

Dyslexia and Dramatic Growth: Exploring Theatre's Impact on Cognitive Skills

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ABSTRACT

In the demanding world of theatre, where actors must navigate a myriad of language-based skills, the question arises: can individuals with dyslexia, a neurobiological disorder that impairs language processing, and associated learning challenges, thrive in such a setting? While some patterns in education suggest that students with dyslexia¹ lack the

¹ While prestigious school districts like Northern Virginia's Fairfax County Public Schools recommend the person-first term "students with dyslexia" as a reminder of their broader identities, the Charles Armstrong School in California, whose raison d'être is dyslexia, encourages students to embrace the term "dyslexic" as empowering. Armstrong School asserts that all facets of their program are designed and staffed to cater to the unique needs and strengths of dyslexic learners: "At Armstrong, our students are the 5 in 5, not the 1 in 5." Armstrong students acknowledge their dyslexia as the "superpower" that gives them extraordinary creativity and resourcefulness. Hence, the terms "students with dyslexia" and "dyslexic students" will be used interchangeably in this paper without diminishing the student's primary identity.

cognitive skills necessary for theatrical participation, this article seeks to challenge that assumption. Its purpose is to explore the compatibility of dyslexia with theatre training and make a compelling case for theatre as an effective intervention in helping students with dyslexia and related learning differences overcome their challenges. By reviewing literature and sharing empirical evidence from real-life anecdotes, I seek to demonstrate the transformative impact of theatre on cognitive skills, confidence, and personal growth for dyslexic learners. The transformative power of theatre as a success-oriented and purpose-driven activity cannot be underestimated, and through a deeper understanding of theatre's potential, educators and practitioners can create inclusive learning environments where dyslexic students not only succeed but also thrive in their academic pursuits and beyond.

INTRODUCTION

This article investigates how theatre can support students with dyslexia, a group often sidelined in traditional educational settings. My observations in the educational field reveal a concerning pattern: students with dyslexia are frequently removed from enriching theatre classes for remedial instruction, reflecting a doubt about the value of theatre education for these learners. Parents of dyslexic students often express apprehensions about their child's ability to cope with the demands of theatre, and even instructors in schools for dyslexia sometimes underestimate their students' potential in text-heavy activities. This skepticism underscores a prevalent assumption that dyslexic students might struggle more than benefit in a theatre environment.

Challenging this notion, this article explores the intersection of theatre education and dyslexia, aiming to demonstrate how theatre, despite being perceived as reliant on strong reading and verbal skills, can indeed offer a nurturing and beneficial educational experience for students with dyslexia.

(Sources: FCPS Handbook, Charles Armstrong School, National Center on Disability and Journalism Style Guide, all retrieved 7/15/23)

METHODOLOGY AND RESEARCH APPROACH

The methodology and research approach employed in challenging the assumption that students with dyslexia will struggle in theatre settings involves a systematic examination. To commence, a thorough analysis of the nature of dyslexia will be undertaken, exploring the challenges it poses in various learning environments, with a particular focus on its interaction with cognitive skills and executive functions, terms that will be defined in context. This scrutiny will extend to investigate how drama and theatre activities can not only accommodate but actively contribute to the learning and development of students with dyslexia. The research combines an extensive literature review interwoven with reflective analyses of two specific anecdotal experiences, aiming to present a nuanced perspective on the potential of theatre education as a transformative tool for dyslexic learners.²

UNDERSTANDING DYSPLEXIA

Defining Dyslexia

Dyslexia, experienced by one of five people in the United States according to the Yale Center for Dyslexia and Creativity, is a learning difference that especially impacts the ability to read and spell. When describing it to a child one might say it is like having a hiccup in the brain's language processing. The International Dyslexia Association debunks the common misconception that individuals with dyslexia read backwards, clarifying that spelling can be mixed up, however, because students have trouble “remembering letter symbols for sounds and forming memories for words” (International Dyslexia Association, 2020). To be more specific, dyslexia directly impairs:

- Reading, writing, spelling and comprehension (Nicolson & Fawcett, 2008, p. 221)
 - Importantly, reading is a multi-faceted, blended activity: “good reading requires the fluent interplay of several cognitive skills, all at high speeds.” (Nicolson & Fawcett,

² Names of students described in the anecdotal experiences have been changed for anonymity.

