“A neurodiversity perspective can help educators create learning environments in which all students flourish” (Armstrong, 2012, para. 1).

“To fashion an environment in which students with special needs can achieve their fullest potential, we need to dig deep into the roots of special education and, at the bedrock level, replace its disability paradigm with a belief system based on diversity” (Armstrong, 2012, para. 3).

“The neurodiversity paradigm suggests that we take the positive attitudes and beliefs that most people hold about biodiversity and cultural diversity and apply them to differences among human brains” (Armstrong, 2012, para. 4).

“The basic premise of neurodiversity is that there is no "typical" mental capacity—no "normal" brain to which all other brains are compared—and because this is the case, we should look at students with autism, ADHD, learning disabilities, intellectual disabilities, emotional and behavior disorders, and other disability categories not in terms of their deficits, but primarily in terms of their strengths” (Armstrong, 2012, para. 5).

“Individuals with autism, for example, appear to do better than typically developing people on the Embedded Figures Test, which requires focusing on small details within more complex patterns (Baron-Cohen, 1998)” (Armstrong, 2012, para. ).
“Students with dyslexia often demonstrate superior artistic abilities” (Armstrong, 2012, para. 8).

“In another study, people with dyslexia showed a capacity to identify impossible three-dimensional objects (like those made famous by the artist M. C. Escher) more quickly and with greater efficiency than a matched group of typically developing individuals (Karolyi, Winner, Gray, & Sherman, 2003)” (Armstrong, 2012, para. 8).

“Many kids with ADHD, for example, have a tendency to seek novelty, an important prerequisite for creative behavior (Cramond, 1995)” (Armstrong, 2012, para. 9).

“Children with bipolar disorder have scored higher than other children on a popular test of creative thinking (Simeonova, Chang, Strong, & Ketter, 2005)” (Armstrong, 2012, para. 9).

“People with Williams syndrome often show well-developed musical capacities and interests (Levitin et al., 2004)” (Armstrong, 2012, para. 9).

“A neurodiversity perspective encourages us to do the same for students with special needs by constructing positive niches—advantageous environments that minimize weaknesses and maximize strengths and thereby help students flourish in school” (Armstrong, 2012, para. 11).

“Educators should become familiar with the research literature on the strengths of students with special needs labels (Armstrong, 2011, in press). They should thoroughly examine students' cumulative files and mine them for any data that reflect strengths, talents, abilities, and interests” (Armstrong, 2012, para. 13).

“Students with special education labels need to see examples of people like themselves who have overcome difficulties to achieve success” (Armstrong, 2012,
“With the expansion of new technologies in the past two decades, students with special needs have many more opportunities to sidestep difficulties and learn more effectively” (Armstrong, 2012, para. 16).

“A major component of positive niche construction for students with special needs involves enriching their human support systems by repairing poor relationships, strengthening positive relationships, and adding new life-affirming relationships to the mix” (Armstrong, 2012, para. 18).

“Students need hopes and dreams for the future. These aspirations are often crucial stepping stones to a stronger sense of direction and purpose in life” (Armstrong, 2012, para. 20).

“Positive niche construction requires that educators view the entire school as a complex network of environments, any one of which can serve at any given time as an effective micro-habitat for meeting a specific need of a neurodiverse student” (Armstrong, 2012, para. 23).


**information-processing quality: research on aspects of cognitive functioning (e.g., memory, problem solving, and thinking and learning processes) that, when enriched or made more explicit for students, can lead to more learning involvement and enhanced
gap-closing outcomes.

**Reducing the load placed on students' working memory, by providing multiple practice activities, can produce achievement benefits. Essentially, the more students can process information automatically (rather than deliberately or consciously), the more efficiently they can learn, because they can handle or address more overall information at a given time.**

**Information can be more effectively processed when students are taught to discern patterns or regularities in the problems or texts they are expected to master. This has been referred to as schema-based instruction.**

**Directly teaching critical-thinking, problem-solving, and learning strategies has achievement-boosting effects, as does encouraging students to elaborate on their answers and responses. Such approaches to teaching and learning help students process information on a deeper level; students are more prepared to deal with learning tasks with more mental effort.**

**Students are able to move beyond the literal information and infer Boykin, A. W., & Noguera, P. (2011). Asset-focused factors: Interpersonal relationships. In Creating the opportunity to learn: Moving from research to practice to close the achievement gap.**

