

Universal Design for Learning: Reaching Students with Attention Challenges

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Abstract

Research indicates there is a rise in focus challenges amongst New Hampshire children due to digital technology distractions and increased parent reported cases of Attention Deficit Hyperactivity Disorder. Five unified arts teachers from the Ernest P. Barka Elementary School in Derry and a consultant with the New Hampshire Department of Education, however, posit teacher application of Universal Design of Learning tenets can ensure positive learning outcomes with students grappling with attention difficulties.

Five unified arts educators at the Ernest P. Barka Elementary School (EPB) in Derry, New Hampshire have noticed a surge in rates of attention challenges amongst the nearly 600 students they teach. Sush Anand, computer technology assistant; Ashley Giard, art teacher; Linda Jezierski, music teacher; Cindy McNally, physical education teacher; and Karen Ragoza, library assistant, cite a host of contributing factors to this increasing trend, including rising competition with digital devices and Attention Deficit Hyperactivity Disorder (ADHD) diagnoses. The educators contend employment of the Universal Design for Learning (UDL) principles, however, offer effective strategies to ensure positive learning outcomes with all children, including learners grappling with focus difficulties.

In his book *Focus: The Hidden Driver of Excellence*, psychologist and journalist Daniel Goleman asserts succeeding in today's world requires competency with three types of attention – inner or self-awareness focus, other or emotional empathy focus, and outer or world navigation focus. Ironically, this same modern world contains myriad technological distractions that hinder these attentiveness skills (as cited in *Business Book Summaries*, 2016, para. 1). Goleman argues devices, including tablets and smartphones, hamper the focus of youngsters, making it difficult for users to maintain awareness of what is happening around them and cultivate healthy interpersonal interactions, creating learning challenges in school environments. He contends even adults preoccupied with social media and e-mails suffer from wavering attention spans (as cited in *Business Book Summaries*, 2016, p.2). Marcia McCaffrey, a consultant with the New Hampshire Department of Education for the past 18 years, acknowledges Goleman's paradoxical claim and posits digital distractions require educators to find meaningful strategies to address this hurdle. "I think it's a challenge for all teachers to compete with the sensory stimulation available today (McCaffrey, personal communication, August 10, 2017).

While devices are impeding sustained attention, a controversial study released by the Centers for Disease Control and Prevention (CDC) indicates national and state rates of ADHD also interfere with the focus of children (2011). In 2007, 7.2 percent of all children in the country and 7.2 percent of all children in the Granite State were recorded as having ADHD, ranking New Hampshire as having the 29th highest rate of the disorder (Centers for Disease Control and Prevention, 2011) in the United States. The CDC data shows an increase in parent reported cases in 2011 with 8.8 percent of all children in the nation, and 10.1 percent of all children in New Hampshire, diagnosed with ADHD. These more recent numbers placed the state as having the 16th highest rate of the disorder in the country. In a *New York Times* article "The Selling of Attention Deficit Disorder," journalist Alan Schwarz notes the rise in ADHD figures coincides with increased marketing efforts from the pharmaceutical industry to increase awareness of the disorder and of prescription medications to assuage the effects. Schwarz acknowledges despite the coincidence, the disorder is real and can adversely affect a student's success (2013, A1).

Unified arts educators at EPB remain mindful of the reports of rising inattentiveness due to digital distractions and ADHD diagnoses when developing lesson plans while also referencing their subjects' respective standards and grade level learning outcomes. "The biggest challenge is the attention span of most children isn't as long as I used to see," says Jezierski, reflecting on 22 years of teaching (personal communication, July 24, 2017). Her unified arts colleagues nod their heads in agreement; however, they also concur with British educational author and speaker Ken Robinson's assertion that merely labeling distractible students as problem children can stifle creativity and learning (2006). The specialists state they are thankful David Brown, the

school's assistant principal and former physical education teacher, periodically shares video clips of Robinson discussing innovative ways to bolster student attentiveness during instruction.