2008, p. 13)

- Associating speech sounds with letters, (Griffiths & Frith, 2002)
 - The extensive research compiled in a thesis by Clayton (2016) revealed a pattern in children with dyslexia “characterized by the absence of early integration of letters and speech sounds.” (p. 66)

Cognitive & Executive Functioning Challenges in Dyslexia

Dyslexia affects more than just the ability to process language. Research shows strong correlations between dyslexia symptoms and deficits in short-term memory and executive functioning. It is well-established in studies that children with specific reading disabilities have deficits in phonological processing and storage, and there is evidence to suggest that they also experience deficits in central executive functioning (Varvara et al., 2014).

Defining Executive Functioning

Executive functioning skills include planning, organization, task initiation, attention, metacognition, working memory, mental flexibility, self-control, time management, and resilience. Individuals with dyslexia have been noted to exhibit weaker working memory functions when contrasted with those with typical reading skills (Fischbach et al., 2014). Many studies suggest that dyslexia impacts speed of processing and verbal working memory, which as Nicolson & Fawcett (2008) note, “are normally considered as fundamental cognitive attributes rather than derivatives of phonology” (p. 27). Additional results underscore significant differences in executive functioning between children with dyslexia and those with typical reading abilities, with dyslexic children demonstrating more challenges in tasks involving attention, cognitive flexibility, and error monitoring (Helland & Asbjørnsen, 2000).

Executive Functioning Implications

Research by Samuels, Blackman, & Zilinski (2014) shows that executive functioning predicts academic achievement. Findings indicate that “EF (executive functioning) scores during early middle grades can well predict academic performance in subsequent secondary-school grades” (p. 2).

For students with dyslexia, trailing behind with EF doubles their

obstacles to academic success. It is easy to see how the academic difficulties listed above lead to emotional and behavioral challenges and to the feeling that they are “just not smart.” In my experience, children with dyslexia often struggle to attribute their challenges to a specific neurological disability, especially when comparing themselves to neurotypical peers. Along with their dyslexia come not only associated challenges, but also a sense of learned helplessness (Whitfield, 2019, p. 160). When students feel they have little control over their academic performance, that sense of helplessness can stifle great potential within even the most determined and creative students.

Effective Interventions for Dyslexia

Effective and specific interventions for dyslexic learners, such as the Wilson Reading System used at the school where I teach, are critical, especially considering the intrinsic link between academic success and overall well-being (Bücker et al., 2018). At the same time, research underscores the importance of integrating students’ personal experiences into educational practices (Egbert & Roe, 2014). While structured programs for dyslexia are effective and indeed crucial, their rigid commitment to a predetermined curriculum constrains the opportunities to tailor content to match the interests of students in the classroom. The emphasis on adhering to curricular standards often sidelines remediation of cognitive and executive functioning skills, as well as content individualization, consequently presenting challenges in fully addressing the specific needs of students with dyslexia and in sustaining their engagement and passion for learning.

Drama and theatre-based strategies offer a compelling companion. Numerous books and articles have highlighted the academic applications of drama, underscoring its ability to transform the traditional learning experience. Theatre's role in education extends beyond mere artistic expression; it fosters an environment conducive to the development of transferable academic skills, critical thinking, and cognitive growth (Barr, 2019).

Sally Bailey's work (2021) provides a practical guide on integrating drama into diverse classrooms to enhance confidence, social-emotional learning, and engagement across various subjects. Her methods focus on building key skills such as communication, conflict resolution, and behavior regulation to create what she calls an “inclusive classroom.” Statistically, this classroom would include one dyslexic learner in every

five students, but they are not singled out for special treatment in Bailey's work. By contrast, at the school where I work, the dyslexic learners make up the entire classroom, which makes for a distinct testing ground for integrating drama into educational practices to create an effective learning environment for a homogeneously "differently-abled" student body.

By utilizing the unique attributes of theatre, educators can engage students in a manner that resonates with their individual learning styles, encouraging them to overcome challenges and harness their potential. Theatre in the classroom is not a gimmick; the essence of drama for deep learning lies not in its occasional use but in its potential to become a staple in academic settings, with proper administrative support.