This chapter discusses asset-focused factors which are factors that involve learning exchanges that build on the assets students bring into the classroom and provide conditions that allow these assets to flourish. These factors are divided into interpersonal relationships, intersubjectivity, and information-processing quality. This chapter focuses on interpersonal relationships. Interpersonal relationships involve
social exchanges that occur between teachers and students and among students and their peers. Intersubjectivity deals with the extent of compatibility in interests, values, perceptions, and learning objectives of teachers and students, and the extent to which teachers and students have the same goals. Information-processing quality deals with configuring subject content and interaction with that content to develop higher order thinking, effective information processing, and retention of content. Of all these assets, teacher-student relationship quality (TSRQ) seems to be most important in closing the academic gap. TSRQ involves communication, rapport, and positive tone with students in the classroom. Positive teacher-student interactions in the classroom help define resilient and not so resilient students. Levels of TSRQ also directly affects students engagement in academics. Appropriate answers to questions in classrooms lead to praise and positive responses from teachers which then lead to more opportunities to learn. The "warm-demander pedagogy" states that a teachers sternness that shows compassion, unyielding support, and nurturance is an effective tool for Black students. Favorable results are tied to the warmth or encouragement. Teacher expectations is an interpersonal factor that deserves more attention. Specific behavior differences of teachers can show differences in expectations of students. Some examples of these are: Call on low-expectation (LE) students less often than on high-expectation (HE) students, are likely to give LE students less praise and more criticism for failure, show less acceptance of ideas put forth by LE students, provide briefer and less informative feedback to questions raised by LE students, give LE students less benefit of the doubt, allow LE students less time to answer questions, and are more likely to provide LE students with correct answers.
Classroom learning goals are how teachers and students approach and understand teaching and learning. The chapter identifies two classifications of learning goals: mastery and performance goals. Mastery goals focus on gaining comprehension and on effort and personal improvement as standards for achievement. They lead to higher academic outcomes. Performance goals focus on competence compared to others and being the best. They are linked to ability attributes and result in lower levels of effort. Mastery goals tend to yield increased effort toward task completion. Performance goals have been divided into performance approach (desire to surpass others) and performance avoidance (desire to avoid looking stupid). Classrooms with mastery goal structures have lower levels of self-handicapping behaviors.

The self-determination theory states that accomplishing a task and getting a desired effect is enjoyable. Therefore, being guided by self-determination while engaged in an activity gives optimal motivation. The learning climate of a classroom is also very important. Autonomy learning support leads to better student engagement and deeper understanding on information. Autonomy-suppressing learning contexts lead to less positive affect, and adaptive performance on simple learning tasks but not on more challenging ones. Ways to foster autonomy support are empathy for student point of view, compelling rationale for involvement, independent thinking and criticism, and choices within limits. Factors that control and suppress autonomy are lack of criticism and independent thinking, imposition of authority as the rationale for involvement, and the use of rewards, punishments, and coercion for student involvement in boring
tasks. Some autonomy supporting behaviors targeted in one of the studies were fostering relevance, providing a choice of tasks to pursue, allowing critical feedback, and encouraging independent thinking. In that same study, some examples of autonomy-suppressing behaviors were stifling student criticism and independent options, intruding on students' natural learning rhythms, and compelling students to engage in personally meaningless activities.

Collaboration for learning can have a positive impact on the academic performance of students. Studies have shown that peer-assisted learning leads to greater math performance than individual or competitive structured classrooms. One successful collaborative learning method is classwide peer tutoring. This is where the teacher randomly assigns students to two teams within the classroom and then randomly assign student to pairs within the teams. These pairs work together and alternate roles of tutor and tutored. Another collaboration approach is called Numbered Heads Together. Students are assigned to mixed-skill groups of four and the teacher poses a question to the groups. Time is given for group members to "put their heads together" and get an appropriate response. Finally the teacher calls on group members by number to provide their answers.

• Center the learning process on children's actual experiences • Relate what students learn to matters of personal interest • Link classroom learning to relevant events and experiences in students' lives • Tie what is learned to the community or society

• Tying a lesson or presentation to previous experiences that students find familiar helps engage them • The word "you" is put into word problems to personalize the problem solving • Personalized context in which a problem is presented will add familiarity, meaningfulness, and personal interest for each student • Be mindful of overgeneralizations • Race and culture are not interchangeable but they very likely overlap • Focus on individual variations • Do not have an essentialist view of students or their population: unchanging qualities because that is who they are • Behaviors may be displayed for cultural reasons, or may be unrelated to culture considerations

