

# P.S. 300 School of Science and Applied Learning

## FINAL REPORT



# Contents

- Introduction . . . . . 1
  - About This Report . . . . . 1
  - About P.S. 300 School of Science and Applied Learning . . . . . 1
  - Audit Process at P.S. 300 School of Science and Applied Learning . . . . . 1
  
- Key Findings . . . . . 3
  - Critical Key Findings . . . . . 3
  - Positive Key Findings . . . . . 3
  
- Recommendations . . . . . 6
  - Overview of Recommendations. . . . . 6
  - Recommendation 1: Classroom Management . . . . . 7
  - Recommendation 2: Instruction . . . . . 12
  - Recommendation 3: Vocabulary Program . . . . . 17
  - Recommendation 4: Common Core . . . . . 20
  
- References . . . . . 24

# Introduction

## About This Report

This final report is the result of an external school curriculum audit (ESCA) of P.S. 300 School of Science and Applied Learning conducted by Learning Point Associates, an affiliate of American Institutes for Research. This audit was conducted in response to the school being identified as in corrective action (year 1) under the New York State Education Department (NYSED) differentiated accountability plan, pursuant to the accountability requirements of the Elementary and Secondary Education Act, as reauthorized by the No Child Left Behind Act. The utilized ESCA process was developed for and carried out under the auspices of the New York City Department of Education (NYCDOE) Office of School Development, within the Division of Portfolio Planning.

## About P.S. 300 School of Science and Applied Learning

Located in the Bronx, the School of Science and Applied Learning (X300) is an elementary school with 576 students in Grades PK–5. Among the students, 84 percent are eligible for free lunch and 6 percent for reduced-price lunch. Approximately 57 percent of the students are Hispanic/Latino, and 42 percent are black/African American. Twenty-four percent of the students are classified as limited English proficient, and 20 percent as students with disabilities. The average attendance rate for the 2009–10 school year was 90 percent.<sup>1</sup>

In 2009–10, the School of Science and Applied Learning did not make adequate yearly progress (AYP) in English language arts (ELA) for all students, the black/African-American subgroup, the Hispanic/Latino subgroup, students with disabilities, students with limited English proficiency, and economically disadvantaged students. In 2010–11, the School of Science and Applied Learning's state accountability status was designated as "Corrective Action (year 1)."<sup>2</sup>

## Audit Process at P.S. 300 School of Science and Applied Learning

The ESCA approach utilized at the elementary school level examines six topic areas related to literacy: student engagement, instruction, academic interventions and supports, professional learning and collaboration, curriculum, and assessments and their use. Data were collected at the school level through teacher surveys, administrator interviews, classroom observations, and an analysis of documents submitted by the School of Science and Applied Learning. From these data, Learning Point Associates prepared a series of reports for the school's use.

These reports were presented to the school at a co-interpretation<sup>SM</sup> meeting on June 16, 2011. During this meeting, 18 stakeholders from the School of Science and Applied Learning community read the reports. Through a facilitated and collaborative group process, they

<sup>1</sup> <https://www.nystart.gov/publicweb-rc/2010/9a/AOR-2010-321200010300.pdf>. Accessed August 23, 2011.

<sup>2</sup> <https://www.nystart.gov/publicweb-rc/2010/9a/AOR-2010-321200010300.pdf>. Accessed on March 3, 2011.

identified individual findings and then developed and prioritized key findings based on the reports.

The remainder of this report presents the key findings that emerged from the co-interpretation process and the actionable recommendations that Learning Point Associates developed in response. Please note that there is not necessarily a one-to-one connection between key findings and recommendations. The recommended strategies are those that we believe are most likely to have the greatest positive impact on student performance at the School of Science and Applied Learning.

## Key Findings

After considerable thought and discussion, co-interpretation participants determined a set of key findings. These key findings are detailed in this section. The wording of the key findings below matches the wording developed and agreed upon by co-interpretation participants at the meeting.

### Critical Key Findings

#### **CRITICAL KEY FINDING 1:**

Student engagement is not consistent in the school.

Critical Key Finding 1 is supported by information from classroom observations. High student engagement was observed in only 12 of 21 classrooms. Low student engagement was evident in some observed classrooms, where behavioral challenges interfered with the flow of the lesson and the teacher spent more time on discipline than instruction.

#### **CRITICAL KEY FINDING 2:**

Routines are not consistent.

Critical Key Finding 2 is supported by information from classroom observations. Only 10 of the 21 classrooms had routines for transitions that resulted in an efficient use of time. Limited routines for transitions were observed in three classrooms, resulting in lost instructional time.

#### **CRITICAL KEY FINDING 3:**

Key aspects of effective literacy instruction are not consistent.

Critical Key Finding 3 is supported by information from the review of school-submitted documents, classroom observations, and teacher survey results. There is no evidence that the school has a systematic vocabulary program, according to submitted documents. There was some evidence of spelling instruction, but the observer was not able to ascertain if the school has a spelling curriculum. Instruction following the gradual release of responsibility model was observed in 12 of the 21 observed classrooms. Teaching points/learning objectives were not listed in every classroom visited. Half of surveyed teachers reported students working a few times per semester on extended investigations and projects and making formal presentations to their class.

### Positive Key Findings

#### **POSITIVE KEY FINDING 1:**

Teachers have various opportunities for differentiated professional development and support.

Positive Key Finding 1 is supported by information from the review of school-submitted documents and teacher survey results. According to submitted documents, teachers participate in differentiated professional development, including learning teams, instructional

rounds, intervisitations, off-site meetings, and training sessions. Most surveyed teachers reported that professional development was moderately to very helpful in improving their instruction.