ACTOR TRAINING AND DYSLXIC COGNITIVE GROWTH

Actor training is rigorous. Prior (2012, p. 68) likens it to the training of an elite athlete. In addition to the use of the body for expression and conveying meaning, considerable cognitive demands are necessary. Hansen et al. (2020) claim that "theatre, dance, and music place high demands on performers' executive functions." Performers are required to continuously "*shift attention* and remain responsive in the present," "*inhibit* impulses," and address "multitasking challenges with *fluidity* and *flexibility*" (Hansen et al., 2020, p. 71). While such cognitive tasks make up an exhaustive list, Whitfield (2019) also adds "comprehension and fluent communication of multifarious texts," "the study of language and sounds of speech," and "articulating ideas with clarity" to skills performers use (p. 12). On top of those, Whitfield names the additional demand of observation and criticism that place an individual in a vulnerable position, "provoking high levels of anxiety."

Linking Training to Cognitive Development

In my experience as a music and drama teacher at a school for students with dyslexia and other language-based learning differences, I have observed a significant overlap between these cognitive demands in the performing arts and the very cognitive growth areas for students with dyslexia. The skills required for actor training—such as attention shifting, adaptive response, multitasking, and complex communication—align closely with the developmental needs of these students. This synergy

between performing arts training and dyslexia education creates a unique opportunity to foster both artistic talent and cognitive development, enhancing the educational experience for students with dyslexia. Rather than seeing these overlaps as obstacles that might be “too much” for dyslexic learners, there is much research and story to submit that theatre provides a meaningful way for students with dyslexia to learn and develop cognitive skills for success in life.

Over the past century, resourceful educators have remarked on the values of creative drama and theatre for supporting all kinds of students with academic growth, as well as life skills and many have even delved deeply into the benefits of theatre and creative dramatics for students with learning differences. Marrying the research on the use of theatre as an academic approach for all learners, and specifically the use of theatre for students with disabilities, with my anecdotal experience with students in a school dedicated exclusively to dyslexic learners, I seek to review how different practitioners have thought about theatre for divergent learners over the decades and to provide a meaningful guide for how theatre and creative dramatics can support dyslexic learners.

THEATRE AS A CATALYST FOR EXECUTIVE FUNCTIONING

The father of one of my 12-year-old students, Chloe, described her like this: “She’s severely dyslexic, dysgraphic, dyscalculic.... She also has ADHD, and processing speed and memory challenges...She can’t read a clock, navigate a calendar, or count dollars and cents—yet.” Without any prior musical theatre experience, she took on a role as Patsy in Monty Python’s Spamalot: The Musical, the school’s spring production. Despite challenges with reading, she memorized lines to perfection and delivered them with comedic timing, stage presence, and expressiveness of voice and body. Patsy is a role that requires a ton of prop coordination, as the character carries a backpack full of surprises for the audience. For a student who struggles so intensely with executive functioning skills such as memory, focus, planning, flexibility, and stress tolerance, she made enormous strides in planning—with my interactive modeling of how to load the backpack so that the props she needed would be most accessible at the right times—and cognitive flexibility for how to make the scene work when the prop did not work or didn’t make its way into the backpack.

Synergy Between Drama and Executive Skills

Academic researchers have not yet rigorously documented theatre's benefits for executive functioning skills specifically, but many practitioners echo the benefits I saw in the production with Chloe. Ewing (2013) outlines a creative dramatics sequence she uses in the classroom that encourages "collaboration, problem-solving, and the development of empathy and reflection" (p. 4). Rosler (2008) saw student organizational thinking improve through the use of scene work, and Way (1967) stressed that creative drama contributes to an improved self-concept by providing opportunities to gain confidence. Over a century ago, Patton (1918) argued for the value of dramatics to "organize the child's thinking" and "strengthen the memory" (pp. 14-16).

Enhancing Memory and Organizational Skills Through Theatre

"Drama as an aid to memory," Patton writes, "is of inestimable value" because what we remember best is that "which we learn dramatically" and "the sharpest memories are of facts associated with deeds" (p. 16). Bailey (2021) reiterates this emphasis on action and backs it up with additional research by Diamond & Ling (2016) saying that "training in theatre", along with Tae-Kwon-Do, yoga, and mindfulness, improve executive functions. "One reason for this is that these methods require dedicated practice of difficult tasks that are constantly being varied and which use equal parts of physical and cognitive challenge" (Bailey, 2021, p. 30).