• Encompass the expressive, structural, functional, and fundamental domains of culture • When features are associated with a group it doesn't mean to take it literally for all in that group • Blend students' home and community experiences into their instructional methods • Make home visits to better appreciate what students' lives are really like • Home provides the earliest elements of culture meaning system: positively coded and valued without justification • Students encounter experiences that are extensions of the home experiences • Experiences acquired early remain most meaningful • Structural cultural elements present are codified rules and regulations at school • Expressive cultural considerations are recreational games, athletic sports, art, music, creative writing, etc. • Adaptive cultural components are desired goals like academic success, grades, achievement test performance, academic recognition and certificates

• Fundamental culture is the academic experience like collectivism, communalism, and
linking of learning to high levels of movement expression • students perform better when lessons are encased in a communal condition • through the use of popular songs and hip hop lyrics from their everyday lives, students better understand things like Shakespeare and Chaucer


Teachers must ensure that students are actively engaged in the learning process. Student engagement also showed to be favorable for academic progress for minority students.

3 types of classroom-based engagement.

1. behavioral engagement which is basic "on task behaviors"

2. cognitive engagement where students are comprehending at a higher-order of understanding

3. affective engagement is where the emotions come into play

Disengagement which is where students are performing self-handicapping behaviors like task avoidance and procrastination. Evidence from this chapter states that greater engagement leads to greater success in both reading and math. But getting the students actively engaged is not always the only thing we have to focus on. We also have to watch for the avoidance behaviors of students' disengagement. Teachers and students both influence each others behaviors in a cyclical way. Students who are more engaged in classroom activities receive more positive teacher attention, and vice versa.

So not only are we trying to make sure our students are appropriately actively engaged
but we must also make sure they are not engaged in avoidance behaviors to push teachers away.


Adaptive learning orientations: self-efficacy, self-regulated learning, and incremental ability beliefs.

1. Self-efficacy has to do with the confidence that one can accomplish a desired outcome in a given context if the requisite application of skill is put forth. It has more predictive outcomes with academic learning than self-concept does. Educational practices should be gauged by what they do to children's beliefs about their abilities. Self-efficacy has direct impact on student engagement. There are four dynamics that impact self-efficacy: past performance and experience (enactive mastery), observational learning, verbal persuasion or social influence, and physiological reaction or state.

2. Self-regulation is self-generated thoughts, feelings, and actions that are systematically designed to affect one's knowledge and skills. Learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the features of their environment. Self-regulated learning leads to enhanced engagement and academic performance. It can be very beneficial to struggling learners and beginning learners. Learners who effectively self-regulate set realistic goals, select adaptive strategies, monitor their progress, develop understanding, and evaluate how well they
accomplished their goals. There are three phases of self-regulated learning:
forethought phase (processes and beliefs that occur before attempts to learn begin:
goal setting and plan of attack), performance control phase (processes that happen
while learning: learning strategies, focus, and task execution), and perceptions and
appraisals that take place after each attempt. There are also four steps along the path to
self-regulatory competence: observation (becoming acquainted with thoughts and
actions), emulation (attempt to carry out the behaviors), self-control (conduct the
sequence of processes independently), and self-regulation (able to modify thought and
action sequences to fit demands at hand). Students' self-regulatory processes can be
enhanced through targeted interventions by increasing students' focus on goals and
self-monitoring and self-evaluation skills. Self-efficacy directly affects the level of
expressed self-regulated learning in learners.

3. Incremental ability beliefs basically discussed the reasons that students attribute to
their own success or failure. Three factors that cause these attributions in students are
whether the outcome is attributed to a controllable or uncontrollable cause, to a stable
or variable cause, and to an internal or external source. Two attributes that help us to
understand achievement differences are the ideas of ability and effort. Ability is
related to uncontrollable, stable, and internal causes and effort is related to
controllable, variable, and external causes. Ability and effort can also be related as
entity (fixed, unchanging, not under your control) and incremental (malleable, open to
change). This means that self-improvement is under your control, and is linked to
effort and learning over time and compares themselves with lower-achieving
students. A students with a fixed view tends to be preoccupied with preserving self-
respect than with trying to improve performance at a task. A student with a malleable view is more likely to see failure as an opportunity to get better at a task and try to determine which strategies are used by higher-achieving students. These beliefs can be influenced by the feedback or praise that students receive. Students who receive ability praise are more likely to attribute their low performance to a lack of ability, but the students with effort praise are more likely to attribute low performance to low effort and trying on their part. Therefore, an incremental view facilitates self-regulated learning and self-efficacy.