**POSITIVE KEY FINDING 2:**

There is evidence of ongoing teacher collaboration throughout the school, which is supported by the administration.

Positive Key Finding 2 is supported by information from the teacher survey results. Surveyed teachers agreed or strongly agreed that there is a culture of teacher collaboration in the school. Of teachers surveyed, 80 percent agreed or strongly agreed that special and general education teachers routinely use common planning and professional development time to share knowledge and strategies; 74 percent reported that the school administration supports teacher collaboration to a great extent; and 71 percent said they participate in collaboration at least one or two times per week.

**POSITIVE KEY FINDING 3:**

Teachers use analysis of data from assessments to inform instruction and to modify instruction for all.

Positive Key Finding 3 is supported by information from teacher survey results, school interviews, and the review of school-submitted documents. Among surveyed teachers, 48 percent reported referring to data from standardized exams at least once per week when planning instruction, and 88 percent referenced data from classroom or teacher-created assessment at least once per week when planning instruction. According to interview respondents, a driving principle of the school is that “Assessment drives instruction and precedes planning.” Submitted documents indicate that both informal and ongoing formal assessments are used to inform instruction and monitor student progress. Teachers are expected to maintain a data binder, according to document review.

**POSITIVE KEY FINDING 4:**

The school is responsive to the cultures of the student community.

Positive Key Finding 4 is supported by information from classroom observations and the review of school-submitted documents. A range of multicultural books, posters, and other materials was available in the classrooms observed. The school identifies multicultural literature each month as a book of the month. Activities for each book are provided.

**POSITIVE KEY FINDING 5:**

Students understand their goals and how to reach them.

Positive Key Finding 5 is supported by the review of school-submitted documents. Every student is expected to know the SMART goals they are working toward and what they need to do to reach their goals, according to the school’s *Best Practices in K–5 Reading Instruction* document.

**POSITIVE KEY FINDING 6:**

An independent reading model is in place for all grades.

Positive Key Finding 6 is supported by the review of school-submitted documents and classroom observations. According to documents, the school has developed an Independent Reading Model, which identifies independent reading expectations by grade level (K–5), showing how much time students should be reading independently. There was evidence in the observed classrooms that teachers used independent reading as a way for students to apply the skills and strategies they are learning in shared and guided reading.

# Recommendations

## Overview of Recommendations

Participants at the School of Science and Applied Learning co-interpretation meeting prioritized some key findings that, if addressed, would strengthen the school's ELA program. They also identified positive key findings that highlighted the school's strengths.

Two of the critical key findings address classroom management. These findings note that disruptive student behavior and inefficient classroom routines, particularly for transitioning from one activity to another, result in lost instructional time. Another key finding notes that key components of a comprehensive ELA program were not evident, including consistent use of the gradual release of responsibility instructional model and a systematic vocabulary program.

The co-interpretation participants identified numerous strengths of the school, including a high level of teacher collaboration, individualized professional development, a systematic approach to promoting independent reading, data use by teachers, goal setting by students, and school responsiveness to student culture. These strengths will be invaluable as the school addresses instruction, classroom management, and vocabulary.

## THE FOUR RECOMMENDATIONS

With these issues in mind, Learning Point Associates auditors developed the following three recommendations:

1. Develop and implement with fidelity a plan to ensure that the components of effective classroom management are evident in every classroom.
2. Develop and implement a plan to ensure challenging, engaging, and intentional instruction in every classroom.
3. Develop and implement with fidelity a schoolwide systematic vocabulary program.
4. Develop a multiyear plan to align the school's curriculum, instruction, assessments, and instructional materials to the Common Core standards.

These four recommendations are discussed on the following pages. Each recommendation provides a review of research, online resources for additional information, specific actions the school may wish to take during its implementation process, and examples of real-life schools that have successfully implemented strategies. All works cited appear in the References section at the end of this report.

Please note that the order in which these recommendations are presented does not reflect a ranking or prioritization of the recommendations.

## Recommendation 1: Classroom Management

**Develop and implement with fidelity a plan to ensure that the components of effective classroom management are evident in every classroom.**

### LINK TO RESEARCH

Studies of effective teachers, effective reading programs, and productive schools show that management at the classroom level is critical to ensuring that time is used well and that reading achievement is maximized (Fountas & Pinnell, 1999; Samuels, 1981). In classrooms taught by skilled teachers, more of the available learning time “is spent in activities with academic value” (Anderson, Hiebert, Scott, & Wilkinson, 1985).

**Routines.** Classroom routines positively affect students’ academic performance as well as their behavior (Vallecorsa, deBettencourt, & Zigmond, 2000). Teachers in schools with high levels of student literacy “maximize every instructional minute” (Briggs & Thomas, 1997). Well-managed classrooms are the hallmark of effective teachers. Research shows that students learn more in classrooms that are well organized and that good classroom management results in more and better student engagement.

There is a substantial body of research showing “that time allocated for academic instruction in a school day can easily slip away when a teacher cannot keep the transitional time, wait time, and behavioral problems to a minimum” (Berliner, 1981). In “unsuccessful classrooms, time is wasted because routines are not established and there are often interruptions brought about by discipline problems” (Samuels, 1981). Even in many average classes, “there is a lack of attention to classroom management that results in considerable inefficiency and reduced achievement on standardized tests of reading” (Berliner, 1981).