Toward Civilization: A Report on the State of Arts Education (1988) from the National Endowment for the Arts in Washington, DC acknowledged that:

Learning in the arts can not only develop the discipline and craft necessary to constructive creation, it can also help students to develop reasoning and problem-solving skills essential to a productive work force and to the learning of other subjects. (p. 15)

Evidently, decades of literature agree that drama and theatre-based pedagogy can significantly contribute to an individual's personal, cognitive, and social development.

Cognitive Advancements Through Theatre

What is it about dramatic activities and participation in theatre that supports the development of such crucial skills? Certainly, the disruption of academic routine with a healthy dose of fun plays a role. As Hough & Hough (2012) assert, “drama enhances student brains in a manner that simply sitting in a classroom for six hours cannot provide” (p. 456). Indeed, drama fosters an environment conducive to learning, a fact readily observable in Chloe's desire to succeed onstage.

The Role of Emotional Engagement in Theatre

Yet, there's more to the story. Active participation in drama awakens more senses compared to passive absorption of information, and students are able to directly perceive how their individual participation influences the collective performance. For instance, when Chloe was slow to produce her prop, the actor next to her playing King Arthur had to improvise, engaging with her in character, feigning impatience and snapping her fingers. This scenario is a perfect example of the novel, highly interactive, and excitingly unpredictable nature of drama. And as Pinker (1997) points out, when the brain is “shocked, refreshed, or just learning something,” neurons grow new “dendritic branches” (p. 62). These unique neurological processes catalyzed by drama, in turn, shape personality and character.

The changing of the brain is known as neuroplasticity and it is a key component to the impact of theatre on the brain because each of the small actions taken repeatedly train the brain to do it with more ease and regularity (Doidge, 2007, p. 80). Just as it becomes easier to ride a bike or tie a shoe with practice, the more a process is repeated—the more the neurons fire together—the easier it becomes for the brain to perform the activity—the more the neurons wire together. For Chloe, each performance exercised the executive functions of planning, organizing, and remembering; she repeatedly had to organize her props and remember what she had to do between scenes to prepare for the next one. Accordingly, the novelty and elevation of emotions that drama offers prime the brain for change and growth in executive functioning.

While providing elevated emotional experiences, either through the theatrical content or the stress of exhibition, drama also affords students many opportunities to practice. Dryer and Brown (1908) remarked on this aspect of drama: “students were drilled until they felt sure of what

they were to do and say. Instead of making them seem studied, this certainty gave them self-confidence and promoted spontaneity of action. They experienced a joy in their feeling of power which grew out of their mastery of difficulties” (p. 425). Harmon Bro (1930) echoes this sentiment about mastery, emphasizing that “every individual deserves the sense of achievement,” which educational theatre affords because the “teacher-director” is able to make casting and production choices that stretch the unique abilities of student actors and technicians (p. 831). Harmon Bro seems to suggest that teacher-directors are in the unique position for “situation-crafting,” described by Cohen in his book *Belonging* (2022) as molding situations in order to support the individuals involved to feel a sense of belonging, and thus to help bring out students’ individual and collective best.

With supportive, nonjudgmental encouragement, I modeled challenging transitions for Chloe, instructing her to perform the motions that I described from her perspective, for example: “When I see the curtain is closed after the song, I turn to my right and put the umbrella in the basket and pick up the coconuts.” I required Chloe to practice repeatedly until she felt confident. Through explicit practice and the chance “to live in other times, places, and circumstances,” as a very confident and capable character, she was able to transcend her own limitations and “realize that she has possibilities she hadn’t known were in her” (Ward, 1942, p. 447).

Empowered By Theatre Experiences

In a world where dyslexic students often come up against their limitations and have been perceived for decades as Humphrey (1927) described, as “hitherto dull and backward,” drama offers situations crafted for and explicit instruction in developing the “latent powers of a child” which leads to “marked improvement all along the line of scholastic achievement, as well as in an actual spiritual re-birth” (p. 34). In the case of Chloe and others, describing their transformation as a “spiritual re-birth” feels apt because the students were permitted to set aside their self- and society-imposed conceptions of their disabilities and renew their identities as capable and successful individuals.