In the United States, there are striking, persistent achievement gaps between Black and Latino students (both boys and girls) and their White counterparts. Achievement and attainment gaps are revealed through a host of schooling indexes, including grade point averages; performance on district, state, and national achievement tests; rates of enrollment in rigorous courses; and differential placements in special education and gifted-and-talented programs, as well as across behavioral indicators such as school dropout, suspension, and referral rates. U.S. students are compared with students from other nations, especially in Europe and Asia, and with those students' tests of achievement in reading, mathematics, and science, they fall in the middle of the pack, suggesting that there is room for improvement for U.S. students in general. We must also raise achievement for all students so we can close the gaps between the
performance of U.S. students and their counterparts from around the world—*but also simultaneously raise levels at a steeper rate for certain students of color*. This examination of schooling calls for a two-tiered scheme to capture academic performance outcomes. We refer to these two levels as first-order and higher-order learning outcomes. First-order outcomes are those that have historically been used as the measuring sticks for student performance. They include what we would call basic knowledge and skill accumulation. Students must also achieve higher-order learning outcomes. In closing achievement gaps while raising achievement for all students, we must increasingly use these outcomes as essential academic barometers. These outcomes include knowledge-transfer skills—that is, being able to use knowledge to understand or solve similar problems, or to extrapolate from present understandings to a novel body of information or concepts.

NCLB compelled schools to focus on improving the academic achievement of children who have traditionally not done well in school. Despite gains in reading and math achievement among Black and Latino students, the national achievement gap today is strikingly similar to what is was 20 (and in some cases nearly 30) years ago. Unless a deliberate effort is made to provide those who are behind with additional learning time, better instruction, and more resources (especially funding), it appears highly unlikely that the gap will close.

Race still has a big effect on life experiences in our society. In most of the 19th and 20th centuries, non-whites were thought to be genetically inferior and possessed lower levels of intellectual capacity than whites. It is no longer acceptable to attribute achievement differences to genetics. Cultural differences and parental influences became the next focus on why there is an academic gap. If culture is the reason for lower academics, then why are there schools that have high scores for non-white students? Even though we should not ignore the cultural influences, we need to recognize the factors that influence learning. We must focus on lowering class sizes, extend learning opportunities after school and during the summer, and making sure all educators are high quality receiving excellent professional development. We cannot change a person’s culture, we must focus on what we can change. Unless teachers make an effort to address stereotypes, student achievement will not improve overall. Teachers need to be provided with the skills to teach effectively regardless of race, gender, class, and culture. Students learn through relationships and therefore, as educators we must make those connections with all students. We must not ignore the cultural differences nor should we make them conform to ours as a superior one. We should be educated on approaches that demonstrate multicultural education. We must also counteract the normalization that failure is expected of certain ethnic groups.

This chapter shows the results of topics of closing the achievement gap discussed so far in the book. It compares the behaviors and responses of two similar school districts to closing the achievement gap of Black and Latino children to White and Asian students. Although the schools are demographically very similar, their approaches are extremely different. While one school is full of blame aimed towards the students and families in the community, the other school is taking responsibility for the gap and implementing strategies to close it. It is very apparent how attitudes are such a foundation to success or lack of success. A great deal can be done to create a learning environment that meets student needs, but the faculty must be willing to do it. Success requires many steps, but under the right conditions, children can learn and gaps can be lessened.