McCaffrey, in turn, states the unified arts are embedded in UDL principles for success and feels inspired by Granite State schools reaping the rewards of using different instructional modalities (personal communication, August 10, 2017). She says listing all of the schools effectively recognizing the need of customization to mitigate inattentiveness would be a formidable task. Rose, Meyer, Strangman, and Rappolt, authors of *Teaching Every Student in the Digital Age: Universal Design for Learning*, recognize the Concord School District in New Hampshire as one of the local districts working with the Center for Applied Special Technology (CAST) to formally implement UDL principles (2002, p.158).

The National Center on Universal Design for Learning at CAST web page lists three principles of the framework based on neuroscience. The first principle states educators provide multiple means of representation or ways of communicating concepts and information, shirking the one-size fits all approach for conveying messages to students. The second principle states teachers differentiate avenues for students to express what they know. The third principle states instructors cultivate ways to keep students engaged or motivated (2012, para.1). Interpretations of UDL may vary across educational institutions, including schools in Derry and Concord. Despite these philosophical variations, a common denominator exists: "UDL encourages learning through a combination of flexible materials and methods that provide access, challenge, and engagement for each student (Orkwis & McLane, 1998, p. 1).

The unified arts team at EPB acknowledges reaching all students, including individuals with attention challenges, requires use of several different communication avenues. The educators purchase, create, and post visual tools that are strategically placed throughout their instructional spaces. Anand's computer lab provides digital citizenship tips with clip art based on the standards from the International Society of Technology Education, an oversized tree with keyboard function keys acting as the fruit, and six icons surrounding a question: "What is your cursor telling you?" McNally's gymnasium spotlights an aerobic training zone by age chart, "I Can" statements with photographs illustrating the five national standards from the Society of Health and Physical Educators, American Heart Association fast facts about the heart, and muscle of the month diagrams with descriptions. Ragoza's library features smiling frogs providing the behavior rules to follow while reading and selecting books. Jezierski's classroom showcases a wall of great composers portraits flanked by biographical text, anchor charts with Native American song lyrics, and an oversized labeled piano keyboard. Giard's art room displays a color wheel, rubrics with graded art examples, and vertical and horizontal signs. One of Giard's posters asks: "Did you make a mistake?" Six simple solutions with visuals answer the question: "turn the paper over, cut it off, color or paint over it, erase it, glue paper over it, turn it into something new." The educators believe vivid graphics reinforce verbal messages.

In addition to using visual aids to communicate concepts and instructions, the specialists at EPB demonstrate techniques and expectations and use multimedia tools. For example, in Music, fourth grade students are required to complete and present a project on a composer of choice. Instead of merely handing students a typed rubric, Jezierski models dynamic and lackluster presentations. Meanwhile, Giard opens up an art lesson showing a video of a 20-year student completing a colored pencil portrait of basketball legend LeBron James before establishing mirrored stations for students to begin self-portraits. Ragoza uses audiotapes, videotapes, and websites to reach all learners and boost interest in reading. All five of the

unified arts specialists at EPB state it is prudent to sidestep use of a one-way avenue of communication with learners.

The teachers state they are employing the UDL framework constructed on Lev Vygotsky's principles and neuroscience advances, concurring with positions asserted by researchers. "Vygotsky argued that learning is made of three essential elements: recognition of the information to be learned, application of strategies to process that learning, and engagement with the learning task" (Coyne et al, 2006, p.1). Anand, Giard, Jezierki, McNally, and Ragoza conclude diligently supporting diverse recognition networks of students, including those contending with attention challenges, means instructors must use multiple means of representation or formats to convey ideas and directions.

While the EPB unified arts team acknowledges the importance of multiple means of representation, they also assert learners need a host of ways to show what they know. The specialists agree with the assertion of Rose, Meyer, Strangman, and Rappolt that flexibility in expression and strategic support is critical, so providing varied options for students to communicate what they have learned through written, verbal, or digital channels makes sense (2002, p. 148). The Derry educators are quick to point out that they face the inherent challenge of teaching and assessing nearly 600 students, working with each child once a week for 45 minutes or three hours monthly while also considering the attention challenges.