REHEARSALS: BUILDING CONFIDENCE AND SKILLS

Archer (age 13) was a conscientious and cautiously eager seventh-grade performer who struggled with confidence, which his mother chalked up to his dyslexia; she expressed the belief that “he would have a hard time remembering lines.” He compensated for his anxieties by scrupulously preparing, memorizing ahead of time, and he was apologetic when he didn’t get things on the first try. In rehearsals, students were asked to read lines “cold,” without much preparation, not to embarrass or traumatize them, but to allow them an opportunity to try, as someone other than themselves for a few minutes, within a safe space and community. Students stumbled over words and struggled with syllable emphasis, but the exercise normalized that experience. Archer’s eyes lit up as he read this line for the first time, discovering the meaning as he went: “When the Zebra’s in the zone, leave him alone.” Even with the stammered, cautious delivery, he and the other students hooted with laughter at discovering the rhyme scheme at the sentence’s completion.

Normalizing Mistakes in Reading Aloud

Archer’s reading ability mirrors that of the learners in Paul Ebbitt’s class, who fell below the 30th percentile in standardized reading tests. Ebbitt (1963) found his greatest success with these students by reading plays in class. For dyslexic students like Archer, reading aloud can be a painful and embarrassing experience. Ebbitt maintains, however, that: “halting and stumbling often, [the students could] still experience the excitement of acting” and they found that “reading, brought to life by the theater’s borrowed magic, can be a delight” (p. 626). Similarly, Keyes (1965), who taught the lowest-level seventh-grade reading class, implemented creative dramatics to great success. He noted that “growth of vocabulary was manifest,” and that students used new words in proper context extemporaneously (p. 84). Ebbitt and Keyes both allude to the importance of creating a safe and respectful learning environment that allowed for mistakes and overcoming challenges. Keyes writes, “Day by day, they faced problems, overcame them, and went on to new problems,” which gradually “restored their self-respect and badly-damaged egos” (p. 84). For students to read aloud comfortably, the teacher needs to foster an environment where problems and mistakes are normal, casual, and not cause for ridicule. As I often do with my

dyslexic students, Ebbitt “correct[s] their errors casually [and] interpret[s] difficult lines.”

As Flynn (2004) affirms, “rehearsals and performance of scripts increase students’ ability to read text fluently” (p. 361). By reading and speaking their scripted lines with others, students simultaneously see and hear words, allowing them to practice correct pronunciation, intonation, and expression (p. 363). In the rehearsal setting, “teamwork also implicitly motivates attentive reading” because everyone needs to stay focused to create an effective performance (p. 361). Everyone’s participation supports a safe space where mistakes are normalized and overcoming challenges is celebrated. This participation fosters an environment where dyslexic students can read aloud comfortably, gradually generating or building their confidence.

Rehearsals as Modeling Grounds

Importantly, when an exercise is modeled for students, they tend to understand it in more concrete terms. Effective teachers “show” rather than “tell.” Even more meaningful, however, is when another student models for their classmates; learning occurs vicariously as students observe others (Slade, 1955). In the rehearsal setting, any student with a line is in a position to model for the entire cast. This modeling extends beyond fluency of reading and expressive communication; it also encompasses the freedom to make mistakes and the courage to continue trying.

It bears repeating that actor training is rigorous. The grit necessary to persevere in the face of adversity and practice consistency of interest has been shown to predict educational and career outcomes across a variety of domains (Dumas et al., 2020, p. 5). While the educational theatre may not present the level of financial insecurity and relentless rejection faced by professional actors, students, especially those with negative feelings about their abilities, may find reading aloud or expressing themselves equally taxing. As Shaw and Hertz effused in 1913, “The marvelous discipline of life is taught by the stage, the demands of time and the responsibility of one to another. The stage must necessarily influence children in their relations with the real world” (p. 9). This process by which children conquer self-doubt and hone their expressive capabilities can lead to profound personal growth, enriching their understanding of the human experience and contributing to their development as empathetic and resilient individuals.