In contrast, when teachers are effective managers, the classrooms are characterized as “being orderly because less time is wasted on discipline problems and giving instructions on routine matters, such as passing out books and transitions from one activity to another” (Samuels, 1981) and because there are routines for ensuring that learning activities run smoothly (Anderson et al., 1985; Briggs & Thomas, 1997). The great portion of class time is devoted to the lesson at hand (Rutter, 1983).

**Self-regulation.** Research shows that effective teachers foster self-regulation in their students. Self-regulation includes and is related to children’s capacity to focus attention upon, engage in, and persist at learning tasks; their ability to manage both positive and negative emotions in a group setting; and their capacity to plan and follow through on their plans. Warmth, organization, and predictability are factors that improve self-regulation in the home and also seem to be important in classrooms.

Preschool children with good self-regulation have higher levels of school readiness. Good self-regulation in preschool predicts children’s academic success in primary grades better than children’s IQ, their socioeconomic background, or their preschool knowledge of mathematics and literacy (Blair, 2011). Self-regulation continues to be a strong predictor of academic achievement in elementary school and middle school. Low-income students consistently demonstrate lower levels of self-regulation and higher incidences of behavior problems than their middle-income peers (Evans & Rosenbaum, 2008).

### QUICK LINKS: Online Sources for More Information

New York City Department  
of Education

<http://schools.nyc.gov/Teachers/TeacherDevelopment/TeacherDevelopmentToolkit/PTS/>

*Creating Classroom  
Routines and  
Procedures*

[http://teacher.scholastic.com/classroom\\_management\\_pictures/index.htm](http://teacher.scholastic.com/classroom_management_pictures/index.htm)

Tools of the Mind program

<http://www.toolsofthemind.org>

Promoting Alternative  
Thinking Skills program

<http://www.channing-bete.com/prevention-programs/paths/paths.html>

**Classroom environment.** A school behavior plan has an indirect influence on student achievement and is not as important in affecting student achievement as classroom environments, which have a more direct and immediate impact on achievement. Clearly articulating and enforcing rules of behavior at the school level has a moderate influence on student achievement (Marzano, 2000). Decreasing disruptive behavior in the classroom, however, and employing effective classroom management strategies have a strong influence on student achievement (Hattie, 2009). Because of this, the focus of this recommendation is on the classroom rather than the school. The school should assess whether schoolwide behavior problems warrant adopting schoolwide strategies.

## IMPLEMENTATION CONSIDERATIONS

### 1. Establish routines.

Teachers should establish routines and procedures that minimize disruptions and provide smooth transitions within and between lessons. Establishing consistent and predictable routines let students know what to expect and what is expected of them. Routines set guidelines for acceptable and unacceptable behavior. In many classrooms, a significant proportion of class time (about 25 percent on average) is spent on transitions such as collecting and putting away materials, listening to nonacademic directions, and waiting for help or for the next activity to begin. Teachers can minimize the time lost by preparing carefully for transitions and warning students about the close of one activity and the beginning of another, providing brief but clear directions, having materials immediately available, actively monitoring and reinforcing appropriate student behavior, and beginning a new activity quickly and enthusiastically.

Routines are procedures for handling both daily occurrences (e.g., taking attendance, starting a class period, turning in assignments) and minor interruptions of instruction, such as the class phone ringing. Teachers should develop routines for three types of recurring and predictable classroom events.

- **Establish administrative procedures for recurring events.** Such events include storing coats or books, using the restroom, sharpening pencils, taking attendance, making announcements, and dismissing students.
- **Establish behaviors that support instruction and learning to make teaching and learning as effective as possible.** The routines include how to get students to pay attention such as a nonverbal signal or a countdown, how students should respond to teacher questions (hand raising or random choice of which students will answer), when and how individual students can get extra help from the teacher, and what to do when students finish tasks ahead of the rest of the class.
- **Establish routines for working in groups.** Routines should be established for how to participate in discussions, how to behave in groups, and how to work with a partner.

Consistency and practice are critical to making classroom routines effective. Teachers need to consistently follow through and actively explain the routines and the reasoning behind them. They then must model routines consistently and persistently. Teachers

have to teach the classroom routines in the same way they teach academic subjects and need to be proactive in keeping students focused on successful routines. Teaching the routines is particularly important at the start of the school year.

## 2. Foster self-regulation.

Teachers help students' ability to self-regulate by providing an organized classroom environment and by removing elements in the environment that might trigger impulsive behavior. Students begin school with a set of self-regulation skills that are a product of their genetic inheritance and their family environment. Teachers, however, can have an effect on the students who come to school without good self-regulation by improving planning and organization, making classroom management more consistent, and facilitating students' independent and small-group work. Teachers should address three factors that create problems for self-regulation—negative emotions, lapses, and cue exposure.

- **Correct and redirect negative emotions.** Negative emotions reduce the ability to self-regulate. Many misbehaviors—fighting, teasing, breaking rules—are associated with negative emotions such as anger or frustration. When addressing negative emotions, teachers can give students who act impulsively a correction and redirection rather than a rebuke, which makes the students feel bad (negative emotion).
- **Help students to put lapses behind them.** Lapses (“falling off the wagon”) can lead to people more or less giving up their attempts to self-regulate. When a student has a lapse, the teacher should encourage the student to put the lapse behind and resolve again to behave according to expectations the student is well aware of.
- **Eliminate cues that prompt student distraction.** Cues (subtle or overt reminders of the appeal of the thing to be avoided) can make self-regulation difficult. Teachers should get rid of the cues (remove the distraction) rather than counting on students to ignore cues.