This article is written by an author who is a psychiatrist who has both ADHD and dyslexia. His father was a teacher as he was growing up and therefore has an understanding of how the profession of education works, but he also has hands on experience with truly “golden” teachers who helped him feel successful throughout his education. His ideas of education and learning could have gone in such a negative direction for him due to the challenges he faced in his life, but Mrs. Eldredge, at Chatham Elementary School in Cape Cod, Massachusetts, his first grade teacher, made him feel loved, safe, and smart. Her “arms of safety” around him is what got him through those difficult times of reading, and this is his first suggestion to us as
teachers. Step one is making the students feel safe because safety opens up the brain, whereas feeling anxious and afraid shuts it down. Step two is for us as teachers to develop a strength based mind set. This means that yes there are downfalls and struggles to children with ADHD and other disorders, but there are also benefits as well. Instead of focusing on the deficit and disorder diagnosis he gets his patients excited and tells them that he has found out some awesome things about their brains. He goes on to explain to the families that their child’s brain is strong and fast like a Ferrari race car and they have the power and ability to win fantastic races!! He goes on to tell them that the one problem is that they have bicycle brakes that are just not strong enough to always slow their brains down. But, no worries because he is a brake specialist and his job is to teach them how to strengthen their brakes so their brains don’t just go wherever they want to go. There are truly positive aspects to each of the characteristics of ADHD. Distractibility is curiosity, and impulsivity is creativity. Therefore, as teachers we must begin to embrace this strength based mind set. Here are some interventions that he gives classroom teachers: Set up predictable schedules and rules. All children need structure, but for those who have ADHD, schedules and rules are as essential as maps and roads are for drivers. Without them, these kids can get completely lost. Have kids with ADHD sit near you. Being physically close to the teacher increases a student's level of attention. Being far away makes it easier to lose track of what's going on. Break down large tasks into small ones. A large task can intimidate anyone, but it completely bamboozles and overwhelms the student with ADHD, which can lead him or her to give up or suffer a meltdown. Introduce new material in terms of old. For example, "Today we start
studying fractions. Fractions are just division written differently, and you've already mastered division."Balance structure with novelty, so that when the class gets overstimulated you introduce structure, and when the class gets bored you introduce novelty. Too much new material gets confusing, and too much drill gets boring. Make sure the class gets recess, and provide frequent brain breaks (brief periods of exercise in which students stand near their desks or stations). Physical exercise, even for one minute, presses the reset button on the brain and refreshes students mentally.


1. Resource Provider: Teachers help their colleagues by sharing instructional resources.
2. Instructional Specialist: Helps colleagues implement effective teaching strategies.
3. Curriculum Specialist: Understanding content standards, how various components of the curriculum link together, and how to use the curriculum in planning instruction and assessment is essential to ensuring consistent curriculum implementation.
4. Classroom Supporter: Work inside classrooms to help teachers implement new ideas, often by demonstrating a lesson, coteaching, or observing.
5. Learning Facilitator: Facilitating professional learning opportunities among staff members.
7. School Leader: Serving on a committee, such as a school improvement team, grade level department chair, supporting school initiatives, or representing the school on community of district task forces or committees.
8. Data Coach: Lead conversations that engage their peers in analyzing and using this information to strengthen instruction.

9. Catalyst for Change: Visionaries who are never content with the status quo but rather always looking for a better way.

10. Learner: Model continual improvement, demonstrate lifelong learning, and use what they learn to help all students achieve.


Extroversion: energized through action and interaction with others, need to talk and move to think, too much seatwork drains their energy.

Introversion: energized by reflection and solitude, too much activity or not enough wait time before they’re expected to share their answers drains their energy.

Sensing: first pay attention to facts, reality, and past experiences, rely on instructions, examples, and hands-on tools or pictures to shape their understanding of concepts, build knowledge in an orderly fashion, pause to review, ask questions (ask for help with words rather than guess, work out phonetics silently), enjoy practice work, must grasp underlying concept to retain mastery, ask permission to use materials or trying strategies, often say "I need help", grasp concepts through concrete reality.

Intuitive: first pay attention to hunches, connections, and analogies, trust their hunches, make leaps to connect different ideas, resent having to go back and practice (guess words through context clues), manipulatives and pictorial representations were unhelpful, lack of attention to detail can result in mistakes that hide their understanding.

Let me master it: (introversion/sensing): want certainty before proceeding, like direct
instruction and practice work, dislike experimenting unless there is immediate feedback, "once again, I can't get this"

Let me do something: (extraversion/sensing): learn through movement, interaction, and hands-on manipulatives, often use a purposeful trial-and-error method, blurt out questions.

Let me think: (introversion/intuition): process ideas internally and pride themselves on unique or creative solutions, drawn to concepts not procedures, prefer working with numbers, and don't always benefit from manipulatives, work silently for long periods, hold feedback for longer time to allow for them to work it out on their own.

Let me brainstorm: (extraversion/intuition): process ideas best out loud with partners or groups, transfer knowledge to new situations easily, prefer a variety of challenging tasks as opposed to practice work, they don't ask for feedback so teacher must be ready with probing questions.


*People worldwide appreciate fluent performance in music, sports, movies, and education. Often the defining feature involves practice. (Kostewicz, 2012, p. 17).

There are many ways to engage in practice.

*"Given the importance and popular support of practice, one would believe that educators approach academic skill in the same manner. However, oral reading fluency, arguably one of the most important academic skills, has not always received a necessary focus in the classroom (Allington, 1983)"* (Kostewicz, 2012, p. 17).