Rehearsal = Repetition

Reading aloud with fluency is especially hard for dyslexic students because they struggle to decode letters and words and connect sound to each symbol. While reading aloud, they are often so focused on decoding, that they do not have “space” in their brain for understanding what the words that they are reading mean; therefore they have very low comprehension of the sentence. If the student also struggles with working memory, they may not even be able to piece their memory of the sounded-out words together using their echoic memory. Somewhat unique to reading in the theatre rehearsal setting, however: repetition is the norm. In fact, the Old French root of *rehearsal* is “rehercier,” meaning “go over again, repeat.” The process of practicing lines over and over again allows dyslexic students to improve their reading fluency and gain confidence. As Flynn (2004) points out, repeated reading leads to significant gains in accuracy, comprehension, and reading speed (p. 361). Through the repetition inherent in rehearsals, dyslexic students gradually experience more ease and fluidity in their reading, which is an emphasis of reading educators.

"Opt-in Opportunity" for Personal Achievement

Before concluding the discussion of the rehearsal process, it is worth clarifying the context of my drama rehearsals as largely outside of “academic” time, and as opt-in opportunities for participants. In *Champions of Change: The Impact of Arts on Education* (1999), Fiske finds fault with many after-school activities open to students that provide “recreation but no sense of creation. They provide recess, but no sense of success” (p. XII). Theatre rehearsals, however, stand apart by offering participants a compelling and unmovable deadline that necessitates collaboration, hard work, and excellence. Each individual recognizes the significance of their contribution towards the shared goal, and “an outcome exactly relevant to his input,” fostering an environment where growth, collaboration, and personal achievement thrive (Heathcote, 1970, p. 1080).

CONCLUSION

This article has explored the powerful impact of theatre and drama as educational tools for dyslexic learners, particularly in relation to cognitive

skills development. Through an examination of the immersive and interactive nature of theatre, it is evident that for over one hundred years, advocates have posited that the theatrical environment provides a unique platform for students to acquire and strengthen crucial cognitive abilities. Despite limited research specifically focused on the dyslexic population, my experiences demonstrate that the benefits extend to all students, including those with dyslexia. Moreover, theatre fosters a safe and supportive space where mistakes are normalized, self-respect is nurtured, and the belief in one's capabilities is fortified. By implementing theatre techniques and incorporating drama into academic settings, educators and practitioners have the opportunity to create inclusive and engaging learning environments where dyslexic students can thrive. The transformative potential of theatre lies in its ability to empower students, unlock their potential, and offer them a meaningful path to academic success, personal growth, and self-expression.

While this article has shed light on the benefits of theatre for dyslexic learners, further research is warranted to fully understand and maximize these benefits. Future studies could delve deeper into specific theatrical interventions and their impact on cognitive skills development, explore the long-term effects of theatre participation for dyslexic students, and investigate ways to integrate theatre into the broader educational curriculum.

As educators and practitioners, we have the responsibility to embrace the potential of theatre as an educational approach and transform the lives of dyslexic students. Far from mere "recreation," theatre distinguishes itself as an opportunity to create. Far from mere "recess," the theater experience provides opportunities for profound success. It is highly academic in nature. With exposure to literature, history, mathematical patterns, and sequencing, theatre involvement promotes transferable academic skills (Deasy, 2002, p. 72). By immersing students in storytelling, exploring complex themes, and integrating mathematical concepts, performing arts cultivate critical thinking and foster the development of skills that extend far beyond the stage. Recognizing theatre's academic prowess allows us to harness its immense potential to inspire, educate, and empower students in both extracurricular and standard classroom settings, revolutionizing the way we approach education. By harnessing the unique qualities of theatre to foster cognitive growth, confidence, and reading abilities, we can create a more inclusive and supportive educational landscape. Let us seize this

opportunity and empower dyslexic learners to thrive and realize their full potential through the transformative power of theatre.

SUGGESTED CITATION

Norland, A. (2023). Dyslexia and dramatic growth: Exploring theatre's impact on cognitive skills. *ArtsPraxis*, 10 (2), pp. 32-49.

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productions. She honed her skills on the global stage, music directing musicals at the Shanghai Children's Arts Theatre and performing abroad. She is also a Theatre Bay Area Award recipient for her performance in *Silence! The Musical*. Anne completed her initial conservatory training at NYU Tisch School's New Studio on Broadway and earned her dual degree in Musical Theatre and Performing Arts Education from American University. She is currently a graduate student in Theatre Education at The Catholic University of America.