## 3. Modify the learning environment.

There are several ways teachers can modify the learning environment and decrease problem behavior. Three effective strategies:

- **Assign attainable academic tasks.** When there is a mismatch between a student's ability level and the difficulty and/or length of an academic task, inappropriate behavior is more frequent (Umbreit, Lane, & Dejud, 2004). Teachers should increase opportunities for academic success—for example, by providing opportunities for students to answer questions correctly. Teachers should pay careful attention to the difficulty of reading assignments and support students as they are learning to read. Every student has an independent, instructional, and frustration reading level, and teachers should ensure that students are not being asked to read materials at their frustration level. Literacy activities should be challenging but attainable with effort. Teachers can boost students' confidence (which increases students' intrinsic motivation to read) by working with students to set goals, monitoring their progress toward those goals, and providing frequent positive feedback on their performance.

- **Use engaging instruction.** Engaging instruction is a prevention tool for problem behavior. Adapting or varying instruction to promote high rates of student engagement and on-task behavior decreases problem behavior. Instruction delivered at a brisk pace contributes to higher levels of student engagement. Instruction that includes modeling, guided practice, and independent practice also increases student engagement.
- **Form positive relationships.** Forming positive relationships with students is another prevention tool against problem behavior. Students need to know the teacher cares about them and their learning.

As part of the NYC Citywide Instructional Expectations for 2011–12 for strengthening teacher practice, many schools will be using Charlotte Danielson’s *Enhancing Professional Practice: A Framework for Teaching* (2007). Danielson divides the complex activity of teaching into 22 components clustered into four domains of teaching responsibility. One of these domains is instruction, which includes engaging students in learning. Danielson identifies and provides guidance on many instructional variables that influence student engagement: the way content is represented, activities, assignments, grouping of students, instructional materials and resources, and structure and pacing, among others.

The *Teacher Development Toolkit*, provided online by the NYC Department of Education, addresses the Professional Teaching Standard of Engaging and Supporting All Students in Learning. The toolkit offers guidance in five areas that support learning and engagement:

- Connecting students’ prior knowledge, life experiences, and interests with learning goals
- Using a variety of instructional strategies and resources to respond to students’ diverse needs
- Promoting self-directed, reflective learning for all students
- Facilitating learning experiences that promote autonomy, interaction, and choice
- Engaging students in problem solving, critical thinking, and other activities that make subject matter meaningful

## **Improving Self-Regulation in Children**

An example of a curriculum designed to improve self-regulation in children once they enter school is *Tools of the Mind*, an early childhood program composed of 40 activities intended to improve self-regulation, working memory, and cognitive flexibility. The *Promoting Alternative Thinking Strategies* (PATHS) program for preschool and elementary students is another program designed to help develop self-regulation while focusing on social and emotional learning. These two programs have some evidence of effectiveness but more research is needed.

Scholastic, the educational publisher, has launched a Keep Cool in School campaign against violence and verbal abuse. The program is founded on the work of Bruce D. Perry, M.D., Ph.D., an expert on brain development and children in crisis. Perry has identified six core strengths that children need to be more resourceful, more successful in social situations, and more resilient. Self-regulation is one of the core strengths. The six core strengths include attachment (being a friend), self-regulation (thinking before you act), affiliation (joining in), awareness (thinking of others), tolerance (accepting differences), and respect (respecting yourself and others). A child who can form and maintain healthy emotional relationships, self-regulate, join and contribute to a group, and be aware, tolerant, and respectful of himself and others will rarely become violent and will recover more quickly when exposed to violence.

## **Developing Self-Regulation Strategies**

Explicit instruction to develop self-regulation strategies is necessary for some students. These self-regulation strategies are included as part of Self-Regulated Strategy Development (SRSD). SRSD has been used in spelling, reading, writing, and mathematics.

For example, fourth- and fifth-grade teachers in the Montgomery County Schools in Maryland used SRSD during writers' workshop to teach their students a five-step writing strategy for writing a story and to teach the self-regulation procedures of goal setting and self-monitoring through a series of extended minilessons. They found that this had positive effects on the writing of their students with and without a learning disability.

SRSD, developed by Harris and Graham (2008), is an approach to teaching writing that includes the development of self-regulation strategies. With the SRSD approach, students are explicitly taught strategies for specific writing genres as well as general writing strategies. In addition, they learn how to use self-regulation strategies, including goal setting, self-monitoring, self-reinforcement, and self-instructions, to help them manage the writing strategies and tasks and to obtain concrete and visible evidence of their progress. Students learn to use these writing and self-regulation strategies during the writing process.

## Recommendation 2: Instruction

**Develop and implement a plan to ensure challenging, engaging, and intentional instruction in every classroom.**

### LINK TO RESEARCH

After reviewing hundreds of studies on teaching effects, John Hattie concluded that “it is teachers *using particular teaching methods*, teachers *with high expectations for all students*, and teachers *who have created positive student-teacher relationships* that are more likely to have the above average effects on student achievement” (Hattie, 2009, p. 126). Decades of research suggest that three behaviors distinguish highly effective teachers: challenging students, creating a positive classroom environment, and being intentional about their teaching.

**Challenging Students.** Highly effective teachers set high expectations for all students and challenge their students by providing instruction that develops high-order thinking skills. Rosenthal and Jacobson in their 1965 study coined the term “Pygmalion effect” to describe how teachers’ expectations of students affects the performance of the students. (See Rosenthal & Jacobson, 1992.) More than 600 studies conducted since have confirmed that teacher expectations can have a powerful effect on student achievement. Conveying expectations by praising students has minimal effects, however. Carol Dweck (2006) has determined that praising students by telling them they are smart may actually have a detrimental effect on their achievement.