*Nevertheless, the educational community has placed reading fluency squarely in the
spotlight and a student's ability to read fluently has become a quality measure of overall reading ability (Kostewicz, 2012, p. 17).

*Teachers implementing systematic, deliberate practice with a focus on oral reading fluency can supplement important classroom reading instruction (Kostewicz, 2012, p. 17).

*Silent reading methods of practice have been used to build reading fluency. Students passively participate in sustained silent reading of a text they have chosen. Reports have shown that students improve their oral reading fluency more through systematic, guided practice, rather than SSR or teachers encouraging students to simply read more (Kostewicz, 2012, p. 17).

One systematic reading practice has the potential to address concerns of both classroom time and the wide variety of student reading levels: repeated readings (Kostewicz, 2012, p. 18).

*"The general format for repeated readings has a student reading a grade-level passage multiple times until reaching a goal" (Kostewicz, 2012, p. 18).

*"The process would stop once the student reads new passages fluently or continues with incrementally more difficult text" (Kostewicz, 2012, p. 18).

*Defining and measuring: teachers must determine what outcome would be effective fluency, focus on most important skill for max. benefit, define fluency (speed, accuracy, and expression) with clear measurable focus (speed & accuracy) (Kostewicz, 2012, p. 18).

*"Reading includes a multitude of behaviors ranging from phonemic awareness to comprehension (Carnine, Silbert, Kame'enui, & Tarver, 2010)" (Kostewicz, 2012, p.
*Not all students may have the prerequisite skills needed for oral reading fluency practice. Students would experience frustration with repeated reading practice if they could not decode text or had inappropriate reading text matched to their ability (Kostewicz, 2012, p. 18). *

* Use one minute timings to determine appropriate text and initial oral reading fluency level. Students reading 50-150 CWPM are instructional, faster than 150 repeat timing measures with one grade higher, slower than 50 repeat timing measures with one grade lower (Kostewicz, 2012, p. 18).

*"While daily reading practice may tap already maximized resources, the actual reading time involved does not have to occur for an extended period of time. Most repeated reading research suggests daily reading practice in actual classroom time lasts approximately 5 (e.g., Kostewicz & Kubina, 2011) to 10 (e.g., Staubitz, Cartledge, Yurick, & Lo 2005; Yurick, Robinson, Cartledge, Lo, & Evans, 2006) minutes depending on the amount of modifications involved" (Kostewicz, 2012, p. 19).

*"The most common form of repeated readings involves the student reading to a teacher or adult (e.g., Kostewicz & Kubina, 2010)" (Kostewicz, 2012, p. 19).

*"The adult-student dyad, however, may prove impossible in some education settings, especially when a teacher sets aside 5-10 minutes for the entire classroom to practice. Students simply outnumber adults. Teachers can instead turn to student-student or peer mediated repeated readings (e.g., Musti-Rao, Hawkins, & Barkley, 2009; Staubitz et al., 2005; Yurick et al., 2006). The teacher then has an opportunity to circulate around
the room providing support to the various dyads, helping with difficult words, and modeling effective error correction" (Kostewicz, 2012, p. 19).

"After each reading trial, a teacher or peer would identify the mispronounced word for the reader, pronounce the word correctly, and end each error correction with the reader pronouncing the word correctly. Error correction would occur after each reading trial for every reading error" (Kostewicz, 2012, p. 19).

Students can succeed when provided with progress monitoring and performance feedback (Kostewicz, 2012, p. 19).


"We measured students' performance on unpracticed passages on a weekly basis to determine whether gains in reading fluency during repeated reading practice would generalize to unfamiliar reading" (Musti-Rao, Hawkins, & Barkley, 2009, p. 21).

"60% of African American fourth-grade students read below basic levels (Cartledge & Lo, 2006)" (Musti-Rao, Hawkins, & Barkley, 2009, p. 21)

"Fluency is synonymous with quick and effortless reading of text-a skill that struggling and dysfluent readers lack" (Musti-Rao, Hawkins, & Barkley, 2009, p. 21).


"... the most commonly recommended procedure for improving the reading rate of students with reading disabilities is repeated reading (NRP, 2000)" (O'Connor, White,
& Swanson, 2007, p. 33).

"Students should (a) practice building rate for 10 to 20 min per day over several
weeks, (b) engage in reading aloud (vs. listening), and (c) receive feedback on errors"
(O'Connor, White, & Swanson, 2007, p. 34).

