides an opportunity for the struggling reader to engage with text in fun and motivating ways. Music facilitates connections between emotions, thinking, and learning (Davies, 2000). In addition, brain research demonstrates ways music can change brain waves and make the brain more receptive to learning (Davies, 2000).

In 2015, Texas educators are working to spread knowledge about dyslexia to teachers everywhere. New Texas literacy laws mandate continuing education requirements for educators who teach dyslexic students (TEA, 2014). Close to 20 percent of the U.S. population display one or more symptoms of dyslexia (Washburn, Joshi, & Binks-Cantrell, 2011), and these laws provide necessary steps toward promoting a clear understanding of the needs of dyslexic students. Teachers must be equipped to meet the needs of all students, and dyslexic students need exposure to strategies that improve fluency. Integrating reading and music may be one way for teachers to "hit the right note."

References

- Birsh, J. R. (2011). Connecting research and practice. In J. R. Birsh, *Multisensory teaching of basic language skills* (3rd ed., pp. 1–24). Baltimore, MD: Paul H. Brookes Publishing.
- Daane, M. C., Campbell, J. R., Grigg, W. S., Goodman, M. J., & Oranje, A. (2005). Fourth-grade students reading aloud: NAEP 2002 special study of oral reading (NCES 2006-469). U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. Washington, DC: Government Printing Office. Retrieved from <http://nces.ed.gov/nationsreportcard/pdf/studies/2006469.pdf>
- Davies, N. L. (2000). Learning ... the beat goes on. *Childhood Education*, 7(3), 148-153.
- DeVries, R. (n.d.). Creating music for reader's theater. Retrieved from http://www.uni.edu/coe/regentsctr/Activity_Sheets/Creating%20Music%20for%20Readers%20Theater%20Activity%20Sheet.pdf
- Dyslexia Help. (2015). Debunking the myths about dyslexia. Retrieved from <http://dyslexiahelp.umich.edu/dyslexics/learn-about-dyslexia/what-is-dyslexia/debunking-common-myths-about-dyslexia>
- Edwards, S. (2012). Using music to improve reading fluency. *Top Teaching*. Retrieved from <http://www.scholastic.com/teachers/top-teaching/2012/12/using-music-improve-reading-fluency>
- Eunice Kennedy Shriver National Institute of Child Health and Human Development. (2001). Put reading first: The research building blocks for teaching children to read. Washington, DC: U.S. Government Printing Office.
- International Dyslexia Association. (2002). IDA fact sheets: Definition of dyslexia. Retrieved from <http://eida.org/definition-of-dyslexia/>
- International Dyslexia Association. (n.d.). Dyslexia basics. Retrieved from <http://eida.org/dyslexia-basics/>
- National Institute for Literacy. (2001). Put reading first: Kindergarten through grade 3. Jessup, MD: National Institute for Literacy.
- National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.
- Rasinski, T. (2012). Why fluency should be hot. *The Reading Teacher*, 65(8), 516-522.
- Reading Rockets. (2012). Fluency matters. Retrieved from <http://www.readingrockets.org/article/fluency-matters>
- Reading Rockets. (2015). Audio-assisted reading. Retrieved from http://www.readingrockets.org/strategies/audio_assisted_reading
- Register, D. (2001). The effects of an early intervention music curriculum on prereading/writing. *Journal of Music Therapy*, 38(3), 239-248
- Texas Scottish Rite Hospital for Children. (n.d.). Dyslexia. Retrieved from <http://www.tsrhc.org/dyslexia>
- Texas Scottish Rite Hospital for Children. (2014). Dyslexia defined. Retrieved from http://www.tsrhc.org/TSRHC/media/Media-Library-Files/PDF/Dyslexia-Defined-2015-links_3.pdf
- Texas Education Agency. (2014). The dyslexia handbook: Procedures concerning dyslexia and related disorders. Retrieved from http://www.decodingdyslexiatx.org/wp-content/uploads/2014/05/TEA_DyslexiaHandbook_2014-DRAFT-5-12-14.pdf
- Vacca, J. L., Vacca, R. T., Gove, M. K., Burkey, L. C., Lenhart, L. A., & McKeon, C. A. (2012). *Reading and learning to read* (8th ed.). New York, NY: Pearson.
- Washburn, E. K., Joshi, R. M., & Binks-Cantrell, E. S. (2011). Teacher knowledge of basic language concepts and dyslexia. *Dyslexia*, 17(2), 165-183.
- Woodall, L., & Ziembrski, B. (2012). Promoting literacy through music. Retrieved from <http://www.songsforteaching.com/lb/literacymusic.htm>