**Positive Environment.** Setting high expectations for students is not enough. Teachers must create positive classroom environments and build strong relationships with students. Kleinfeld (1972) identified four types of teachers—traditionalists (teachers who set high expectations for students but offered little academic or emotional support to help students meet those expectations), sophisticates (teachers who were aloof and undemanding), sentimentalists (teachers who were warm but undemanding), and supportive gadflies (teachers who combined high personal warmth with high expectations for students). Researchers since 1972 have used the term “warm demander” to describe effective teachers who set high expectations while nurturing student growth.

**Intentionality.** Highly effective teachers are intentional about their teaching. Good teachers are clear about what they are teaching and have a broad repertoire of instructional strategies to help students accomplish their learning goals. They are intentional in selecting the most appropriate instructional strategy for each situation.

Research suggests that effective literacy instruction needs to be sequenced, systematic, intentional, teacher-directed, and explicit, involving explanations, modeling, and scaffolding. These characteristics are evident in the “gradual release of responsibility” instructional model, introduced by Pearson and Gallagher in 1983 after they reviewed studies on reading comprehension instruction. These researchers found that learning occurred when it happened over time within a repeated instructional cycle that included explanation, guided practice, feedback, independent practice, and application. The gradual-release-of-responsibility model of instruction requires that the teacher shift from assuming “all the responsibility for performing a task...to a situation in which the students assume all of the responsibility” (Duke &

### QUICK LINKS: Online Sources for More Information

New York City Department  
of Education: Engaging All  
Students in Learning

[http://schools.  
nyc.gov/Teachers/  
TeacherDevelopment/  
TeacherDevelopmentToolkit/  
PTS/Engagingstudents](http://schools.nyc.gov/Teachers/TeacherDevelopment/TeacherDevelopmentToolkit/PTS/Engagingstudents)

Pearson, 2002, p. 211). This gradual release may occur over a day, a week, a month, or a year. Pearson and Gallagher envisioned instruction that moved from explicit modeling and instruction to guided practice and then to activities that incrementally positioned students for becoming independent learners.

The gradual-release-of-responsibility model of instruction has been documented as an effective approach for improving literacy achievement (Fisher & Frey, 2007), reading comprehension (Lloyd, 2004), and literacy outcomes for English language learners (Kong & Pearson, 2003).

Related to the gradual-release-of-responsibility model is consistent and active engagement of students in their learning. Student engagement has long been recognized as the core of effective schooling (Marzano & Pickering, 2010). In her framework for enhancing student achievement, Charlotte Danielson (2007) describes exemplary instruction:

All students are highly engaged in learning and make material contributions to the success of the class by asking questions and participating in discussions, getting actively involved in learning activities, and using feedback in their learning. The teacher ensures the success of every student by creating a high-level learning environment; providing timely, high-quality feedback; and continuously searching for approaches that meet student needs. (p. 113)

## IMPLEMENTATION CONSIDERATIONS

In order to ensure challenging, engaging, and intentional instruction in every classroom, teachers should take the following actions:

### **1. Teach according to the principles of effective instruction.**

The gradual-release-of-responsibility model of instruction enhances effective literacy instruction. Teacher-directed, explicit instruction of literacy skills and strategies involves explanation, modeling, guided practice, feedback, independent practice, and application.

### **2. Guide students in setting personal goals and in monitoring their progress.**

Marzano and Pickering (2010) suggest that self-efficacy is possibly the most important factor affecting student engagement. Self-efficacy is commonly defined as the belief in one's capabilities to achieve a goal. Students with a strong sense of efficacy are more likely to challenge themselves with difficult tasks and be intrinsically motivated. One approach for developing student self-efficacy is to have students chart their progress on a specific learning goal. Using percentage scores works well when the assessments address a very specific skill area, such as spelling or using a specific type of punctuation. In most situations, however, a rubric or scale is a better way to help students track their progress. Having students set personal goals for their individual progress and think about what they will do to accomplish their goals influences student engagement.

**3. Provide feedback to students that emphasizes the link between effort and improvement.**

Because it is important for students to attribute their success or failure to their effort and not luck or ability, teachers may have students use a scale to track their effort and preparation along with their academic progress. The oral feedback teachers give students should focus on the effort students make.

**4. Use active learning strategies.**

Teachers can use techniques such as *turn and talk* or *think-pair-share* to engage students. Cooperative learning structures described by Spencer Kagan (2010) also are effective in engaging students. Other approaches are *peer partners*, where on-task partners check to see whether their partner is following the direction of the teacher; *response partners*, who are taught to “look, lean, whisper” when discussing with their partner; *response cards* that provide students with prepared response cards labeled true and false or a, b, c, and so on, which allows all students respond to teacher questions; and *writing answers*, according to which each student writes answers on a individual whiteboard or slate.

**5. Vary instructional strategies.**

It is important to use a variety of instructional strategies.

**6. Use interactive reading techniques.**

Interactive reading techniques are helpful for engaging students. Examples are Say Something; Read, Cover, Remember, Retell; Partner Jigsaw; Two-Word; and Reverse Think-Aloud.

**7. Use questioning strategies that make all students think and answer.**

Teachers should ensure that students’ opportunity to respond is high. The opportunity to respond is positively related to achievement because the more opportunities students have to respond or practice a skill, the better their understanding. Ways to increase opportunities to respond include making sure all students are called on, not calling on volunteers to respond, using choral response techniques, and calling on students randomly to respond. Teachers can facilitate active involvement by providing cues and prompts that lead students to correct answers, sequencing instruction so that high rates of accuracy are achieved, and asking frequent questions.