"The first and second author selected reading materials for each pair in the
interventions based on students' instruction reading level (88%-94% accuracy)"
(O'Connor, White, & Swanson, 2007, p. 36).

use with AIMSweb. NCS Pearson.

Therrien, W. J. (2004). Fluency and comprehension gains as a result of repeated readings.

Remedial and Special Education, 25(4), 252-261.

"Although teaching students to read remains a major goal of education, many
students have extreme difficulty learning even basic reading skills. At least one in
five students have significant difficulties with reading acquisition (Lyon & Moats,
1997). In addition, approximately 37% of fourth-grade students did not achieve at the
most basic reading level on a recent national test (U.S. Department of Education,

"The continuing difficulties students have with reading has caused the educational
community to reevaluate how to teach basic and higher order reading skills. In 2000, a
report from the National Reading Panel (National Institute of Child Health and Human
Development, 2000) delineated five important reading skill areas: phonemic
awareness, phonics, vocabulary instruction, text comprehension strategies, and reading
fluency" (Therrien, 2004, p. 252).

"LaBerge and Samuels (1974) theorized that reading fluency problems stem from readers' poor decoding skills. When decoding is too slow, a "bottleneck" is created that impedes the flow of thought and hampers comprehension" (Therrien, 2004, p. 252).


"Readers who fail to generate appropriate prosodic markings do not divide sentences into meaningful phrases and therefore have difficulty comprehending written text, regardless of their ability to decode individual words" (Therrien, 2004, p. 253).

"Logan (1997) contended that reading from text is complex and requires integration across all levels of processing—from decoding individual words to acquiring meaning from sentences, paragraphs, and the text as a whole. Failure at any one of these levels may result in reading fluency difficulties" (Therrien, 2004, p. 253).

"One fluency strategy that has an extensive research base is repeated reading, "a supplemental reading program that consists of re-reading a short and meaningful passage until a satisfactory level of fluency is reached" (Samuels, 1979, p. 404). Two recent literature reviews concluded that repeated reading has the potential to improve students' reading fluency (Meyer & Felton, 1999; National Institute, 2000)" (Therrien, 2004, p. 253).

*If the purpose of repeated reading is to enable students to fluently read and comprehend, then the passage should be repeated three to four times (Therrien, 2004,
Corrective feedback should be added and passages should be read until performance criterion is reached (Therrien, 2004, p. 257).


"Topics in the NRP report include phonemic awareness, phonics instruction, comprehension, computer technology, and reading fluency. Fluency, in particular, has received an increasing amount of attention" (Therrien & Kubina, 2006, p. 156).

"Kuhn and Stahl (2003) reviewed the literature for fluency used during developmental and remedial instruction and concluded that teachers should use fluency instruction more often because of the benefits to reading. Fluency serves as bridge between decoding word and comprehension (Carnine, Silbert, Kame'enui, & Tarver, 2004)" (Therrien & Kubina, 2006, p. 156).


"Regardless of present grade level, repeated reading appears beneficial for students who read between a first and third-grade instructional level. The intervention may also be useful for students who, although able to decode words above a third-grade level, read in a slow, halting manner. Repeated reading is not recommended for students who read below a first-grade level, as they have yet to acquire foundational reading
skills (e.g., letter-sound correspondences, blending words)” (Therrien & Kubina, 2006, p. 156).

*”It is instructive to think of repeated reading within the context of stages of learning. Mercer and Mercer (2001) described stages of learning as levels through which a student progresses. As the student advances through the stages of learning, skill or behavior becomes increasingly more functional. The stages of learning progress as follows: 1. entry level, 2. acquisition, 3. proficiency, 4. maintenance, 5. generalization, and 6. adaptation. Teachers provide instruction in the acquisition stage and help foster an accurate performance of a skill. At the proficiency stage, the aim is to develop fluency or a behavior that can be performed with both accuracy and speed (Mercer & Mercer, 2001). Thus, repeated reading can be thought of as a well-organized practice strategy resulting in sharpened decoding skills” (Therrien & Kubina, 2006, p. 157).

*Repeated reading interventions have been successfully implemented by teachers, peers, paraprofessionals, and tutors (Therrien & Kubina, 2006, p. 157).

*”Whole class administration can be accomplished with a peer-tutoring format. Peer-tutoring has been demonstrated to be both flexible and empirically sound (Miller, Barbetta, & Heron, 1994). Intervention sessions should be conducted with sufficient frequency ranging from 3 to 5 times a week. Administration of repeated readings requires a time commitment between 10 to 20 min per session” (Therrien & Kubina, 2006, p. 157).