Despite the abbreviated time with a large student population, the specialists provide a host of ways to assess student learning of particular skills. McNally tries to keep students moving as much as possible throughout her class, using observation as a major formative assessment tool. She uses other strategies to check student application of skills taught. For example, students create an 8 by 11-inch poster depicting their favorite summer physical activities, set their personal activity trackers, and complete exit slips to demonstrate their learning. Anand references informational and communication technology projects that differ by grade level and include the development of Web sites, spreadsheets, slides, and presentations and also determines what children have learned through verbal quick checks. Jezierski allows students to compose, research, and perform music. Giard evaluates both the creative process and the finished projects, allowing students to develop, discuss, evaluate, and present their individual projects. Ragoza constructs authentic tasks, including asking individuals and groups to locate certain books after receiving a lesson on the Dewey Decimal System. The EPB specialists find validity in the stance that assessment opportunities offering multiple strategic routes results in more accurate and insightful evaluation of student learning (Rose, Meyer, Strangman, and Rappolt, 2002, p. 150). "They're still experiencing the journey, but they're doing it in different ways," Anand concludes (personal communication, October 25, 2017).

While teaching students with attention challenges requires employment of varied means of representation of information by educators and expression of what was learned by students, the EPB unified arts team recognizes the value of also ensuring flexibility in engagement techniques to keep students invested in the learning task. Rose, Meyer, Strangman, and Rappolt ask a rhetorical question: What if learning to ride a bicycle was taught and assessed in a rigid, one-way manner with no room for fun, errors, or steady adult hands? The authors predict some children would become apprehensive about making a mistake; meanwhile, other youngsters would merely give up trying to ride a bicycle altogether (2002, p. 151).

Similarly, the EPB specialists contend working with a student population prone to becoming easily distracted makes it imperative to incorporate flexible affective networks to retain learner interest and prevent students from abandoning tasks. McNally encourages students to track their physical education progress through the use of digital activity trackers, stressing the children should bypass comparing and contrasting their personal data with peers. In addition, McNally encourages students to discuss their favorite physical activities that may range from cup stacking to skiing. Anand enables students of all ages to take digital tours of their neighborhoods, national landmarks, other continents, and the constellations with a click of a computer mouse. “They travel the world with Google Maps. A lot of times they’re amazed and surprised that there’s another way of life” (Anand, personal communication, October 25, 2017). Ragoza spends her school breaks reading a wide range of texts, including *Out of My Mind* by Sharon Draper and *Bailey’s Story: A Dog’s Purpose Story* by Bruce Cameron, to gain insight on student interests and make book purchases. Both Anand and Ragoza offer computer access to educational sites and games to reward attentiveness and good behavior. Jezierski connects lesson content to student lives and curriculum in other subjects. For example, students often express astonishment upon learning Beethoven enjoyed macaroni and cheese or Amy Beach from Henniker, New Hampshire is hailed by the Library of Congress as an accomplished pianist. Giard offers each grade level a different way to create a self-portrait, including visual compositions that range from Lego drawings to pop art. The third grade students share their uniqueness through self-portraits, showing representations of their interests or hobbies flowing from open craniums. “I don’t want them to create a piece of art they don’t feel good about,” explains Giard (personal communication, November 3, 2017). McCaffrey applauds the diverse engagement strategies demonstrated by the EPB educators and other Granite State schools, as they offer choices in content, tools, context, and difficulty to ensure students of all attention spans have multiple pathways to be successful (personal communication, August 10, 2017).

Anand, Giard, Jezierski, McNally, and Ragoza do not claim to consult neuroscience longitudinal research each time they develop lesson plans for six different grade levels that include students with general and diagnosed attention difficulties often exacerbated by personal digital devices. The unified arts team members, however, consider the learning brain and its recognition, strategic, and affective networks during instructional planning. Specifically, they take an inventory of individual strengths and weaknesses and then think about the main tenet of UDL: flexibility in communication, assessment, and engagement strategies. The Derry educators assert embracing differences in students allows the learners to pursue the school’s motto to dream, believe, and achieve.

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