**8. Provide students with choices whenever possible.**

Managed choice is an effective way to engage students. Students should be given opportunities to choose books that interest them, and whenever possible, students should have some choice about assignments.

**9. Use processing activities.**

Instructional strategies such as think-pair-share and quick writes are ways to engage students in the lesson and have them process the content of the lesson.

**10. Select materials and tasks that are at a correct level of difficulty.**

Recognizing the difficulty of doing this in a classroom of students with diverse learning needs, it still is important to do so as much as possible. Matching the reading levels of the materials students are asked to read and the reading levels of the students is critical. This is not possible all the time, particularly with the new demands of the text complexity of the Common Core, but it is critical that students are reading at their independent and instructional levels at least part of the day.

**11. Foster a culture of achievement.**

A culture of achievement is fostered in classrooms where instruction is challenging, students feel comfortable asking questions, and students are expected to do their best. High-quality instruction—instruction that is rigorous, aligned with standards, and uses instructional strategies to meet the needs of all students—helps promote a culture of achievement in the classroom. Clear, high, yet attainable expectations for all students ensure that students feel challenged and not bored or discouraged. Students need both high expectations and support for learning.

**12. Build relationships with students.**

One of the strongest correlates of effective teaching is the strength of relationships teachers develop with students. When students feel valued, honored, and respected, they tend to be more engaged. Teachers should create positive classroom environments.

## DOING WHAT WORKS: Examples From Real Schools

Catalina Ventura in Phoenix, Arizona, is a K-8 school with more than 1,300 students. The school is an inner-city school with a 75 percent poverty rate. During the past five years, teachers at Catalina have been trained in using Kagan cooperative learning structures in their classrooms. Dr. Spencer Kagan devised several generic, content-free cooperative learning techniques that can be used to increase student engagement. Numbered Heads Together, Corners, Think-Pair-Share, and Line-up are examples of these structures. At Catalina Ventura School, a new Kagan structure was taught monthly to the entire staff at staff meetings. The principal attributes the dramatic improvement in test scores at the school to teachers using these structures in their classrooms and having students more engaged as a result. (More information about the Kagan structures is available at [www.KaganOnline.com](http://www.KaganOnline.com). The video *Kagan Cooperative Learning Structures for Success* is available on [www.youtube.com](http://www.youtube.com).)

TESA (Teacher Expectations and Student Achievement) is a professional development program designed to help teachers interact equitably with all students. TESA raises the awareness of teachers about how their expectations affect student performance. Teachers reflect on their interactions with their students in their questioning and feedback and the effects on student self-esteem. Teachers observe each other to provide feedback on whether they treat some students differently from others. Results of the program include improvement in student academic performance, increases in attendance, decreases in discipline problems, and improvement in classroom climate. Information about the professional development program is available from the Los Angeles County Office of Education at <http://www.lacoe.edu/orgs/165/index.cfm>.

## Recommendation 3: Vocabulary Program

**Develop and implement with fidelity a schoolwide systematic vocabulary program.**

### LINK TO RESEARCH

**Vocabulary.** One of the most persistent findings in reading research is that the size of students' vocabulary relates strongly to their reading comprehension and overall academic success (Baumann, Kame'enui, & Ash, 2003; Becker, 1977; Davis, 1942; Whipple, 1925). Although most word learning occurs incidentally through experiences with oral language and wide reading (National Reading Panel, 2000), intentional, explicit teaching of specific words and word-learning strategies can both add words to students' vocabularies (Tomeson & Aarnoutse, 1998; White, Graves, & Slater, 1990) and improve reading comprehension of texts containing those words (McKeown, Beck, Omanson, & Pople, 1985; Stahl & Fairbanks, 1986). Effective instruction includes opportunities for both incidental word learning and intentional word learning. Vocabulary instruction should address academic vocabulary, which is critical to understanding the concepts of the content taught in school.

Research shows that background knowledge is more important to the understanding of reading than IQ. According to Marzano (2004), the most important thing a teacher can do to ensure that students have the background knowledge to understand the content they will encounter in the areas of science, social studies, and so on, is to provide students with direct instruction in academic vocabulary terms. Academic vocabulary is the vocabulary critical to understanding the concepts of the content taught in school. Vocabulary instruction in specific content-area terms builds up students' background knowledge in the content areas. When students understand the academic vocabulary, it is easier for them to understand the information they will read and hear in class.

### IMPLEMENTATION CONSIDERATIONS

#### 1. Provide opportunities to broaden students' vocabulary exposure.

*Vocabulary* refers to words students must know to read increasingly demanding text with comprehension. Effective vocabulary instruction includes opportunities for both incidental word learning and intentional word teaching. A comprehensive vocabulary program should include the following components:

- Frequent, varied, and extensive language experiences
- Teaching individual words through explicit vocabulary instruction
- Teaching word learning strategies
- Strategies for fostering word consciousness (Graves, 2006).

Vocabulary can be learned through reading and talking (incidental word learning). To promote incidental word learning, teachers provide opportunities to use oral language experiences at school to promote vocabulary growth. Reading children's books aloud, particularly when accompanied by teacher-student talk, can increase students' vocabularies. Once students are reading on their own, a wide range of reading materials will aid vocabulary growth.