*3essential instructional components: passages should be read aloud, corrective feedback should be provided, and passages should be read until a performance
criterion is reached (Therrien & Kubina, 2006, p. 157).

*"Three items are necessary to conduct a repeated reading intervention: instructional-level reading passages, a timer, and data-tracking sheets" (Therrien & Kubina, 2006, p. 158).

*Peer tutor format procedure: 1. Students pair up and gather their reading material. 2. One student begins as the reader and the other student acts as the counter. 3. When the timer begins, the reader reads and the counter marks incorrect or missed words on the passage. 3 second word correction. Students may use a transparency over the passage and dry erase markers. 4. When the one minute interval has ended the counter provides feedback and has the reader repeat the correct pronunciation for words she missed. 5. The counter records the number of words read, errors, and correct WPM on data tracking sheet. 6. The student engages in another repeated reading by rereading the passage and receiving feedback. Students can do this up to 4 times per session. 7. Students switch roles. 8. The teacher and students end the repeated reading procedure on a positive tone. (Therrien & Kubina, 2006, p. 159)

*"A call have been made for incorporating techniques to develop reading fluency in the classroom (Kuhn & Stahl, 2003; NRP, 2000; Rasinski, 2000). Repeated reading directly targets oral reading fluency and can easily be integrated in an existing reading program" (Therrien & Kubina, 2006, p. 159).


"Fluency (i.e., reading accurately and quickly) is a vital dimension of reading. Reading fluency is needed to be a successful reader" (Welsch, 2006, p. 180).
"Our education system tends to overlook instruction on reading fluency, while stressing decoding and comprehension" (Welsch, 2006, p. 180).

*Repeated readings: "In this approach, learners practice reading one passage, at an appropriate instructional level, until some predetermined level of fluency is attained (Mastropieri, Leinart, & Scruggs, 1999). Each reading is timed, and then the level of fluency is charted, often by the students" (Welsch, 2006, p. 180).

*Repeated readings teacher model (previewing): "One procedure for enhancing fluency is for teachers to model fluent reading by reading aloud to students (O'Donnell, McLaughlin, & Weber, 2003). This listening preview provides an opportunity for the learner to listen to a selection or a passage prior to instruction. Previewing increases the time a student interacts with the reading material and exposes students to the vocabulary, phrasing, and context before reading the text themselves" (Welsch, 2006, p. 180).

*Repeated reading peer preview: "In the context of ongoing classroom organization, peers can be used to model reading by reading aloud to target students. Skilled readers can provide rich oral reading models of appropriate reading rates and phrasal organization. Peers can be effective in providing the preview of the material before the student reads independently (Gut, Bishop-Goforth, & Farmer, 2004)" (Welsch, 2006, p. 180).

*Repeated reading audio: "Providing an audiotape/CD preview of the text to be read by the student improves reading fluency (Daly & Martens, 1994). The student listens to the model, then reads the passage independently" (Welsch, 2006, p. 181).

*Repeated reading (peer coaching) paired reading: "This read-along procedure is
exemplified when the teacher, or another fluent reader, and the student read the text together (Nes, 2003). Read-along approaches would involve the learner spending more allocated time actively engaged in oral reading than traditional round-robin procedures” (Welsch, 2006, p. 181).

*Repeated reading shared reading: "The teacher introduces the student to the text and reads it to them. Then the student reads the text to the teacher. This is followed by the students reading the text over successive trials to others (e.g., peer, parents, etc.). In essence, the student shares the reading with many listeners” (Welsch, 2006, p. 181).

*Corrective feedback: "This is exemplified by teachers providing the correct words when students' read words incorrectly during oral reading. This can reduce the number of errors and, in turn, increase reading fluency (Carnine, Silbert, Kame'enui, & Tarver, 2004)” (Welsch, 2006, p. 182).

*Classwide peer tutoring: "Peer tutoring can provide additional practice for readers. A reciprocal tutoring system allows for half the class to be reading at a particular time, while the other half is engaged in monitoring and feedback. Mentor/tutors support a less fluent reader by providing scaffolding” (Welsch, 2006, p. 182).

*Computer: "Computers can be used effectively to provide practice on reading fluency. Some software includes game-like activities that promote reading speed by providing feedback on word-attack skills and reading comprehension (Mastropieri & Scruggs, 2002). Additionally, computers can limit the number of words (i.e., the amount of text presented) to aid fluency” (Welsch, 2006, p. 182).