#### QUICK LINKS: Online Sources for More Information

FreeRice (Website)  
<http://www.freerice.com>

Intentional and explicit instruction of specific words and word-learning strategies also is important. In selecting specific words to teach, teachers should consider two criteria: importance (words that are important to understanding a specific reading selection or concept) and usefulness and frequency (words that are generally useful for students to know and that they are likely to encounter with some frequency in their reading).

Students should be given a student-friendly definition of the words targeted for explicit instruction. They should also be repeatedly exposed to new words in multiple oral and written contexts and provided sufficient practice opportunities for learning words. Researchers estimate that it could take as many as 17 exposures for a student to learn a new word. Repeated exposure will be most effective if exposures appear over an extended period of time. For this reason, a small number of words should be selected for each week and receive attention all week. Teachers should give students sufficient opportunities to use new vocabulary in a variety of contexts through activities such as discussion, writing, and independent reading.

Students require strategies that will support them in learning new vocabulary independently. Students can be taught the word learning strategies, such as learning to use context clues to determine word meanings; learning to use dictionaries and other word resources; and learning to use base words, prefixes, and suffixes to figure out meanings for words.

Academic vocabulary should be built throughout elementary school. To facilitate the development of students' academic vocabulary, the school can develop a list of academic vocabulary words and terms by grade level, which all teachers will teach. Marzano and Pickering in their book, *Building Academic Vocabulary Teacher's Manual* (2005), provide a list of academic vocabulary terms that schools can use to create their own list of subject-specific vocabulary words. They recommend that teachers teach one word weekly for each academic subject (30 terms per year per subject). They also recommend that all teachers follow the same six-step process to teach the terms:

- The teacher provides a description, explanation, or example of the new term.
- Students restate the explanation of the new term in their own words.
- Students create a nonlinguistic representation of the term (draw a picture, a symbol, etc.).
- Students periodically do activities that help add to their knowledge of the vocabulary terms.
- Periodically, students are asked to discuss the terms with one another.
- Periodically, students are involved in games that allow them to play with the terms.

**2. Provide professional development opportunities to support the fidelity of implementation of a vocabulary program.**

## DOING WHAT WORKS: Examples From Real Schools

Researchers have found that reading aloud to students increases their vocabularies. Some researchers have contended that the real value of reading aloud activities for vocabulary growth lies not only in the reading, but also in the teacher-student talk that accompanies the reading.

Text Talk, developed by Beck and McKeown (2001) is designed to increase both comprehension and vocabulary by incorporating word learning in the context of reading new books. The goals of Text Talk are to develop comprehension with open-ended questions, and enhance vocabulary development. In order to increase comprehension, the teacher intersperses open-ended questions that require students to explain and describe text ideas and then asks follow-up questions that encourage elaboration of initial ideas. The pictures in the book are presented after students have responded to the text. Discussions are based on the actual text. Students are not permitted to rely heavily on their background knowledge. This aligns well with the expectations of the Common Core.

Using explicit instruction, three or four vocabulary words are taught after the story has been read. The teacher gives the word within the context it is used in the story and then provides a student-friendly definition. Students repeat the word and then interact with the word in different contexts to assure understanding. The word is then repeated. This process continues with the remaining words. Finally, students are given exercises using the word—including responding to questions, making comparisons, and choosing the correct word within the context of a scenario.

Coolidge Elementary School, part of the Wyckoff, New Jersey, Public Schools, uses Text Talk and posts Text Talk lessons on its website (<http://www.wyckoffps.org/coolidge/site/default.asp>). Text Talk lessons created by Utah educators for more than 100 books are available on the Utah State Office of Education website (<http://www.schools.utah.gov/curr/readingfirst/documents/combinedtexttalkLessons.pdf>).

## Recommendation 4: Common Core

**Develop a multiyear plan to align the school's curriculum, instruction, assessments, and instructional materials to the Common Core standards.**

### LINK TO RESEARCH

The Common Core State Standards Initiative coordinated by the National Governors Association Center for Best Practices and the Council of Chief State School Officers with the involvement of 48 states, the District of Columbia, Puerto Rico, and the Virgin Islands identified what American students need to know and do to be successful in college and careers. These standards are based on best practices in national and international education as well as research and input from numerous sources including scholars, assessment developers, professional organizations, and educators representing all grade levels from kindergarten through postsecondary. These standards are comparable with other countries' expectations and are grounded in available evidence and research.

The state of New York adopted the Common Core State Standards on July 19, 2010.

### IMPLEMENTATION CONSIDERATIONS

#### 1. **Align curriculum to the NYS P-12 Common Core Learning Standards for English Language Arts and Literacy.**

The adoption of the Common Core provides an opportunity for teachers at the School of Science and Applied Learning to work in collaborative teams to identify what they are currently teaching through a curriculum mapping process. It will be essential for teams to identify redundancies and gaps between what they should be teaching according to the Common Core and what they are teaching.

Teachers in teams should look closely at current student work to determine the discrepancy between that work and the level of performance that the Common Core demands, and then plan the steps needed to close any discrepancies.

The Citywide Instructional Expectations for 2011–12 require teachers to work together to engage all students in rigorous tasks, embedded in well-crafted instructional units and with appropriate supports. For ELA, these tasks include:

- PK–2 teachers are expected to engage their students in at least one literacy task aligned to the Common Core Reading Informational Text Standards 1 and 10 and Writing Standard 2 (written response to informational texts through group activities and with prompting and support).
- Teachers of grades 3–8 are expected to engage their students in at least one literacy task aligned to Common Core Reading Informational Text Standards 1 and 10 (written analysis of informational texts) or Common Core Reading Informational Text Standards 1 and 10 and Writing Standard 1 (written opinion or argument based on an analysis of informational texts) .

### QUICK LINKS: Online Sources for More Information

Common Core State Standards

<http://www.corestandards.org/>

Provides pertinent information about the state learning standards for ELA and literacy and the Common Core standards

<http://www.p12.nysed.gov>

Common Core resources

<http://schools.nyc.gov/Academics/CommonCoreLibrary/default.htm>

Resources for strengthening teacher practice

<http://www.arisnyc.org>

Common Core Curriculum Mapping Project

<http://commoncore.org>

Partnership for the Assessment of Readiness for College and Career (PARCC)

<http://www.parcconline.org>

These tasks are to be embedded in Common Core-aligned curricula and include multiple entry points for all learners, including students with disabilities and English language learners. Through the work of implementing these performance tasks, teachers will use the inquiry cycle to adjust their curriculum and instruction to help all students meet the expectations of the Common Core. Since standards are not curriculum, teachers will need a curriculum to assist them in helping students meet the Common Core standards. The New York State Education Department is developing curriculum modules to help teachers develop curriculum that is aligned to the Common Core. These curriculum modules will be available to schools during the 2012–13 school year.

## **2. Align instructional materials to the Common Core.**

Another task related to the Common Core standards is for schools to ensure that the texts for each grade align with the complexity requirements outlined in the Common Core. Schools need to select complex texts that are grade level appropriate and meet the text complexity requirements of the Common Core. These levels of text complexity are significantly higher than the level of texts currently being used in most schools. The expectation of the Common Core is that students have extensive classroom practice with texts at or above grade level. It is the expectation of the Common Core that students who are not reading on grade level should be given the support they need to read texts at the appropriate level of complexity rather than be given less complex texts. Many students will need careful scaffolding to enable them to read at the level of text complexity required by the Common Core.

The Common Core places a great emphasis on informational text, and expects students to read informational text 50 percent of the time and literary text 50 percent of the time. Schools need to ascertain whether enough informational text is available at all grade levels and is being used instructionally.

## **3. Align instruction to the expectations of the Common Core.**

As part of the work outlined in the Citywide Instructional Expectations for 2011–12, teachers need to begin to adjust their instruction to help all students meet the higher expectations of the Common Core. In order to help students meet the standards outlined in the Common Core, several changes in literacy instruction will be necessary.

**Literacy Instruction.** One of these changes is the focus of literacy instruction. The focus of literacy instruction reflected in the Common Core is careful examination of the text itself, which requires close and careful reading. Schools must provide all students, including those who are behind, with extensive opportunities to encounter and comprehend grade-level complex texts, as required by the standards. Students can access complex texts through read-alouds or as a group reading activity. Schools should consider carefully their read-aloud selections. Students whose decoding ability is developing at a slower rate also need opportunities to read text they can read successfully without extensive extra assistance. All students are expected to have daily opportunities for independent reading. Reading materials should include newspaper and magazine articles and websites.

**Type of Questions.** Another change is the type of questions teachers ask of students. Eighty to ninety percent of the standards require text dependent analysis.

To help students meet the standards outlined in the Common Core, teachers should ask high quality text dependent questions. Text dependent questions are those that can be answered only by careful scrutiny of the text, with students specifically referring to evidence from the text itself to support the answer and not referring to information or evidence from outside the text. The questions are grounded in the text, and students must think carefully about what they heard or read and draw evidence from the text in support of their ideas about the reading.

**Strategy Instruction.** Another change in literacy instruction is the role of strategy instruction. The Common Core standards necessitate a reconsideration of the role of reading strategies. Strategies should be embedded in the activity of reading a text rather than being taught separately from texts.

**Writing Instruction.** Changes in writing instruction may be necessary to help students meet the Common Core standards. Thirty percent of writing instruction should be devoted to opinion pieces, 35 percent to informative/explanatory texts, and 35 percent to narratives. Students should be given extensive practice with short focused research projects.

#### **4. Redesign assessment to reflect the expectations in the Common Core.**

During the 2012–13 school year interim assessments based on the Common Core Standards will be administered along. In addition, items developed by the Partnership for Assessment of Readiness for College and Careers (PARCC), of which the state of New York is a member, will be field tested. The PARCC assessments will be operational during the 2014–15 school year. Presently, the PARCC assessments include two summative assessments, which will measure the full range of the Common Core State Standards at each grade level. One required component which counts toward the summative score includes performance-based assessments in grades 3-8 administered as close to the end of the year as possible.

Priorities in ELA/literacy will include focusing on writing effectively when analyzing text. Another component which is required and counts toward the summative score includes end-of-year assessments comprised of computer-based machine-scorable items focusing on reading and comprehending complex texts in ELA/literacy. A third required assessment of listening/speaking can be administered at any time of the year. With this in mind, schools need to examine assessments they currently use to determine if they are aligned with the Common Core.

## DOING WHAT WORKS: Examples From Real Schools

*The Common Core Curriculum Mapping Project* provides teachers with a roadmap for translating the Common Core into instruction and resources for developing more detailed curriculum and lesson plans. For most grades, there are six English Language Arts (ELA) Curriculum Maps, each of which contains a list of focus standards taken from the Common Core, specific student objectives, an overview of skills and content the unit will cover, and sample student activities and assessments. Each also includes an essential question that frames the unit, suggested texts (including Common Core exemplar texts), a list of key terminology, and links to additional instructional resources. Future iterations of the maps will include sample student work and scoring rubrics to help teachers who would like to use the sample activities as formative assessment tools.

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